GLOBAL LABOUR RESILIENCE INDEX 2020

THE GEOGRAPHY OF WORK

Whiteshield Partners
Strategy & Public Policy Advisory

Head-Office & Europe Office: 100 Pall Mall, 1st floor, Saint James, London, SW1Y 5NQ, United Kingdom
Phone/Fax: +442073213744

The report is available at www.whiteshieldpartners.com/insights/glri_report
Suggested Citation: Whiteshield Partners, Global Labour Resilience Index 2020: The Geography of Work.

DISCLAIMER

The analysis and drafting of the Global Labour Resilience Index 2020: Geography of Work (hereafter: "Report") was conducted by Whiteshield Partners with the support from its main partners, Oxford University Saïd Business School, ManpowerGroup and the Institute for the Future of Work based on a methodology integrating statistics from international organizations and interviews with the Advisory Board members.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

CONTENTS

FOREWORD

By Sir Christopher A. Pissarides, Regius Professor of Economics at the London School of Economics, Co-Chair of the Institute for the Future of Work, Chair of the Global Labour Resilience Index Advisory Board and recipient of the 2010 Nobel Prize in Economics

Technology affects labour markets in unpredictable ways and very often, when markets are left alone, the outcomes they reach are not favourable to sections of the population, if not to the economy as a whole. Governments and corporates need to be well informed about the changes taking place to ensure that new technology benefits all. New technology drives productivity and policies that improve infrastructure and the business environment are effective in giving incentives to companies to take up the new technology and raise their productivity. But alongside these enabling policies both governments and companies need to ensure that technology is used for the common good, the quality of jobs is good, workers are proud to hold them and policies by corporates like using robots to replace workers in the pursuit of short-term profit do not pay in the longer term.

How do we know that labour markets are ready to respond positively to new technologies for the benefit of both workers and capital owners? The Whiteshield Partners "Global Labour Resilience Index 2020: The Geography of Work" addresses this very important issue: how well prepared are labour markets to take on different shocks such as new technologies for the benefit of all? Moreover the 2020 version of the Index begins to tackle the important question of the impact of geography on work through an assessment of disparities in labour market resilience at the sub-national level and how to address them.

The Index is an invaluable tool grounded in a large set of relevant indicators that can help guide us in evaluating labour market preparedness, in the face of unpredictable technology and other shocks, including ones that may be termed geopolitical, like Brexit. It takes into account structural features of the economy, educational and skill levels of the workforce, availability of lifelong learning opportunities and a host of other features of labour markets to arrive at a single score for a large number of countries. In London we have set up the Institute for the Future of Work to research more deeply the impact of new technology and other shocks on labour markets and inform the public and governments about good labour market policies. The Whiteshield Partners Global Labour Resilience Index is a tool that we use in evaluating the reforms needed in labour markets to better prepare them to face change and we are collaborating with Whiteshield Partners in its further development, especially as it relates to regional analysis in the United Kingdom. I have no doubt that we can make the latest technologies that have given us robots and other machines with artificial intelligence work for us, but we have to make use of the big data sets that are now available to prepare our economies for accepting them.

The latest Whiteshield Partners Global Labour Resilience Index presented in this volume is already showing some changes taking place in the world's labour markets. On average resilience is improving, in light of big shocks like robotics and AI, the US-China trade war, Brexit and the Gilets Jaunes movement in France, among others. But the averages often hide some local disparities that need to be addressed with more targeted policies. For example, in the United Kingdom, London and the South East are driving resilience, and although one or two others, like East England, are showing improved resilience, others, like the North East of England and Northern Ireland, do not seem as well prepared as other regions are for what's coming. We need to delve deeper into the reasons for these disparities and put in place policies that will prepare these regions to deal with them for the benefit of the people living there and for political and social stability at the national level. A recommendation of the GLRI 2020 is to go beyond national policies and rethink the social contract at the local level – how governments, firms and citizens can work more effectively together in order to make work more resilient. Of course, the United Kingdom is not unique. Practically every country in the world, however good its score is at the national level, hides pockets of people left behind. The Whiteshield Partners index can be used to identify these and drive more inclusiveness and growth.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

ADVISORY BOARD TO THE GLOBAL LABOUR RESILIENCE INDEX

The GLRI Advisory Board was formed to provide guidance on the methodology and research applied to the Global Labour Resilience Index, ensure consistency of the findings and support in the dissemination of results. The Advisory Board is a select group of leading international practitioners and experts with unique knowledge and skills in the areas of economic and labour policy and technological disruption. Its members, while coming from diverse geographical and institutional backgrounds (international organizations, the public sector, non-governmental organizations, business and academia), participate in their personal capacity. Whiteshield Partners is grateful for the time and support provided by the Advisory Board members.

ADVISORY BOARD MEMBERS

Sir Christopher A. Pissarides
Chair of the GLRI Advisory Board
Regius Professor of Labour Economics at the London School of Economics (LSE) and recipient of the Nobel Prize in Economics

Professor Erik Berglöf
Director, Whiteshield Partners;
Director of the Institute of Global Affairs, London School of Economics (LSE)

Professor Sergei Guriev
Professor of Economics, Sciences Po Paris

Ruth Harper
Vice President, Global Strategic Communications, ManpowerGroup

Harsha Jalihal
Vice President, Human Resources and Future of Work, Unilever

Professor Bernard Hugonnier
Director, Whiteshield Partners;
Former Deputy Director of the Education Department, Organization for Economic Co-operation and Development (OECD)

Dr. Eleanor Murray
Senior Fellow in Management Practice, Saïd Business School, University of Oxford

Anna Thomas
Director, Institute for the Future of Work

Professor Peter Tufano
Dean, Saïd Business School, University of Oxford

Dr. Marc Ventresca
Professor of Strategy and Innovation, Saïd Business School, University of Oxford

Dr. Andrew White
Associate Dean for Executive Education and Corporate Relations, Saïd Business School, University of Oxford

Professor Pawel Wojciechowski
Director, Whiteshield Partners;
Former Minister of Finance of Poland

ACKNOWLEDGEMENTS

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

INTRODUCTION

BACKGROUND TO THE GLOBAL LABOUR RESILIENCE INDEX 2020

Measuring labour market resilience

The Global Labour Resilience Index (GLRI) is an annual publication launched in Davos, which ranks countries on the resilience of their labour markets and provides policy guidance on how to enhance that resilience. A resilient labour market is defined as one that generates sustainable demand for a wide range of occupations for the majority of the workforce and supplies workers with quality jobs. Resilient labour markets are inclusive, sustainable and able to withstand shocks because of their flexibility and adaptability.[1] Resilient labour markets matter more than ever for the stability and livelihood of citizens in a global context of increasing economic and social volatility.

The Global Labour Resilience Index 2020: focus on the geography of work

Where jobs are created matters just as much as what and how jobs are created, not only at the global level but also at the sub-national level, down to the level of regions and cities.

National averages can mask important disparities at the sub-national level which are at the heart of social discontents in countries all over the world. Witness the Gilet Jaune movement in France, the political divide between different communities in the United States and the UK, and social unrest across Latin America.

Need to rethink the social contract at the local level

In many communities and cities across the world, the social contract has been fractured and needs to be repaired through more active citizen involvement.

Citizens, firms and all key local stakeholders can help focus on the most pressing social and economic challenges such as the future of work and contribute to developing the solutions through a series of creative engagement mechanisms (Chapter 2). The future is more local than ever.

These are some of the reasons the Global Labour Resilience Index 2020 focuses on the geography of work with a particular emphasis on regions and cities.

Taking a comprehensive perspective on labour market resilience

The Global Labour Resilience Index assesses 145 countries and economies on the resilience of their labour markets based on a total of 11 dimensions and 60 indicators from a wide range of international sources.

Taking into account both longer-term structural factors – such as demographics, level of economic development and sophistication, economic diversification and inequality – as well as shorter-term policy factors – including education and skills, labour policy, innovation, entrepreneurship, technology and statistics – the GLRI identifies gaps to address in order to boost the resilience of labour markets and adapt to the changing world of work. By measuring the gap between structural and policy factors, the Index also highlights the *labour resilience gap*: identifying the countries that have the greatest potential to improve the resilience of their labour markets in the shorter-term (Figure 1). GLRI results have a strong overall positive correlation with productivity (0.6). Moreover, there is a negative correlation with unemployment for OECD countries and some other country groups analyzed (greater than -0.4).

---

[1] Traditional definitions of labour market resilience are more restrictive than the one adopted by the Global Labour Resilience Index. The OECD, for example, defines resilient labour markets as "labour markets that weather economic downturns with limited losses in worker welfare." The definition focuses on workers, but the firm perspective is also integral to the resilience of labour markets. Moreover, the disruptive role of technological evolution is not directly addressed in this definition. See "What Makes Labour Markets Resilient during Recessions," OECD Employment Outlook 2012."

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Figure 1: The Global Labour Resilience Index framework 2020
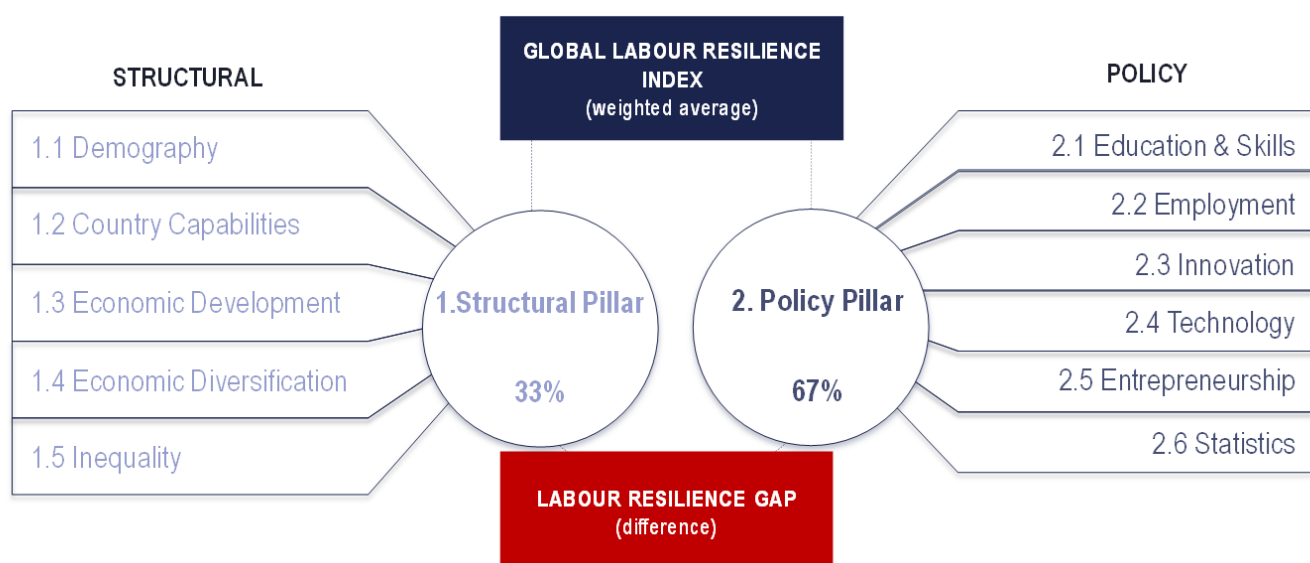
Source: Whiteshield Partners

The 2020 edition of the Global Labour Resilience Index has introduced a revision of the methodology to conduct a first assessment of labour market resilience at the sub-national level (Appendix 1).

The global methodology was extended sub-nationally with a focus on the USA, the UK and Central Asia / Kazakhstan to provide more in-depth insight into the labour market resilience dynamics within these countries.

In addition, the GLRI 2020 edition has incorporated some methodological adjustments from last year which are highlighted in Appendix 1.

The GLRI report is structured as follows:

"GLRI 2020 Key Findings" provides an overview of key cross-cutting insights from GLRI 2020.

Chapter 1, "Overview of Global Labour Resilience Index Results – A More Labour Resilient World but with Geographical Differences" assesses the global GLRI 2020 rankings and their implications.

Chapter 2, "The Geography of Work – Understanding the Importance of Localisation and Community Engagement for Labour Market Resilience" provides insights on the importance of assessing labour market resilience at the sub-national level and how cities and regions can step-up their performance in this area.

Chapter 3, "Resilience and the Future of Work in the United Kingdom - A Case Study" provides an assessment of labour market resilience in the UK at the national, regional and city level. The chapter concludes with a set of policy recommendations for the country to strengthen the resilience of its labour markets.

The appendices of the report provide a more detailed overview of the GLRI methodology including analysis of correlations between the GLRI 2020, unemployment and productivity.

GLRI 2020 RANKINGS

GLOBAL LABOUR RESILIENCE INDEX 2020 RANKING

Table 1: GLRI 2020 ranking

Country	GLRI 2020 Rank	GLRI 2020 Score (1-100)	1. Structural Pillar Rank	Structural pillar score (1-100)	2. Policy Pillar Rank	Policy pillar score (1-100)
Switzerland	1	98	10	95	1	100
Singapore	2	97	6	97	2	97
United States	3	95	9	95	4	94
Denmark	4	95	12	93	3	95
Netherlands	5	93	4	99	7	90
Sweden	6	93	8	95	5	91
Germany	7	91	1	100	10	86
Finland	8	90	21	87	6	91
United Kingdom	9	90	15	92	8	88
Belgium	10	87	2	100	16	81
Luxembourg	11	87	5	99	18	81
Austria	12	85	3	100	22	78
Korea, Rep.	13	85	13	92	15	81
France	14	84	11	94	19	79
Norway	15	82	43	74	9	87
Israel	16	82	26	84	14	82
Ireland	17	82	18	88	20	79
Japan	18	81	23	85	21	78
Iceland	19	80	38	76	13	82
Canada	20	80	36	78	17	81
United Arab Emirates	21	78	31	81	23	77
Czech Republic	22	78	7	97	26	68
New Zealand	23	76	60	63	12	83
Estonia	24	76	35	78	24	74
Slovenia	25	74	14	92	32	65
China	26	74	19	88	29	67
Australia	27	73	89	52	11	84
Spain	28	73	24	84	28	67
Malaysia	29	71	48	72	25	70
Italy	30	70	20	87	35	62
Slovak Republic	31	70	17	89	37	61
Poland	32	70	16	90	41	59
Portugal	33	69	45	73	27	67
Malta	34	68	53	70	30	67
Lithuania	35	67	40	75	34	63
Bahrain	36	66	52	71	33	63
Cyprus	37	65	41	75	39	60
Hungary	38	65	27	83	44	56
Latvia	39	65	47	72	36	62
Thailand	40	62	32	79	45	54
Qatar	41	62	80	56	31	65
Serbia	42	61	39	76	47	53
Turkey	43	61	25	84	57	49
Romania	44	59	44	73	49	52
Jordan	45	59	30	81	65	47
India	46	58	29	81	68	47
Mauritius	47	58	54	70	50	52
Moldova	48	57	42	74	60	49
Lebanon	49	57	22	85	76	42

Country	GLRI 2020 Rank	GLRI 2020 Score (1-100)	1. Structural Pillar Rank	Structural pillar score (1-100)	2. Policy Pillar Rank	Policy pillar score (1-100)
Russian Federation	50	57	92	50	40	60
Mexico	51	56	46	72	62	48
Croatia	52	56	37	78	73	45
Oman	53	56	88	52	42	57
Costa Rica	54	55	82	54	43	56
Ukraine	55	55	50	71	66	47
Montenegro	56	55	61	63	54	51
Bulgaria	57	55	62	63	53	51
Vietnam	58	55	59	66	61	49
Indonesia	59	54	57	68	64	48
Kazakhstan	60	54	77	57	51	52
Georgia	61	54	87	52	46	54
Philippines	62	53	49	72	74	44
Chile	63	53	125	37	38	61
Greece	64	53	67	60	56	49
Nepal	65	53	28	82	87	38
Albania	66	52	68	59	58	49
Egypt, Arab Rep.	67	52	34	78	85	38
Uruguay	68	51	81	54	59	49
Tunisia	69	50	33	78	91	36
Armenia	70	49	85	53	63	48
Brunei Darussalam	71	49	106	46	52	51
Kuwait	72	49	79	56	71	46
South Africa	73	49	104	46	55	50
Azerbaijan	74	48	122	38	48	53
Saudi Arabia	75	48	93	49	67	47
Panama	76	47	66	60	78	40
Macedonia, FYR	77	46	69	59	79	40
Pakistan	78	46	51	71	100	33
Kenya	79	46	70	59	83	39
Rwanda	80	46	100	47	72	45
Morocco	81	45	76	57	82	39
El Salvador	82	45	56	68	98	34
Argentina	83	45	73	58	84	39
Sri Lanka	84	45	63	62	90	37
Bosnia and Herzegovina	85	45	58	67	99	33
Kyrgyz Republic	86	45	55	69	102	33
Dominican Republic	87	44	74	57	88	37
Jamaica	88	44	120	39	70	46
Brazil	89	43	96	48	77	41
Trinidad and Tobago	90	42	102	46	80	40
Guatemala	91	42	72	58	96	34
Ghana	92	42	132	33	69	46
Barbados	93	41	65	61	109	31
Bangladesh	94	41	71	58	107	32
Cabo Verde	95	41	83	53	95	34
Gambia, The	96	40	64	61	112	30
Paraguay	97	40	115	41	81	40
Honduras	98	40	101	47	89	37
Colombia	99	40	111	43	86	38
Seychelles	100	40	84	53	101	33
Senegal	101	39	78	56	110	31
Peru	102	38	108	45	94	35
Botswana	103	38	136	27	75	43
Sierra Leone	104	38	75	57	119	28
Uganda	105	37	99	47	106	32
Iran, Islamic Rep.	106	37	110	43	97	34

Country	GLRI 2020 Rank	GLRI 2020 Score (1-100)	1. Structural Pillar Rank	Structural pillar score (1-100)	2. Policy Pillar Rank	Policy pillar score (1-100)
Mongolia	107	37	114	41	92	35
Algeria	108	37	103	46	105	32
Liberia	109	36	109	44	103	32
Tajikistan	110	36	90	52	117	28
Cote d'Ivoire	111	35	107	45	113	29
Lao PDR	112	35	98	48	118	28
Namibia	113	34	130	33	93	35
Nicaragua	114	33	116	41	114	29
Tanzania	115	33	91	50	130	24
Burundi	116	33	97	48	126	25
Ecuador	117	32	128	34	108	32
Cambodia	118	32	105	46	129	25
Guinea	119	31	135	28	104	32
Mali	120	31	112	43	128	25
Bhutan	121	30	86	53	136	19
Ethiopia	122	30	124	37	121	27
Malawi	123	30	127	34	120	28
Bolivia	124	29	133	31	116	29
Zimbabwe	125	29	123	38	127	25
Cameroon	126	29	126	36	124	25
Benin	127	29	118	41	132	23
Lesotho	128	28	129	34	125	25
Nigeria	129	27	139	21	111	31
Myanmar	130	27	94	49	139	16
Belize	131	26	95	49	141	15
Mauritania	132	26	119	39	135	20
Venezuela, RB	133	25	140	19	115	29
Gabon	134	24	131	33	134	20
Burkina Faso	135	24	137	27	133	22
Yemen, Rep.	136	23	121	38	140	16
Mozambique	137	23	141	19	123	26
Madagascar	138	21	117	41	142	12
Congo, Dem. Rep.	139	21	142	17	131	24
Zambia	140	20	144	10	122	26
Chad	141	20	138	24	137	18
Guyana	142	18	134	31	143	11
Haiti	143	15	113	43	145	1
Angola	144	13	143	16	144	11
Suriname	145	12	145	1	138	17

Source: Whiteshield Partners

GLRI 2020 KEY FINDINGS

Global labour market resilience is rising and the most resilient labour markets are resisting the forces of global volatility

Global labour market resilience is on the rise. Over the last 5 years the average GLRI score for countries has increased from 46 to 51 out of 100 while average global unemployment has dropped from 5.2% to 4.9%[2].

Switzerland has taken over from Singapore as the country with the most resilient labour market in the world. The United States has climbed progressively from 4th to 3rd place in the ranking and the UK has maintained a top 10 position in the last five years despite a challenging economic context. The Nordic countries have had mixed fortunes with Denmark gaining one rank in five years to reach 4th place while Sweden has dropped 4 ranks to 6th place and Finland is down two ranks to 8th place.

A number of countries and economies around the world have been able to weather the rise in economic and political instability with more resilient labour markets. The US labour market, for instance, has so far been remarkably resilient to the rising trade war with China. At 3.9% in 2019, unemployment in the country is at its lowest point since 1969. A true test of its resilience will be how it fares in the coming years if the dispute continues.

Moreover, the most resilient labour markets are experiencing continued strong employment figures despite slowing economic growth. Five out of the top 10 most resilient labour markets in the world that faced slowing economic growth were still able to further decrease unemployment rates (Finland, Germany, Sweden, UK and Denmark).

In the UK for example, despite the uncertainties associated with Brexit over the last 3 years and slower economic growth, the level of unemployment has dropped to just 3.8% in 2019, the lowest level in close to 45 years. However, it should also be noted that this job growth has been accompanied by a structural shift in employment towards lower skilled work with a decline in productivity growth.

However the resilience of work at the national level masks important regional differences

A more in-depth analysis conducted at the sub-national level highlights important regional disparities. For instance, just 3 UK regions – Greater London, Southeast and East England – are responsible for the lion's share of innovation output (52% of national R&D expenditure[3]), knowledge intensive employees and productivity (Chapter 3).

Most of the other regions – in particular North East England, Wales and West Midlands – suffer from skills gaps and a limited number of higher value-added jobs following the decline of manufacturing. The sub-national divide in the UK is visible across resilience dimensions but is particularly acute for regional income inequalities, labour productivity and innovation.

The current government's plans to shift public investment in infrastructure and R&D towards the less prosperous northern regions of the country appear to be particularly timely given this resilience divide. Under the new public spending rules currently being drawn up, the government would be able to allocate funding to regions using new criteria such as closing the productivity gap, improving wellbeing of citizens, and directly targeting improvements in components of labour resilience. If properly followed-through, such investment could help to level the labour resilience playing field considerably.

Policy responses to bolster labour market resilience depend on the level of knowledge at national, regional and city level

The greater the economic complexity[4] of countries, regions and cities, the greater the importance of investment in technology, innovation, and higher

---

education in driving labour market resilience. Less complex national and local economies, by contrast, depend more on fundamental policies relating to the overall education environment, labour regulation and entrepreneurship support to boost their labour resilience. The relative importance of policies to promote labour market resilience follows different economic development stages with potential implications for the sequencing of reforms.

Skill gaps have improved marginally around the world but graduate skillsets still not keeping up with the pace of change

The widening gap between labour market demand for skills and skills availability is an important challenge for policy makers and firms to address. These gaps are accentuated by the pace of technological change. Although skill gaps have improved marginally across the different regions of the world (except Latin America), firms continue to be concerned that the relevance of the skillsets of graduates is not keeping up with the pace of evolving market requirements. The United States appears to be the only country that has registered significant improvement in closing skills gaps over the last 3 years.[5]

Industrialised countries in Europe and North America are converging more rapidly towards high labour market resilience

Country income groups provide some direction on policy performance with a strong correlation between GLRI scores and GDP per capita. While almost all countries and economies improved their labour market resilience over time, convergence appears to be happening more rapidly for industrialised countries which suggests a widening inequality in achieving labour market resilience. This finding suggests that international financial institutions such as the World Bank should place a greater emphasis on helping poorer countries catch up and close this widening labour market resilience gap with richer countries.

Potential for improvement in labour market resilience at all levels of the GLRI ranking

The labour resilience gap measures the difference in score between the structural pillar and the policy pillar. Countries and regions with the widest positive gap between the structural and policy pillar scores have the greatest potential for short term labour market resilience improvement through implementing better policies. While industrialized countries are converging faster towards higher levels of labour market resilience, it is also true that countries from all income levels have potential for short-term policy improvements in labour market resilience. Among the strong GLRI performers with noticeable policy improvement potential are France, Germany, Belgium, Poland, Austria and Czech Republic. Lebanon, Tunisia, Nepal and Egypt are the countries with the highest policy improvement potential (Chapter 1).

The most resilient labour markets remain relatively stable over time driven by continuous policy improvements at both the national and local level

The composition of the top ten in the GLRI 2020 has remained remarkably stable over the last five years, driven by a continuous emphasis on implementing policies related to education, labour, technology, innovation and entrepreneurship. The most resilient labour markets are also supported by complementary actions at the regional and city level building on unique capabilities, optimal spatial development models and peer to peer networks to share best practices in how to enhance labour market resilience (Chapter 2).

Redefining the social contract: addressing labour market resilience challenges at the local level in five stages

Given the pronounced labour resilience disparities evident at the regional level and increasing importance of urbanization, national actions must be complemented by labour resilience policies at the regional and city level, including reconfiguring the social contract in a more sustainable manner. Cities

---

[5] World Economic Forum Executive Opinion Survey, 2018

can build a new social contract to achieve greater labour market resilience through five stages:

Stage 1: Profile – Identify, profile and map the different types of citizens' job needs and requirements at the local community level based on different segments of the population (e.g. by local employment agencies).

Stage 2: 'New deal' – Identify the Social Contract(s) parameters between government, citizens and all key stakeholders at the local level that can sustain job resilience drivers (e.g. EU youth guarantee program).

Stage 3: Connect – Establish linkages between different stakeholders with appropriate governance to address job resilience drivers, both structural and policy (e.g. create enlarged and more empowered local councils with cross-regional or cross-metropolitan areas common networks on issues like innovation and R&D).

Stage 4: Accelerate – Focus efforts on specific drivers of job resilience with the relevant community stakeholders over both longer and shorter periods (e.g. government accelerators).

Stage 5: Sustain goodwill – Continuously engage with communities through technology and direct citizen engagement to address job resilience drivers (e.g. Portugal's yearly budget polling).

CHAPTERS

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

CHAPTER 1: OVERVIEW OF GLOBAL LABOUR RESILIENCE INDEX 2020 RESULTS – A MORE LABOUR RESILIENT WORLD BUT WITH GEOGRAPHICAL DIFFERENCES

GLRI 2020: OVERVIEW

Global labour market resilience is rising and the most resilient labour markets are resisting global volatility

The labour markets of countries around the world are becoming more resilient. The average GLRI score for countries over five years has increased from 46 to 51 out of 100 while average global unemployment has dropped from 5.2% to 4.9%[6] (Figure 2).

Many countries around the world have been able to weather the rise of economic and political instability better due to more resilient labour markets. The US economy and labour market, for instance, has so far been remarkably resilient to the ongoing trade war with China. The unemployment rate of the country at 3.9% is at its lowest point since 1969 and every quarter the number of new jobs created seems to surpass the predictions of economists.

Moreover, the most resilient labour markets are holding up against slowing economic growth. Five out of the top 10 most resilient labour markets in the world that faced slowing economic growth were still able to further decrease already low unemployment rates (Figure 3).

Figure 2: Global evolution of GLRI 2020 vs GLRI 2015 results

	North America	Europe	East Asia & Pacific	Middle East & North Africa	Central Asia and South Caucasus	South Asia	Latin America & Caribbean	Sub-Saharan Africa	Overall
GLRI2015	87	69	54	46	44	38	32	27	46
GLRI2020	87	72	60	54	50	45	38	33	51
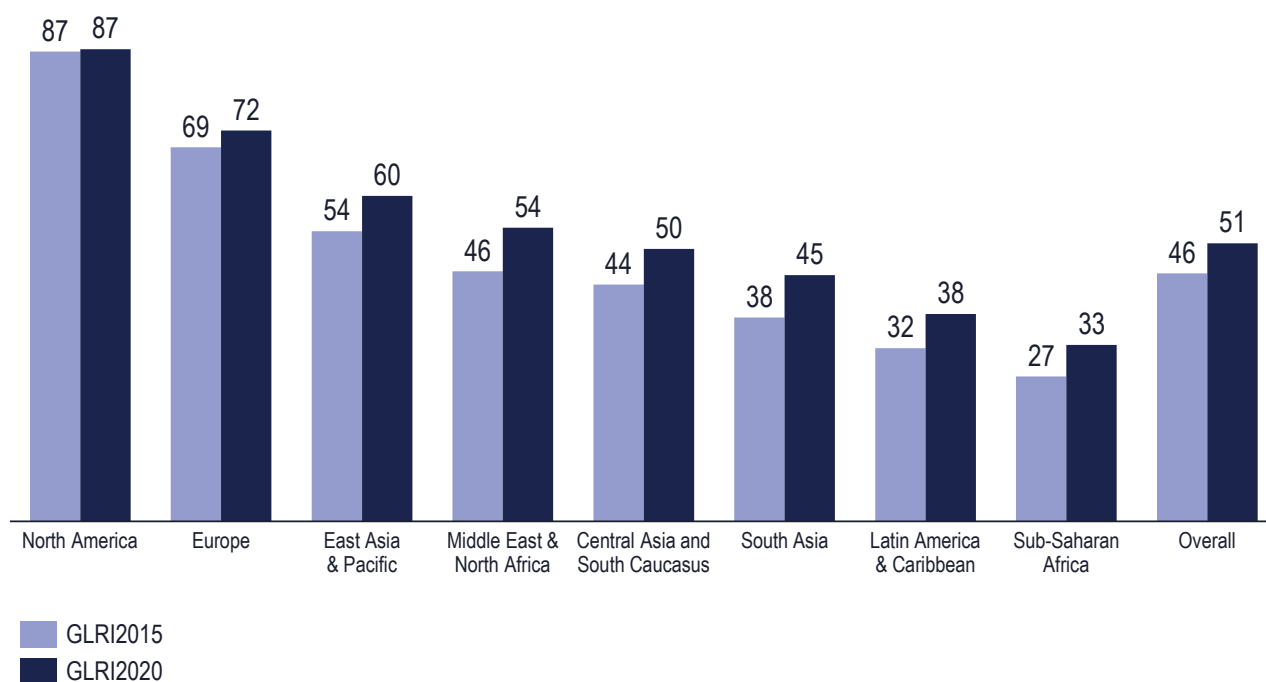
Source: Whiteshield Partners

---

[6] International Labour Organization, World Employment Social Outlook, 2019. All annual unemployment rate statistics in this report are based on ILO unless otherwise cited.

	Annual GDP growth, constant LCU 2018 (%)	Average annual change GDP growth 2016-2018 (pp)	Unemployment rate, 2018 (%)	Average annual change in unemployment 2016-2018 (pp)
Switzerland	2.75	⬆ 0.51	4.88	➡ -0.02
Singapore	3.14	⬆ 0.09	3.77	⬇ -0.16
United States	2.93	⬆ 0.68	3.93	⬇ -0.47
Denmark	2.39	⬇ -0.43	4.97	⬇ -0.60
Netherlands	2.60	⬆ 0.20	3.88	⬇ -1.06
Sweden	2.23	⬇ -0.09	6.44	⬇ -0.27
Germany	1.53	⬇ -0.35	3.42	⬇ -0.35
Finland	1.67	⬇ -0.48	7.76	⬇ -0.53
United Kingdom	1.39	⬇ -0.27	3.95	⬇ -0.43
Belgium	1.46	➡ -0.03	6.32	⬇ -0.75

Source: Whiteshield Partners, World Bank

For example, despite uncertainties associated with Brexit and slower economic growth, unemployment in the UK is down to 3.8%, the lowest level in close to 45 years. It should be noted, however, that this job growth has been accompanied by a structural shift in employment towards low skilled work with a decline in productivity growth.

Policy responses to bolster labour market resilience depend on the level of economic complexity at national and local level

The greater the economic complexity of countries, regions and cities the greater the importance of investment in technology, innovation, and higher education in driving labour market resilience.

Policies relating to innovation and technology have the strongest correlation with labour market resilience for high income OECD countries. Given the widespread fears of technological unemployment it is interesting to note that investment in technology is so strongly associated with positive labour market outcomes in higher income countries. Three out of the top five countries with the highest level of robots installed per employee are in the GLRI top ten most resilient labour markets in the world and also have among the lowest levels of unemployment: Singapore, Germany and Sweden (Figure 4).[7]

Greater labour market resilience and lower unemployment levels associated with higher robot adoption rates reinforces the notion that robots can be effectively used to augment human productivity by focusing on more repetitive tasks and addressing labour shortages rather than simply replacing humans in the workforce.

---

[7] See World Robotics Report, 2019 for data on country robotics.

Figure 4: GLRI and unemployment rate vs robot density manufacturing

GLRI 2020

Corr = 0.41

Switzerland
Singapore
United States
Denmark
Netherlands
Sweden
Finland
Germany
Belgium

Robot density in the manufacturing industry, 2018, per 10 000 employees

Unemployment rate, 2018

Corr = - 0.44

Finland
Sweden
Belgium
Denmark
United States
Switzerland
Germany
Singapore
Netherlands

Robot density in the manufacturing industry, 2018, per 10 000 employees

Source: Whiteshield Partners, IFR, ILO

Developing national and local economies, by contrast, depend more on fundamental policies relating to the overall education environment, labour regulation and entrepreneurship support to boost their labour resilience. The relative importance of policies to promote labour market resilience follows different economic development stages with potential implications for the sequencing of reforms (Figure 5).

Figure 5: Resilience dimension priorities according to economic development and capabilities of countries
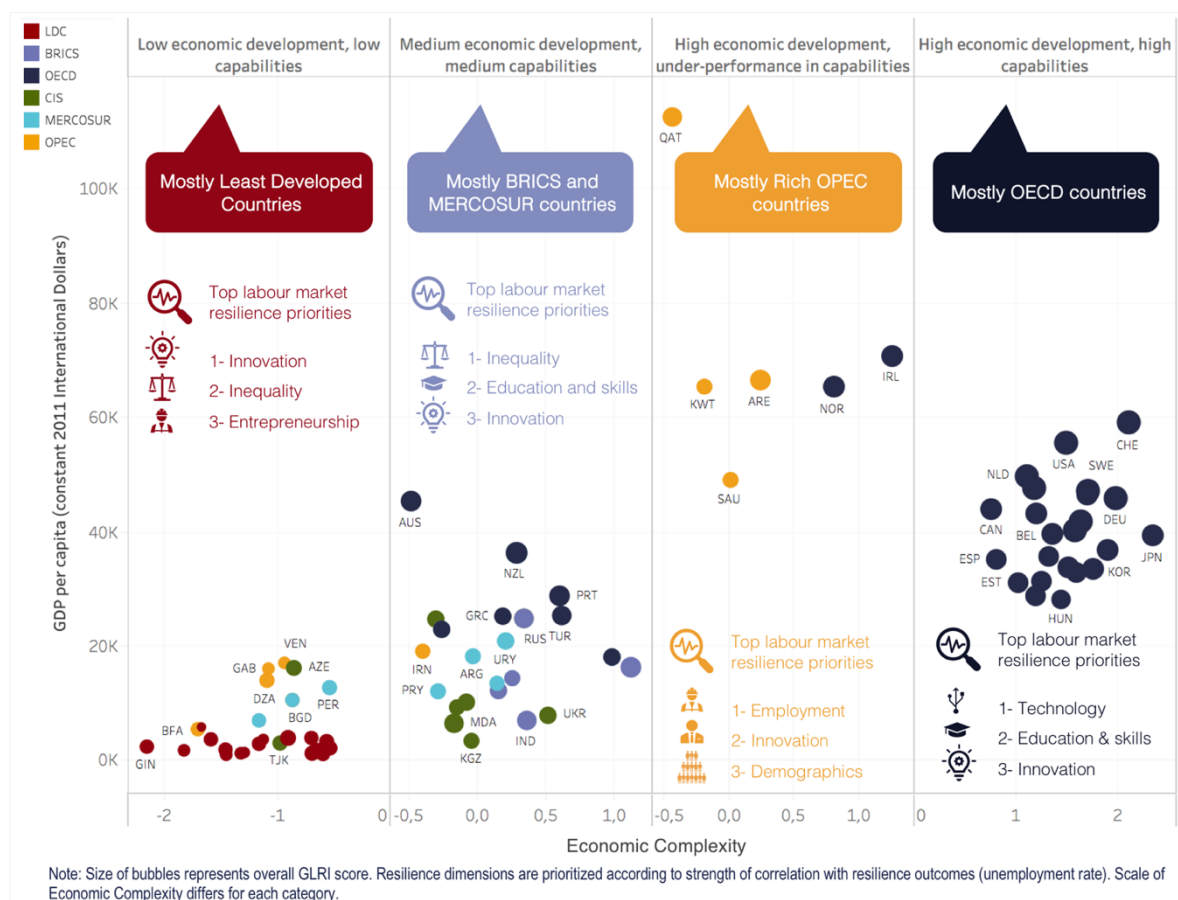
Note: Size of bubbles represents overall GLRI score. Resilience dimensions are prioritized according to strength of correlation with resilience outcomes (unemployment rate). Scale of Economic Complexity differs for each category.

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Skill gaps have improved marginally around the world but graduate skillsets are still not keeping up with the pace of change

The widening gap between labour market demand for skills and their availability is an important challenge for policy makers and firms to address. These gaps are accentuated by the pace of technological change.

Although skill gaps have improved marginally across the different regions of the world, except for Latin America, firms continue to be concerned that the relevance of the skillsets of graduates is not keeping up with the pace of evolving market requirements. The only country that has registered significant improvement in closing skill gaps over the last 3 years is the United States (Figure 6).[8]

Figure 6: Evolution of regional scores in graduates' skillset (GLRI 2015-2020)
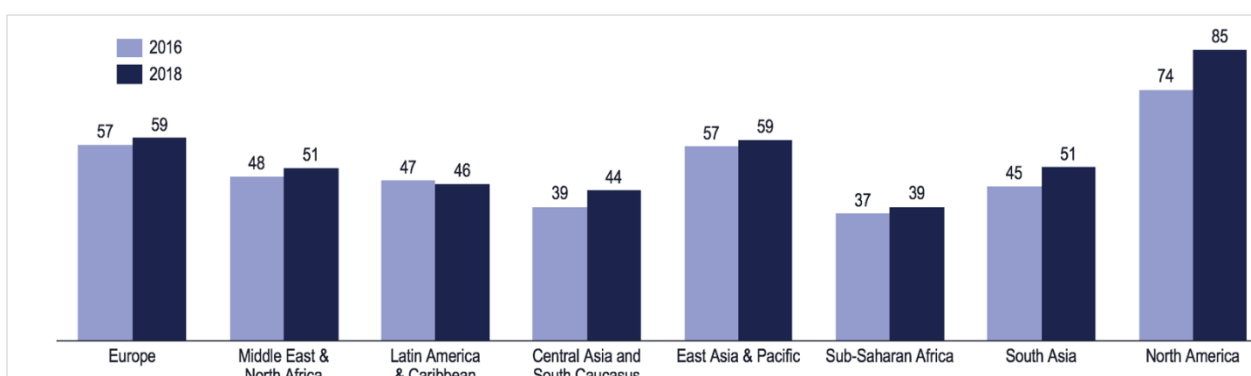
Source: Whiteshield Partners

Skills gaps across industries can be explained by at least two main factors. First, on the demand side, the fourth industrial revolution and its associated technological disruptions is already impacting labour markets globally via rapidly shifting skills needs. Second, on the policy front, governments and educational institutions have been slow to adapt to these technological disruptions and the emergence of new trades in terms of education, skills and employment policies. For instance, overall education spending as well as tertiary and vocational education spending have been decreasing on average.

Even in the United States, one of the rare countries where perceptions of graduate skill sets have marginally improved over the last five years, widening skills gaps are translating into higher numbers of unfilled vacancies: seven million jobs remained unfilled at the start of 2019 in the United States as employers continue to complain about the difficulty of finding workers with the right skillsets[9]. Interestingly, manufacturing is one of the sectors in the country most

affected. According to the National Association of Manufacturers, the shortage of workers with the right skills has been the top concern in the industry for the past six quarters[10].

Workers are aware of the skills challenge but often cite barriers to closing the skills gap such as time and cost constraints or even the difficulty in identifying the needed skills that prevent them from adopting mitigating actions. This highlights the important role of governments, businesses and universities in developing innovative solutions to assist workers in the up-skilling process. According to several surveys, employers are reluctant to invest in training middle-skill workers as they do not consider them strategic enough in the digitalization context[11]. This is yet another reason to leverage public-private partnerships and incentivize businesses to support employees' efforts to prepare for the future of work.

There is a significant opportunity to learn from countries pursuing effective policies to mitigate the

---

[8] World Economic Forum Executive Opinion Survey, 2018.
[9] https://www.progressivepolicy.org/wp-content/uploads/2019/03/SkillsGapFinal.pdf

[10] https://www.nam.org/nam-survey-uncertainties-continue-to-drive-concern-5966/?stream=series-press-releases
[11] https://www.hbs.edu/managing-the-future-of-work/Documents/Future%20Positive%20Report%205.20.pdf

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

impact of skill gaps on the labour market, such as digital skills, STEM skills and soft skills (e.g., effective communication, empathy, and working in mixed cultural environments). For instance, Singapore has implemented a national lifelong learning program (Box 1) while Finland has focused on strengthening existing school curricula to teach the skills of the future (Box 2). Both approaches are complementary and can provide inspiration to other governments looking to address skill gaps.

Box 1: Skills resilience initiative targeting the current workforce – case of Singapore

SKILLSFUTURE

Policies to strengthen labour market resilience

CONTEXT & OBJECTIVES	KEY INSIGHTS	MEASURES / OUTCOMES
• In a context of digital disruption and widening skills gaps, it is critical that individuals acquire the skills needed for future work. • To address the widening skill gap, Singapore Government's Future Economy Council (FEC) launched the SkillsFuture initiative to prepare Singaporeans for the future of work through knowledge, application and experience.	• SkillsFuture is an inclusive, participative national movement that targets all population segments no matter their age and skill level. • Unique credit system and rewards allow individuals 25+ to take ownership of their skills development and lifelong learning. • Programs and services offered are designed to serve the specific needs of the intended target segments (student, early career, mid career).	• In 2016, 126 000 Singaporeans used SkillsFuture credit to enhance their digital careers. • More than 34% of applicants used the SkillsFuture programs and services more than once.

DESCRIPTION / APPROACH

The SkillsFuture initiative targets all Singaporeans no matter where they are in life (schools, early career, mid career, silver years). The initiative is built on 4 dimensions:

- Help individuals make well-informed choices in education, training and careers.

- Develop an integrated high-quality system of education and training that responds to constantly evolving needs.

- Promote employer recognition and career development based on skills and mastery.

- Foster a culture that supports and celebrates lifelong learning.

SkillsFuture provides a set of digital services that enable individuals to foster a lifelong learning mindset.

All Singaporeans 25 or above receive a first credit of $500 to take initiative in managing their skills and lifelong learning.

Source: Whiteshield Partners; www.skillsfuture.sg; www.digitalmarketinginstitute.com

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Box 2: Skills resilience initiative targeting the future workforce – case of Finland

21ST CENTURY SKILLS

Policies to strengthen labour market resilience

CONTEXT & OBJECTIVES	KEY INSIGHTS	MEASURES / OUTCOMES
• Although Finland has had for many years had a high-quality education system, reflected in high scores in the OECD's PISA program, the government has been worried about deterioration in educational outcomes since the 2008 financial crisis and is also anxious to prepare citizens for future labour resilience.	• The new curriculum is focused on "21st Century skills" that are hard to automate and focused on encouraging building an ability to learn.	• Too early for results to filter through into PISA and other assessment scores.
• The government launched a radical overhaul of the K-12 education system through the 2016 National Curriculum Framework focused on building "21st Century Skills".	• The new curriculum is supported by extensive teacher training to enable teachers to deliver it, but some have found the transition difficult.	• However, anecdotal evidence suggests most pupils and teachers are highly engaged in the new form of learning.
	• Although the national curriculum framework is set centrally, there is significant room for local interpretation even down to the level of individual classrooms.	

DESCRIPTION / APPROACH

Focus of curriculum remains mathematics, language and sciences, but shift of teaching focus to develop "transversal competencies" – human skills that will equip pupils for future of work: thinking and learning to learn; taking care of oneself and others, managing daily activities, safety; cultural competence, interaction and expression; multiliteracy; ICT competence; working life competence and entrepreneurship; participation and influence, building the sustainable future.

Pupils are encouraged to make connections across subjects through undertaking an inter-disciplinary learning module every year using a Phenomenon-Based Learning approach with students having a say in what they want this to be focused on and being involved in group work to execute it.

Active use of technology is embedded in the curriculum approach.

Source: Whiteshield Partners; BBC; WEF, 4th Industrial Revolution; Finish National Agency for Education

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Most noticeable policy progress has been achieved in technology, education and entrepreneurship

Areas in which countries have improved the most in the GLRI ranking over the past five years are technology (85%) followed by education (75%) and entrepreneurship (66%). Improvements in technology are due to improved access, driven by decreases in the cost of access (linked to greater competition and technological improvement) as well as increases in the number of people with access to fast internet and improvements in infrastructure. Lower costs and higher speeds of internet access have expanded the opportunities for people to access knowledge and training and helped raise the productivity of firms.

Progress in education is driven by a combination of higher government and household tertiary education spending, improved vocational training (rates of enrollment of young people as well as the quality of this education) and an increasing number of graduates of technical specialties, as well as an overall improvement in the level of digital skills. Such dynamics reflect the reaction of labour supply to the growing demand for technical specialties.

On the entrepreneurship front, most improvements have been driven by reductions in the time and cost to start a business. Taken together, the reforms undertaken around employment and entrepreneurship are very encouraging – they suggest governments around the world are more aware than ever that reducing unnecessary red-tape on businesses increases their dynamism and encourages growth and job creation.

Countries have also improved the quality and availability of statistics relevant to labour market resilience. This suggests that countries are increasingly aware of the need to refine how they measure the drivers of labour market resilience and labour market outcomes.

The most resilient labour markets typically have more cohesive societies and stronger sub-national level governance

Labour market resilience models, at least in higher income countries, tend to fall on a spectrum between "market-driven" (characterised by flexible labour markets, limited social protection and entrepreneurship-friendly regulation) and "social protection" (characterised by greater protection for workers and a more generous welfare system).

Switzerland, Singapore, and to a lesser extent the UK, are champions of the "market driven" model, with more flexible labour markets and strong entrepreneurial ecosystems. The three Nordic countries in the top 10 seek to balance the both models, combining entrepreneurial ecosystems with strong social protection models and effective active labour market policies to get people back into productive work as rapidly as possible.

However, both models appear in the GLRI 2020 top 10 performers reflecting two key factors of convergence beyond the broader models (a) stronger local governance (b) more geographically concentrated and cohesive societies

Typically, labour policies are not just enacted at the central level but also local level.

An example of convergence is training and upskilling indicators that have a much narrower distribution as the foundation of all resilient labour market models in the top 10 (Figure 7).

Two different paradigms of labour market policy among resilience leaders

A common focus on training and re-training of the workforce among resilience leaders
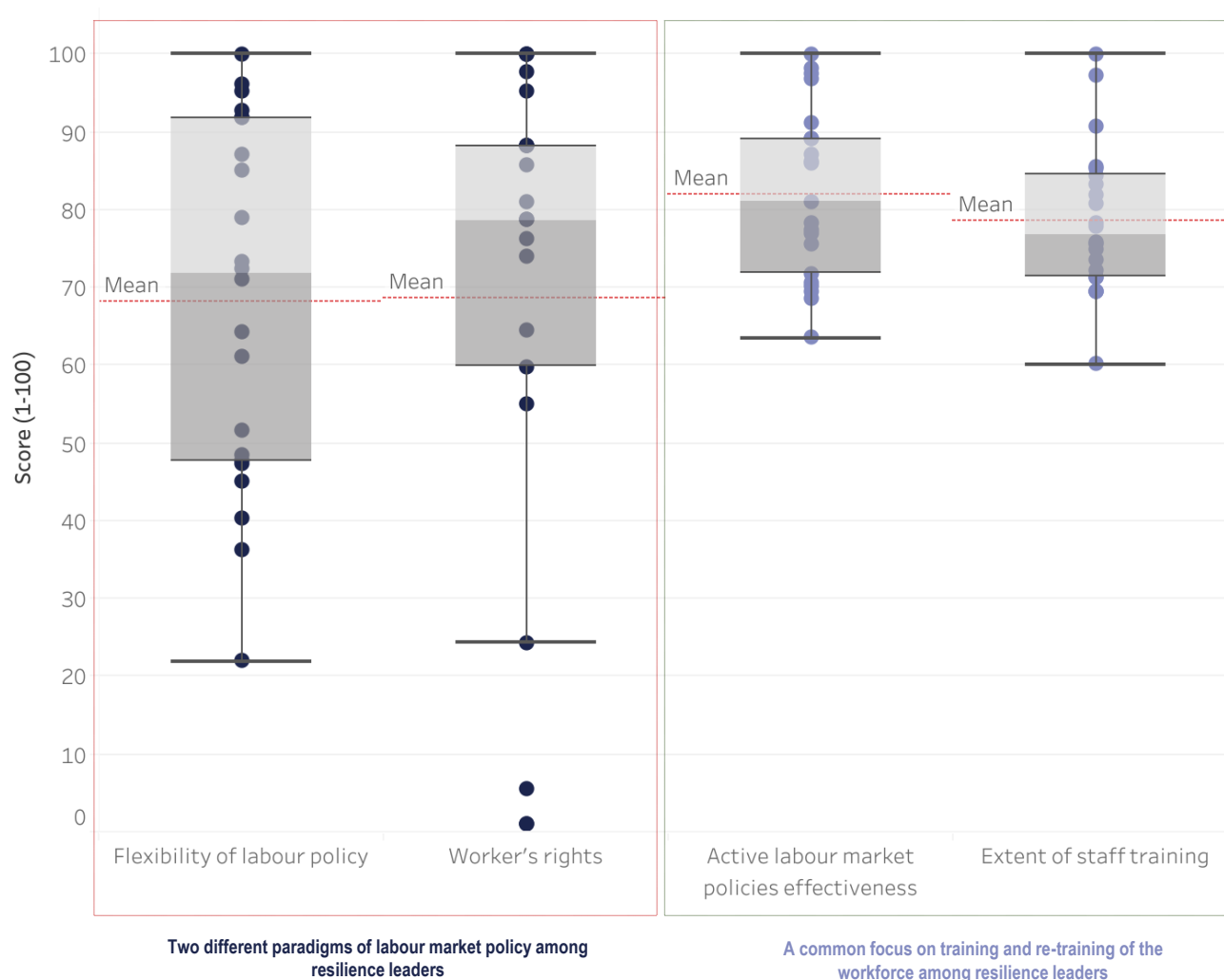
Source: Whiteshield Partners

Industrialised countries in Europe and North America are converging more rapidly towards labour market resilience

While almost all countries have improved their labour market resilience over time, convergence appears to be happening more rapidly for the most industrialised countries in Europe and North America which suggests a widening inequality in achieving resilience of labour markets.

This finding suggests that international financial institutions must place a greater emphasis in helping poorer countries catch up and close this widening labour market resilience gap with richer countries.

Income groups remain a good overall predicator of policy performance with a strong correlation between policy scores and GDP per capita (Figure 8). Among high-income countries there is a select group that is clearly outperforming the rest, driven in particular by innovation and education (Figure 9).

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY
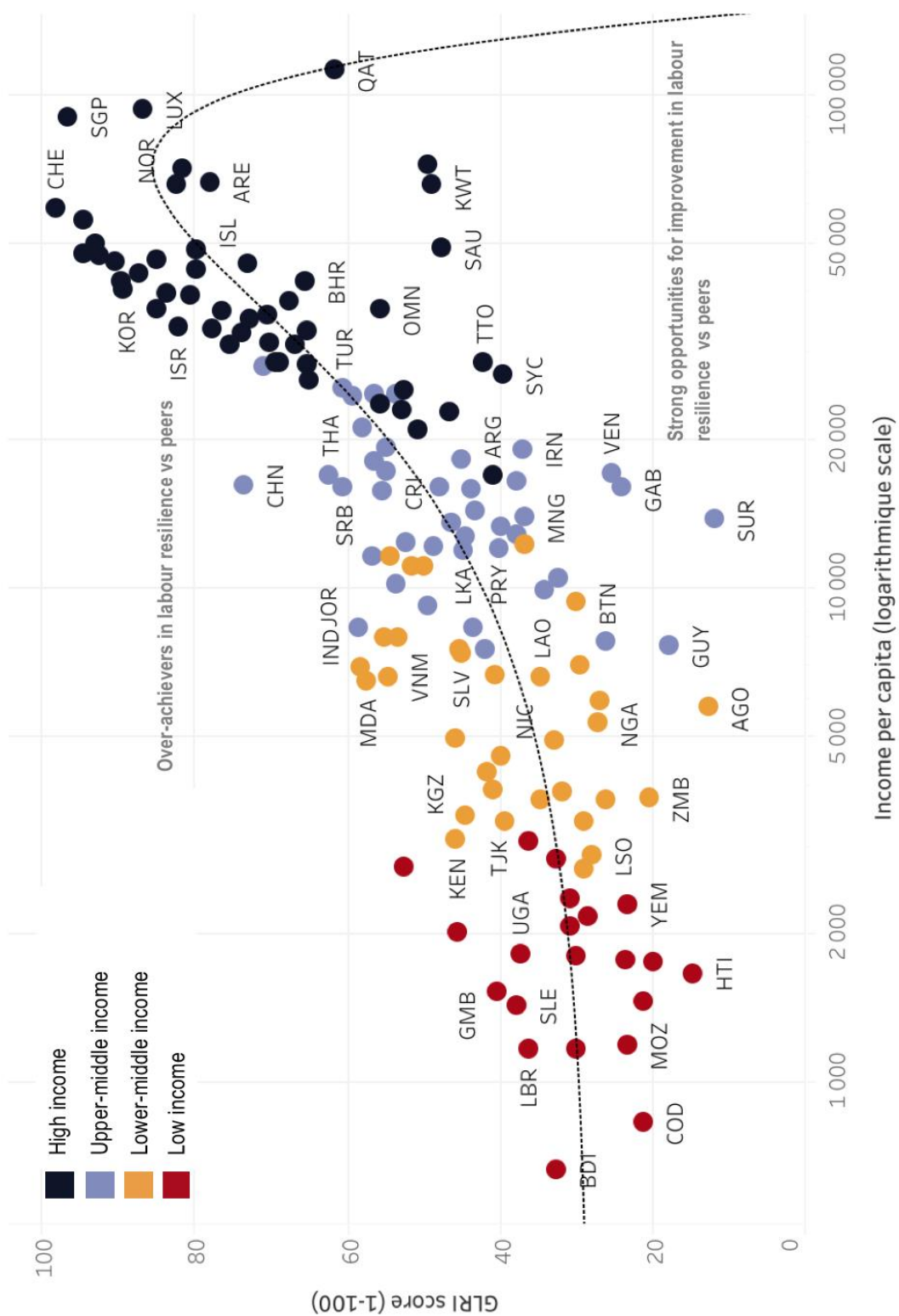
Note: The trend lines represent a polynomial of degree 3. Countries placed above the line are those over-performing in the GLRI given their income level. Countries below the line are under-performing in GLRI. Income groups follow the World Bank classification.
Source: Whiteshield Partners

Source: Whiteshield Partners

Figure 9: GLRI 2020 performance in policy sub-pillars by income group
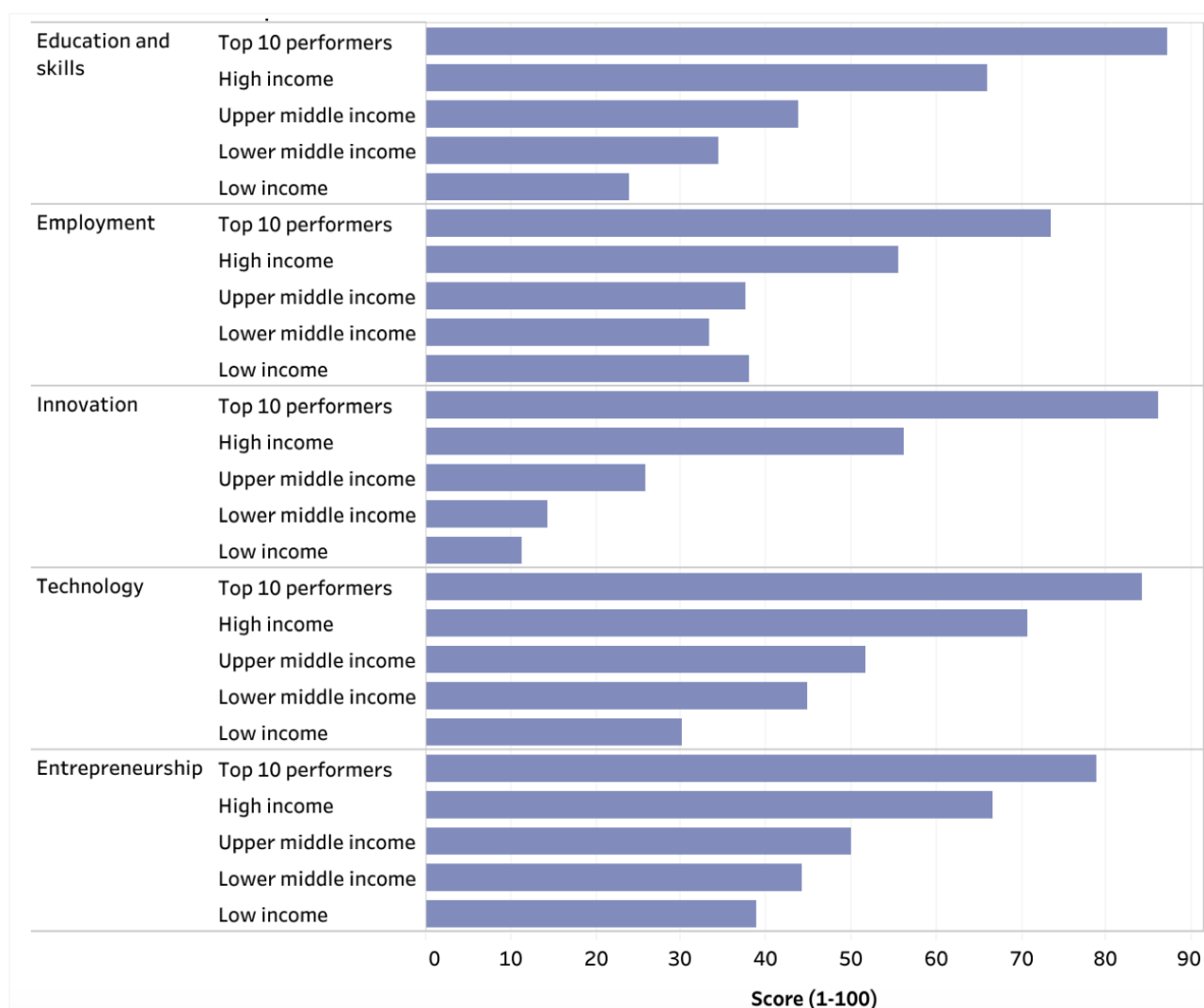
Source: Whiteshield Partners

Potential for improvement in labour market resilience at all levels of the GLRI ranking

The labour resilience gap measures the difference in score between the structural pillar and the policy pillar. Countries with the widest positive gap between the structural and policy pillar scores have the greatest potential for short term labour market resilience improvement through better policies. While richer countries are converging faster towards higher levels of labour market resilience, it is also true that countries from all income levels have potential for short-term policy improvements in labour market resilience (Figure 10 and Figure 11).

Among the strong GLRI performers with high policy improvement potential are France, Germany, Belgium and Poland, Austria and Czech Republic. Lebanon, Tunisia, Nepal and Egypt are the countries with the highest policy improvement potential.

Figure 10: Matrix of Global Labour Resilience Index score vs Global Labour Resilience Gap[12]
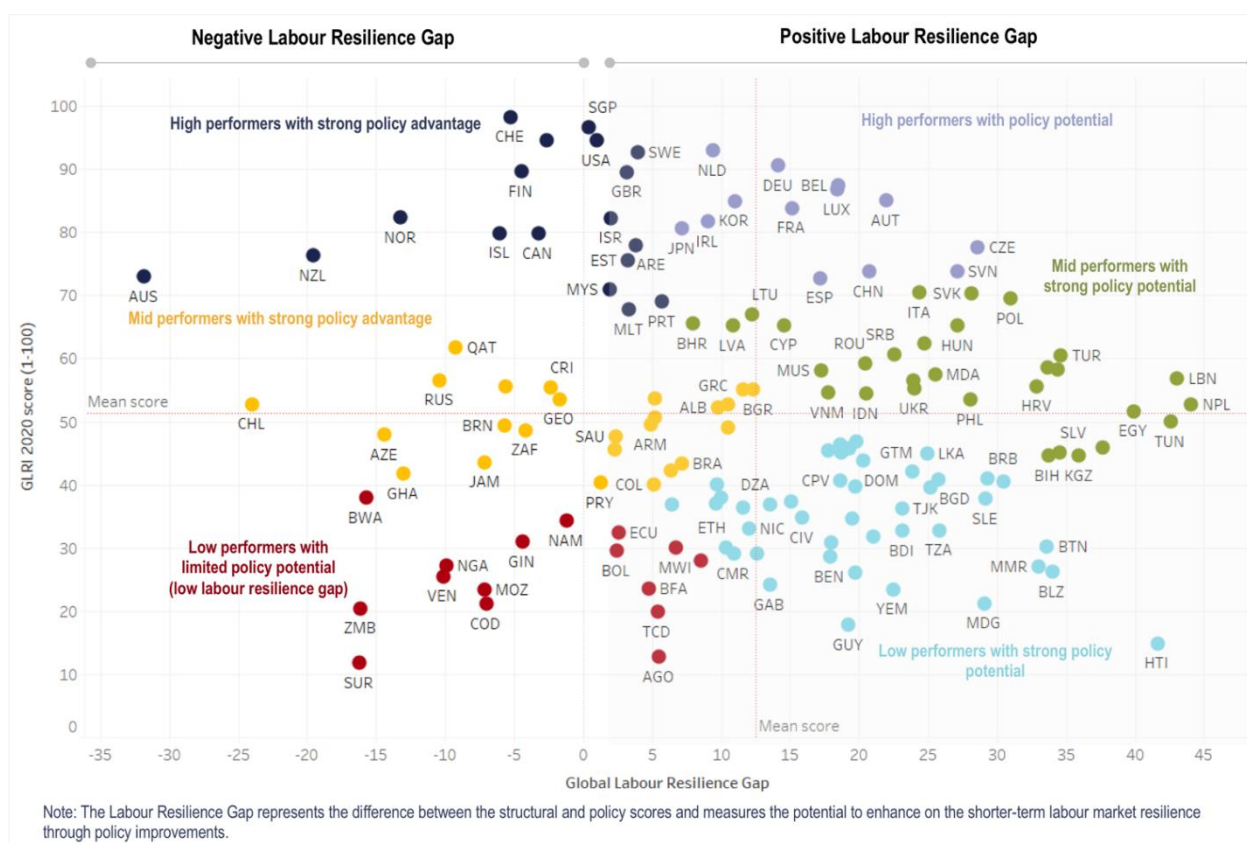
Source: Whiteshield Partners

---

[12] The labour resilience gap is the difference between the structural pillar score and the policy pillar score.

Figure 11: Segmentation of countries according to GLRI 2020 policy scores vs structural scores
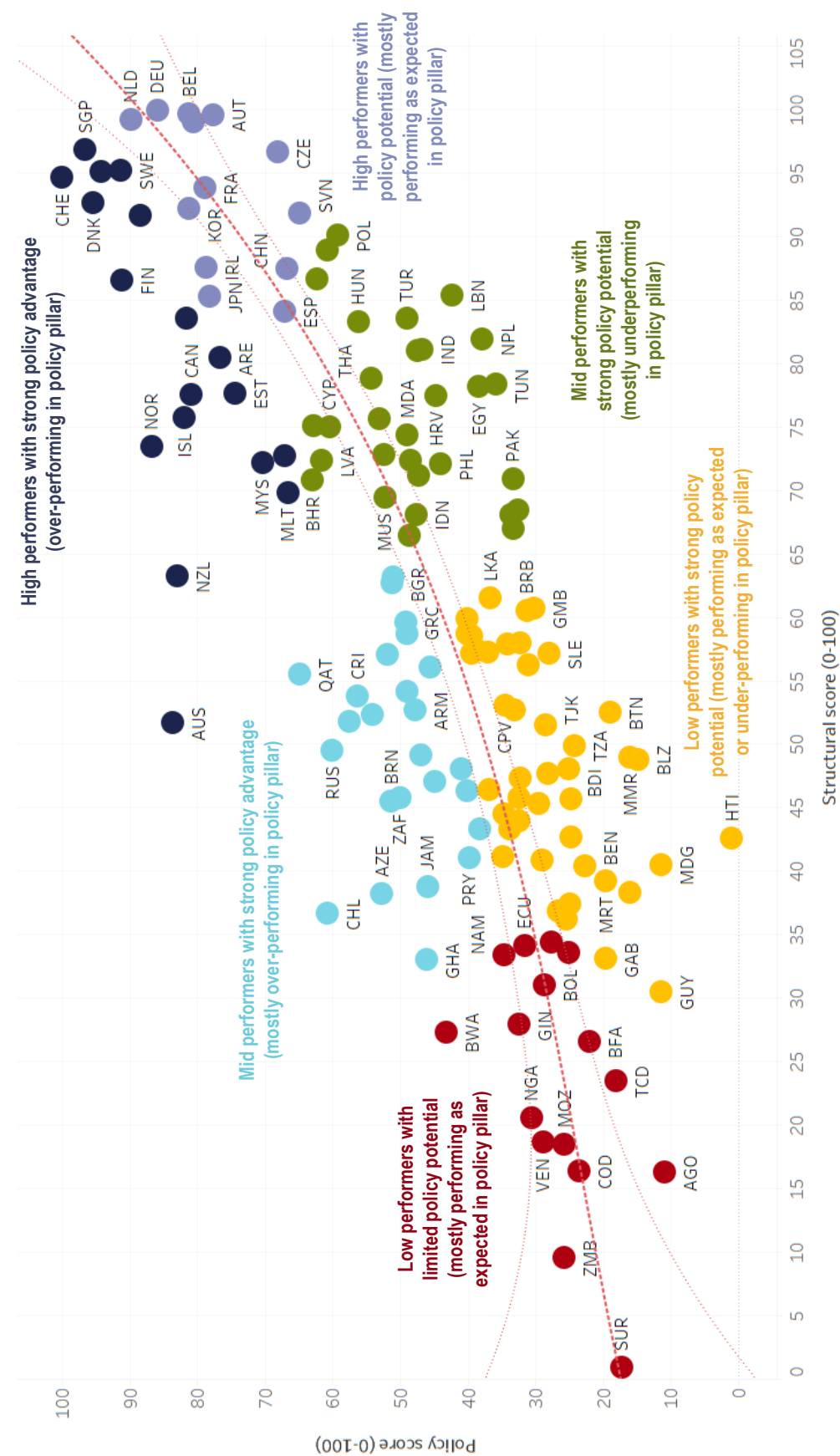
Note: Countries are clustered according to their overall GLRI score and their Global Labour Resilience Gap. The trend lines represent a polynomial of degree 3. Countries placed above the line are those over-performing in the policy pillar given their income level. Countries below the line are under-performing in the policy pillar.

Source: Whiteshield Partners

GLRI 2020: TOP 10 COUNTRIES

The composition of the top 10 countries in the GLRI has remained remarkably stable over the last five years driven primarily by continuous policy improvement in the areas of education, labour, innovation, technology and entrepreneurship.

Switzerland and Singapore top the GLRI 2020 rankings based on their strong and balanced performance across all dimensions of the labour market resilience framework. Building on its leading labour market resilience position, Switzerland has further diversified its exports and improved ICT access and infrastructure over the last five years. Switzerland has also raised educational spending, significantly reduced gender pay gap and softened the negative impact of taxes on workers. Singapore has slipped just behind Switzerland into second place due to increased concentration of exports, a slight lowering of ICT affordability and access, a slowdown of entrepreneurship activity and the relative ageing of the population.

The United States holds a solid third position in the GLRI 2020 ranking buttressed by improvements in education and skills (in particular STEM graduates and skillset of graduates as well as government educational spending), labour policy and better access to loans.

Denmark has moved from fifth to fourth place in five years due to a significant reduction in dependence on natural resources, a better business environment (e.g. simplified access to loans and reduced time to start a business), which led to increased business activity, and better technology performance comparing to other countries.

On the other hand, Sweden and Finland have declined in the top 10 ranking, moving respectively from second to sixth and six to eight place. Sweden has declined on almost all policy dimensions – in particular in technology. The major exception is the education and skills dimension where Sweden maintains the same rank as five years ago. There is a sharp increase of negative impact of taxes on the incentive to work. Finland has suffered the steepest decline in the structural pillar namely through reduced diversity of exports and ageing population. It also shows a decrease education and innovation outcomes.

Germany is ranked seventh overall with an outstanding performance in structural resilience (first) cemented by a high level of economic complexity. The country has some room for improvement on the policy front where it ranks 10th overall. This includes fostering a more attractive entrepreneurship environment, reducing gender imbalances, and cutting the tax wedge.

The UK and Belgium have maintained a stable rank over five years in ninth and tenth place respectively. Belgium has registered improvements in the employment pillar (hiring and firing practices, hiring of foreign labour and worker's rights) but a weaker performance on the technology pillar (ICT goods and services exports). The UK's labour market resilience masks some regional imbalances and vulnerabilities in job quality that are covered in Chapter 3. The Netherlands has moved up from seventh to fifth place over five years largely driven by structural improvements related to greater economic diversification (four rank improvement).

The best performers in GLRI 2020 ranking stand out with high scores in both policy inputs and policy outputs, suggesting highly effective policy making. This compares to the next level down of performers which have strong policy inputs (e.g. education spending) but do less well on policy outputs. The gap is significant even when comparing the top ten performers to those countries ranked from 11 to 20. For example, while the countries ranked from eleven to twenty in the GLRI have comparable education spending to the top ten (at around 5.5% of GDP), the performance of the top ten countries is on average 6% higher in PISA scores and 16% higher in the skillset of graduates.

In other words, the top of the labour market resilience league is more effective in translating policy inputs into policy outputs (Figure 12). This greater policy effectiveness is supported by linking different policy areas. For instance, Denmark is actively linking its digital and technology strategy to its skills and talent policy (Box 3) while Luxembourg offers a good example of linking SME-support and technology policy in order to fully leverage the potential of the digital economy (Box 4).

CONTEXT & OBJECTIVES

- The government established the Disruption Council – a Partnership for Denmark's Future in May 2017 in order to address labour market resilience.

- The council looks at future skills, free trade, international partnerships, new business models, tomorrow's technology and lifelong learning.

- Denmark has a strongly resilient labour market supported by a combination of relatively flexible labour regulation, an active labour market policy and a generous benefit system.
  .

KEY INSIGHTS

- High levels of investment in active labour policy – 3.16% of GDP (highest in the OECD).

- Strong coordination between government, private sector and unions through formal institutions (e.g., Disruption Council– a Partnership for Denmark's Future).

- Vocational training subsidized for lifelong learning and constantly updated to ensure relevance.

MEASURES / OUTCOMES

- 70 per cent of Danes think 'it is good for people to change jobs every few years' and 25% change jobs in any given year.

- Unemployment rate consistently below EU average (June 2018 5.0% vs. EU average of 6.9%).

DESCRIPTION / APPROACH

Disruption council brings together trade unions, employer organizations, entrepreneurs, experts, Danish youth, CEOs and ministers to reflect on future market trends and how they will impact work:

- Recent initiatives include revising laws and regulations around the sharing economy (increased worker protecion and measures to support the industry) and tripartite agreement with social partners on vocational training and education to improve flexibility and incentives for lifelong learning.

The Danish "flexicurity" system has three major foundations, ensuring relatively low rates of unemployment, high quality jobs and high levels of equality:

- Flexible labour regulation – flexible rules for hiring and firing that incentivize companies to hire
- Active labour market policies – compulsory activation programs for unemployed (with private sector subsidised by the government for up to 1 year), 6 weeks of free education for the unemployed
- Generous unemployment benefits – up to 90% of pay for low wage employees for up to 2 out of every 3 years.

Government subsidised (covering ~85% of cost) lifelong vocational training (over 2 800 courses updated annually, ensuring focus on employer skill needs).

Source: Whiteshield Partners; WEF; The Disruption Council, Education and Training – Lessons from Denmark by Kinley Salmon; www.star.dk

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Box 4: Initiatives for inclusive digitalization focusing on SMEs – case of Luxembourg

CONTEXT & OBJECTIVES > KEY INSIGHTS > MEASURES / OUTCOMES

- Digitization is transforming the way companies operate.

- Luxembourg's Digital Skills Bridge aims to provide educational, financial and technical support to firms faced with this transformation.

- Company focus: Specific target on firms and their employees, in particular SMEs.

- The Digital Skills Bridge program follows a multi-stakeholder, demand driven approach.

- Priority placed where the impact of digital transformation is strongest.

- The Skills Bridge program was launched in May 2018 in pilot mode with 16 companies and 500+ employees participating.

- By August 2018, 26 individuals have been certified as personal advisors specialized in the Luxembourg Digital Skills Bridge program.

DESCRIPTION / APPROACH

Luxembourg Digital Skills Bridge provides technical and financial assistance to upskill employees in companies facing major technological disruption.

Skills Bridge helps organizations invest in the future of their employees and operations through:

- Raising awareness and supporting companies whose business activities have or will be significantly transformed by digital disruption

- Coaching and upskilling employees whose jobs will be impacted by the digitalization and advise them on new placement opportunities

- Demonstrating the value of a proactive and preventive upskilling approach for companies, employees and society

- Developing an ecosystem of relevant assessment and upskilling solutions.

The program is governed by a tripartite official body with representatives from the administrations directly involved in the project, representatives of employer associations and trade unions benefitting from national representation.

Source: Whiteshield Partners; https://www.skillsbridge.lu/

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

A summary of the GLRI 2020 results for the top 10 countries and breakdown of top 10 GLRI results by sub-pillar is provided in Table 2.

Table 2: Overview of GLRI 2020 results for top 10 countries

Country	GLRI 2020 Rank	GLRI2020 Score (1-100)	1. Structural Pillar Rank	Structural pillar score (1-100)	2. Policy Pillar Rank	Policy pillar score (1-100)	Trend 2015-2020
Switzerland	1	98	10	95	1	100	2
Singapore	2	97	6	97	2	97	-1
United States	3	95	9	95	4	94	1
Denmark	4	95	12	93	3	95	1
Netherlands	5	93	4	99	7	90	2
Sweden	6	93	8	95	5	91	-4
Germany	7	91	1	100	10	86	1
Finland	8	90	21	87	6	91	-2
United Kingdom	9	90	15	92	8	88	0
Belgium	10	87	2	100	16	81	0

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Figure 12: Breakdown of GLRI 2020 results of top 10 countries by sub-pillar score (1-100)

1. Structural Pillar

1.1 DEMOGRAPHY

Country	Score
Switzerland	34
Singapore	53
United States	45
Denmark	30
Netherlands	32
Sweden	29
Germany	23
Finland	23
United Kingdom	34
Belgium	34

1.2 COUNTRY CAPABILITIES

Country	Score
Switzerland	95
Singapore	88
United States	81
Denmark	75
Netherlands	73
Sweden	86
Germany	92
Finland	84
United Kingdom	83
Belgium	75

1.3 ECONOMIC DEVELOPMENT

Country	Score
Switzerland	90
Singapore	95
United States	88
Denmark	76
Netherlands	81
Sweden	75
Germany	77
Finland	69
United Kingdom	76
Belgium	80

1.4 ECONOMIC DIVERSIFICATION

Country	Score
Switzerland	58
Singapore	53
United States	92
Denmark	80
Netherlands	90
Sweden	79
Germany	9
Finland	67
United Kingdom	80
Belgium	87

1.5 INEQUALITY

Country	Score
Switzerland	78
Singapore	NA
United States	51
Denmark	91
Netherlands	91
Sweden	88
Germany	80
Finland	94
United Kingdom	76
Belgium	92

2. Policy Pillar

2.1 EDUCATION & SKILLS

Country	Score
Switzerland	100
Singapore	80
United States	92
Denmark	90
Netherlands	87
Sweden	84
Germany	84
Finland	89
United Kingdom	84
Belgium	80

2.2 EMPLOYMENT

Country	Score
Switzerland	88
Singapore	100
United States	64
Denmark	83
Netherlands	80
Sweden	66
Germany	62
Finland	69
United Kingdom	61
Belgium	62

2.3 INNOVATION

Country	Score
Switzerland	100
Singapore	90
United States	91
Denmark	86
Netherlands	81
Sweden	84
Germany	90
Finland	80
United Kingdom	81
Belgium	79

2.4 TECHNOLOGY

Country	Score
Switzerland	84
Singapore	97
United States	92
Denmark	86
Netherlands	83
Sweden	88
Germany	75
Finland	98
United Kingdom	75
Belgium	65

2.5 ENTERPRENEURSHIP

Country	Score
Switzerland	74
Singapore	94
United States	87
Denmark	80
Netherlands	72
Sweden	80
Germany	69
Finland	76
United Kingdom	88
Belgium	69

2.6 STATISTICS

Country	Score
Switzerland	93
Singapore	62
United States	86
Denmark	93
Netherlands	90
Sweden	97
Germany	93
Finland	86
United Kingdom	97
Belgium	97

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

The top 10 ranking is dominated by countries from North Western Europe, in particular the Nordic Countries

Countries from North West Europe hold eight out of the top 10 slots in the Global Labour Resilience Index 2020 (Switzerland, Denmark, Netherlands, Sweden, Germany, Finland, United Kingdom and Belgium), including three Nordic countries. These countries tend to be characterised by highly diversified economies with multiple trading partners, strong educational systems with significant public investment and engines of innovation (Box 5). They are also more egalitarian in terms of income distribution.

European top 10 countries better at managing the demographic decline

The top 10 countries in North Western Europe are ageing less rapidly than other developed countries. Switzerland, Denmark, Germany, Sweden, the UK and Belgium have improved the evolution of their population pyramid over the last 5 years, thanks in part to relatively open immigration policies contributing to the development of a younger, more flexible workforce. In Germany, for example, the percentage of the population aged over 65 has increased by only 0.8 percentage points over the past five years (from 20.9% in 2013 to 21.7% in 2018) and in the UK by 1.1 percentage points (from 17.5% to 18.6%) compared to an average of 1.6% for the EU as a whole (from 18.4% to 20%).

Singapore by contrast has witnessed a significant ageing of its population over the same period, with the percentage of the population over 65 increasing by 3.1 percentage points. While the country's population pyramid remains younger on average than the rest of the top 10 (with the population over 65 still only 13.6% compared to 19.4% for the rest of the top 10), these early signs of demographic decline suggest that Singapore's policy makers should be thinking about demographic and immigration policies to foster a younger workforce[13].

Both market-driven and social-driven models have places in the top 10

Singapore, the USA and the UK demonstrate a more "market-driven" model of resilience, with flexible labour markets and strong entrepreneurial ecosystems encouraging business creation and economic dynamism. These countries have among the highest scores on entrepreneurship (except New Zealand which is ranked 1st) and all rank in the top five for hiring and firing practices. Singapore goes further still, with no state unemployment insurance system in place, believing that the best way to support unemployed workers is to help them back into employment (Box 6).

The Nordic countries, and to a lesser extent Germany, the Netherlands and Switzerland, have a more "social-driven" model characterised by high-quality state-funded education, investment in effective active labour market policies (all score highly in both spending and effectiveness of active labour market policies) and strong collective bargaining mechanisms.

---

[13] World Bank staff estimates based on age/sex distributions of United Nations Population Divisions World Population Prospects 2017 Revision.

Box 5: Education reform and investing in future technology – case of Finland

FINLAND

EDUCATION REFORM AND INVESTING IN FUTURE TECHNOLOGY

Finland , which has seen its scores fall in the education, innovation, technology and entrepreneurship sub-pillars over the past five years, is very much aware of the need to invest in these areas and is undertaking a number of important reforms and investments.

Wide-reaching Educational Reforms
- Once the darling of educational reformers for its high scores in international rankings of student achievement, Finland has seen its PISA score drop over the past 5 years.
- Through the 2016 National Curriculum Framework, Finland has recently launched a wide-ranging reform of the educational system, refocusing its curriculum on "21st Century Skills" (Thinking and learning to learn; Taking care of oneself and others, managing daily activities, safety; cultural competence, interaction and expression; multiliteracy; ICT competence; Working life competence and entrepreneurship; Participation and influence and building the sustainable future) – the sorts of skills that are difficult to automate and will contribute over the longer term to labour resilience.
  - Pupils are encouraged to make connections across subjects through undertaking an inter-disciplinary learning module every year using a Phenomenon-Based Learning approach with students having a say in what they want this to be focused on and being involved in group work to execute it
  - Whilst it is too early to see this reform reflected in the education sub-pillar, it will likely lead to further improvements in the future.

Long-term Investments in Future Technologies
- Finland is also working to address its faltering innovation engine with investment in research and a renewed focus on technologies for the future.
  - For example, Finland was the first country in the world to put in place an AI strategy in 2017 and significant investment has gone into ensuring Finland is able to be a leader in AI.

Source:

Whiteshield Partners, Finland Ministry of Education

Box 6: Bringing citizens back to work – case of Singapore

SINGAPORE

WORK NOT WELFARE

The Singaporean government works on a fundamental principle of encouraging citizen self-reliance and believes in supporting citizens back into work through retraining and support in job searches rather than through unemployment insurance schemes to support people out of work. This has even been explicitly stated by senior government figures:

"Our strategy has been to encourage economic self-reliance by promoting social mobility. Instead of providing large unemployment benefits and price support schemes, we prefer job creation and market competition. The provision of subsidies has been selective and confined mainly to education, healthcare, and public housing."

- Richard Hu, Minister for Finance and Chairman of the Monetary Authority of Singapore, 22 March 1997

Support for career development and reintegration into work:
- The **SkillsFuture** initiative prepares Singaporeans for the future of work, provides a set of digital services (including a job matching portal) that enable individuals to foster a lifelong learning mindset, with a credit of S$500 for all Singaporeans over 25 to contribute towards the cost of further education
- The **Adapt & Grow (A&G)** initiative combines a number of other programmes to help Singaporeans back into work:
  - Career support program (CSP) – wage support provided to companies hiring older unemployed Professionals, Managers, Executives and Technicians (PMETs)
  - Professional Conversion Programme (PCP) – salary support to PMETs employed by companies going through a period of structured training, to acquire the skills required for a new job
  - P-Max program to support SMEs looking to hire PMETs
  - Place and Train programmes for low skilled workers providing salary support to companies employing and training lower skilled labour
  - Work trial programmes – effectively a form of apprenticeship scheme providing on the job training to lower skilled workers

Subsistence support for the truly needy:
- Whilst no unemployment insurance system exists, there is welfare support for the truly needy, with a number of means-tested programs to support those in dire need including a Public Assistance Scheme, Interim (Short Term) Financial assistance and a Rent and Utilities Assistance Scheme

Source: Whiteshield Partners, Ministry of Manpower, Workforce Singapore, Research and Library Services Division Legislative Council Secretariat

Both models are facing challenges. The market-driven models have witnessed a rise in income inequality and lower quality jobs – part time, gig economy – which are hidden in otherwise buoyant unemployment figures.

The social-driven model is being tested by ageing populations and large-scale immigration which place strains on the welfare state by increasing costs whilst also reducing citizens' willingness to pay. Social solidarity is much easier to "sell" in homogenous populations with little difference in ethnicity and high levels of income inequality. As these variables shift, so too does willingness to fund a system which might be seen to benefit "the other".

To ensure continued labour market resilience, reforms will need to be applied to the social model in the coming years to make it more sustainable whilst preserving its best features. The Nordic countries are well-aware of this and have many initiatives in place to address the coming challenges. Most have implemented pension reforms over the past two decades to ensure both long term affordability and adequate coverage of ageing populations, raising the retirement age and converting state pension schemes into investment schemes rather than schemes financed by current taxation. Individually and collectively, the Nordic countries have invested significantly in thinking through policy responses to the future of work (Box 7). For example, The Nordic Council of Ministers (representing Denmark, Finland, Iceland, Norway, Sweden, the Faroe Islands, Greenland and Åland) has organized an annual conference for the past four years to assess the future of work in the Nordic region and to formulate potential policy responses.

It is important to highlight that the market and social-driven models highlighted above represent degrees on a spectrum rather than extremes. For instance, the USA and the UK both have active labour market policies (though they spend significantly less than the Nordics – 0.2% of GDP in the USA and 0.54 of GDP (2011) in the UK vs. 1.1% in Norway, 1.7% in Sweden, 2.8% in Finland and 3.2%[14] in Denmark) and the Nordic countries benefit from entrepreneurial ecosystems (Denmark (8th), Sweden (9th), Finland (16th) and Norway (19th) – all rank highly in the Global Entrepreneurship Index, though not as highly as the USA (1st) and the UK (4th).

Box 7: Initiatives to prepare the nordic labour market model for the future of work

ADAPTING THE NORDIC MODEL TO ENSURE LABOUR MARKET RESILIENCE LONG TERM POLICY THINKING

DENMARK
THE DANISH DISRUPTION COUNCIL

- The Disruption Council was established by the Danish government in 2017 to address questions on Denmark should address the opportunities that technological developments bring. It concluded its work in February 2019.
- The council was headed by the Prime Minister, and comprised eight ministers and 30 members, including CEOs, social partners, researchers and others.
- It has contributed significantly to policies on education (helping to secure a tripartite agreement on a stronger and more flexible system for continuing training), digital growth (to help businesses make use of new technologies and to ensure Danes get the right competencies to manage in a digital future) and the "gig" economy (helping to broker the collective agreement between the platform company, Hilfr and the Danish trade union, 3F).

SWEDEN
MISSION: THE FUTURE

- Misson: The Future was developed by the Swedish Government to look at long-term ideas and policy development to tackle the challenges of the future.
- The project was begun in February 2015 and concluded in April 2016 . It was chaired by Kristina Persson, Minister for Strategic Development and Nordic Cooperation and included seven ministers and the prime minister.
- It took a cross-government perspective on three major challenges for Sweden, including : the future of work, the transition into a fossil-free society, and the need for stronger multilateral global coordination.
- Major policy proposals from the future of work team focused on ensuring government funded life-long learning programs with a particular focus on the over-30 population.

Source: Whiteshield Partners, Denmark's National Reform Programme 2019, WEF, Centre for Public Impact, Swedish government

---

[14] OECD, 2017 or latest available data.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

GLRI 2020: COUNTRIES WITH THE HIGHEST SHORT-TERM LABOUR MARKET RESILIENCE POTENTIAL

Countries with the widest gap between the structural and policy pillar score – the so-called *labour resilience gap* – have the greatest potential to strengthen the resilience of their labour markets in the shorter-term through targeted policy reforms (Table 3).

Table 3: Top 30 countries with the highest Labour Resilience Gap in the Global Labour Resilience Index 2020

Country names	Labour Resilience Gap	Rank
Nepal	44	1
Lebanon	43	2
Tunisia	43	3
Haiti	42	4
Egypt, Arab Rep.	40	5
Pakistan	38	6
Kyrgyz Republic	36	7
Turkey	35	8
El Salvador	35	9
India	34	10
Belize	34	11
Bosnia and Herzegovina	34	12
Jordan	34	13
Bhutan	34	14
Myanmar	33	15
Croatia	33	16
Poland	31	17
Gambia, The	30	18
Barbados	29	19
Sierra Leone	29	20
Madagascar	29	21
Czech Republic	29	22
Slovak Republic	28	23
Philippines	28	24
Hungary	27	25
Slovenia	27	26
Tanzania	26	27
Bangladesh	26	28
Moldova	26	29
Senegal	25	30

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Nepal, Lebanon, Tunisia and Egypt are among the top 5 countries with the most potential to strengthen the resilience of their labour markets in the short-term

Nepal, Lebanon, Tunisia and Egypt are among the countries with the most potential to strengthen the resilience of their labour markets in the short-term with the widest gaps between structural and policy scores. Building on relatively attractive structural characteristics – economic diversification, low levels of inequality, younger demographics (except Lebanon and Tunisia) – countries with the high labour resilience gaps can reap the greatest rewards in strengthening the resilience of their labour markets through targeted policy reforms in areas such as education, labour, entrepreneurship and innovation policy.

Nepal's youthful population, relatively diversified exports and high levels of income equality give it the highest structural score in the South Asia region. Nepal has a natural structural advantage relative to other countries that should be leveraged. However, its low scores in education and innovation pull down its policy score significantly, leading to a high resilience gap.

Nepal has considerably increased its spending on education over the past 5 years, moving from 3.5% of GDP in 2013 to 5.2% of GDP in 2018[15], and has made important progress in increasing enrolment and improving equity of access under successive School Sector Development Plans.

However, increased spending has yet to translate into quality improvements and average number of years of schooling remains very low (3.5 years vs. an average of 9.2 for all GLRI countries). Increasing the average number of years of schooling and improving education quality should be an urgent focus for the government.

Lebanon has a relatively developed and sophisticated economy with high share of services in GDP, limited dependence on natural resources, moderate income per capita and high levels of income equality.

The labour market, however, is under strain from gender imbalances (ranked 135th for women in labour

force), an absence of incentives to attract and retain talent (ranked 110th) and poor labour policy effectiveness (ranked 125th). Moreover, the regulatory environment is not conducive to innovation, with relatively weak IP protection (ranked 108th). The potential for policy improvement to enhance labour market resilience is very high in this country. Given the current severe political and economic crisis, with rising unemployment and increasing levels of poverty, addressing policies to improve labour market resilience should be a key priority for the new government.

Egypt benefits from a fairly diversified economy (ranked 28th overall) and high levels of income equality (26th). It has also seen a significant reduction in dependence on natural resources (increasing by 16 ranks over the past five years on this indicator).

On the policy front, the country has engaged in a series of regulatory reforms which have significantly improved the business environment, especially in the ease of starting a business and access to loans, enabling the country to jump by 40 places in entrepreneurship outputs over the past five years. Egypt has also managed to increase its ICT exports which has contributed to its improved performance in export diversification. In the employment pillar, Egypt has also experienced significant improvements in the fields of hiring and firing, tax burden on workers and labour-employer cooperation.

However, this progress has been hampered by remaining challenges in several areas of skills and employment. Egypt suffers from high skills gaps (135th) notably due to a persistent challenge of low-quality vocational education and low investment in staff training as well as declining educational expenditure. These factors added to poor labour market policies (101st) help to explain high levels of unemployment especially among the youth. The country also faces a low supply of skilled labour (106th) consistent with its poor performance in attracting and retaining talent (114th).

Tunisia shows a similar strength in economic diversification in addition to noticeable progress in improving economic complexity (46th) and tertiarization

---

[15] UNESCO Institute for Statistics.

of the economy (41st). Compared to other countries with high labour resilience gaps (excl. Lebanon), Tunisia benefits from a relatively high performance in education and technology, mainly thanks to improvements in education spending, a high share of STEM graduates (5th), major progress in critical thinking (increased by 23 ranks) as well as high levels of ICT affordability. These relative strengths also

enabled an increase in technology (jumping by 28 ranks in 5 years) both in terms of ICT subscriptions, affordability and exports. However, the country suffers from high regulatory burdens both in the labour market and entrepreneurship policy, including low access to loans and bureaucracy. Increasing the flexibility of the labour market while reducing barriers to start a business would be quick policy-wins for Tunisia.

GLRI 2020: REGIONAL ANALYSIS

This section assesses the GLRI 2020 results by region. Table 4 shows performance by region with average scores for each region in the four main GLRI measures. The Global Labour Resilience Heat Map highlights the disparities in labour market resilience

across the world and shows the top three performing countries in each region in Figure 13. Figure 14 provides a comparative summary of regional results by sub-pillar. More in-depth analysis of GLRI regional performance is provided in the text below.

Figure 13: Global Labour Resilience Heat Map (GLRI 2020)

Rank 1	Rank 2	Rank 3	Rank 4
NORTH AMERICA	**EUROPE**	**EAST ASIA & PACIFIC**	**MIDDLE EAST & NORTH AFRICA**
2 countries	*37 countries*	*16 countries*	*16 countries*
Average GLRI: 87	**Average GLRI: 72**	**Average GLRI: 60**	**Average GLRI: 54**
1st: USA (3rd) 2nd: Canada (20th)	1st : Switzerland (1st) 2nd: Denmark (4th) 3rd: Netherlands (5th)	1st: Singapore (2nd) 2nd: Korea, Rep. (13th) 3rd:Japan (18th)	1st: Israel (16th) 2nd: United Arab Emirates (21st) 3rd: Bahrain (36th)

Rank 5	Rank 6	Rank 7	Rank 8
CENTRAL ASIA AND S.CAUCASUS	**SOUTH ASIA**	**LATIN AMERICA AND CARIBBEAN**	**SUB-SAHARAN AFRICA**
8 countries	*6 countries*	*25 countries*	*35 countries*
Average GLRI: 50	**Average GLRI: 45**	**Average GLRI: 38**	**Average GLRI: 33**
1st: Turkey (43th) 2nd: Russia (50th) 3rd: Kazakhstan (60th)	1st: India (46th) 2nd: Nepal (65th) 3rd: Pakistan (78th)	1st: Mexico (51st) 2nd: Costa Rica (54th) 3rd: Chile (63rd)	1st: Mauritius (47th) 2nd: South Africa (73rd) 3rd: Kenya (79th)

Source: Whiteshield Partners

Table 4: Average GLRI 2020 performance by region

Region	GLRI Regional Rank	Number of Countries	Average GLRI	Average Structural Score	Average Policy Score	Average Labour Resilience Gap
North America	1	2	87	86	88	-1
Europe	2	37	72	82	67	14
East Asia & Pacific	3	16	60	67	57	10
Middle East & North Africa	4	16	54	64	49	15
Central Asia and South Caucasus	5	8	50	57	47	10
South Asia	6	6	45	68	34	33
Latin America & Caribbean	7	25	38	45	35	11
Sub-Saharan Africa	8	35	33	39	29	10
Overall world average		145	51	60	47	13

Source: Whiteshield Partners

North America and Europe continue to top the regional GLRI performance table but East Asia and the Pacific closing the gap

At a regional level, North America and Europe continue to outperform the rest of the world with the highest average GLRI scores of all regions. This is not surprising given the relative sophistication and development of their economies, their high levels of economic diversification, well-funded education systems and favourable conditions for entrepreneurship and innovation.

However, the East Asia and the Pacific region is catching up with Europe, especially on the policy front, closing to within 10 points difference between average policy scores (57 vs 67) compared to a gap of 15 points 5 years ago. It should be noted that East Asia and the Pacific also has a broader spectrum of countries with different levels of labour market resilience, ranging from Singapore (ranked number 2 in the index) to Myanmar (ranked 130).

The MENA region with its high preponderance of middle-income countries (sandwiched between the highly developed Israel at the top and war-torn Yemen at the bottom of the MENA table) sits in the middle of the regional table.

In MENA, there is significant sub-regional variation with GCC countries presenting a different profile to North African countries. GCC countries are characterised by the highest youth demographics in the region but low levels of economic diversification and relatively low complexity (with oil and gas crowding out other industries) offsetting their advantage in income levels. Five years ago they have presented strongly negative resilience gaps, but in the last 5 years they have been equalizing structural and policy performance by large investments in policy inputs in education and innovation and regulatory reforms to improve the business environment and labour market flexibility contrasted with the structural weaknesses associated with high reliance on the oil and gas industry. Among GCC countries, the UAE is the only high resilience performer (ranked 21st). The country has managed to translate policy improvements (notably in education and technology) into structural strengths with progress in economic complexity, diversification of exports and tertiarization of the economy reducing its dependence on natural resources.

In South Asia, India appears to be pulling ahead of its regional peers on labour market resilience, driven by major improvements in economic diversification (increasing by 9 ranks over the past five years). On the policy front, India has been investing more entrepreneurship (increased by 33 ranks) driving by simplified bureaucratic and shortened time to start a business (from 32.7 days to 16.5 days[16]). For the last 5 years India has also significantly improved hiring and firing practices (increased by 34 ranks) as well as capacity to attract and retain talent and reduced impact

---

[16] World Bank, Doing Business 2020 report.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

of taxes on workers. India also benefits from global leadership in creative goods exports and high ranks in ICT affordability. Finally, India has pursued several reforms to improve the entrepreneurship environment both by enhancing the ease of starting businesses and improving access to loans.

As in the case of East Asia and the Pacific, the mean labour market resilience for the Latin America and the Caribbean region is pulled down by countries such as Suriname, Haiti and Guyana which are in the bottom five in the GLRI.

Sub-Saharan Africa trails the other regions in labour market resilience. The region has the lowest or second lowest average score on all dimensions of the Index except for demographics (where it scores highest) and employment. Given the low level of economic development and economic capabilities the top resilience priorities for the region are education, employment and entrepreneurship. The small number of Sub-Saharan countries which have managed to progress significantly in resilience (such as Rwanda) have invested significantly in these areas enabling them to follow a relatively balanced resilience path with both policy and structural improvements.

Figure 14: GLRI 2020 regional scores[17]

1. Structural Pillar

1.1 DEMOGRAPHY

North America	Europe	East Asia & Pacific	Middle East & North Africa	Central Asia and South Caucasus	South Asia	Latin America & Caribbean	Sub-Saharan Africa
42	36	67	83	71	81	74	91

1.2 COUNTRY CAPABILITIES

North America	Europe	East Asia & Pacific	Middle East & North Africa	Central Asia and South Caucasus	South Asia	Latin America & Caribbean	Sub-Saharan Africa
73	71	57	46	45	41	44	27

1.3 ECONOMIC DEVELOPMENT

North America	Europe	East Asia & Pacific	Middle East & North Africa	Central Asia and South Caucasus	South Asia	Latin America & Caribbean	Sub-Saharan Africa
78	66	47	46	34	41	42	25

1.4 ECONOMIC DIVERSIFICATION

North America	Europe	East Asia & Pacific	Middle East & North Africa	Central Asia and South Caucasus	South Asia	Latin America & Caribbean	Sub-Saharan Africa
81	72	56	43	42	54	44	31

1.5 INEQUALITY

North America	Europe	East Asia & Pacific	Middle East & North Africa	Central Asia and South Caucasus	South Asia	Latin America & Caribbean	Sub-Saharan Africa
62	82	67	73	76	70	37	47

2. Policy Pillar

2.1 EDUCATION & SKILLS

North America	Europe	East Asia & Pacific	Middle East & North Africa	Central Asia and South Caucasus	South Asia	Latin America & Caribbean	Sub-Saharan Africa
87	64	52	50	44	34	38	30

2.2 EMPLOYMENT

North America	Europe	East Asia & Pacific	Middle East & North Africa	Central Asia and South Caucasus	South Asia	Latin America & Caribbean	Sub-Saharan Africa
62	51	47	41	48	33	33	39

2.3 INNOVATION

North America	Europe	East Asia & Pacific	Middle East & North Africa	Central Asia and South Caucasus	South Asia	Latin America & Caribbean	Sub-Saharan Africa
83	54	42	31	24	16	20	13

2.4 TECHNOLOGY

North America	Europe	East Asia & Pacific	Middle East & North Africa	Central Asia and South Caucasus	South Asia	Latin America & Caribbean	Sub-Saharan Africa
78	69	67	63	55	48	45	32

2.5 ENTERPRENEURSHIP

North America	Europe	East Asia & Pacific	Middle East & North Africa	Central Asia and South Caucasus	South Asia	Latin America & Caribbean	Sub-Saharan Africa
82	62	62	57	54	49	42	44

2.6 STATISTICS

North America	Europe	East Asia & Pacific	Middle East & North Africa	Central Asia and South Caucasus	South Asia	Latin America & Caribbean	Sub-Saharan Africa
88	87	69	62	68	54	58	52

Source: Whiteshield Partners

---

[17] Average GLRI score of the region is the mean of GLRI scores for all countries included in the region. Regions are ranked from highest to lowest average GLRI score.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

NORTH AMERICA

USA highly resilient but with growing inequality

The USA is the leader in the market-driven labour market resilience model, scoring well across all policy areas, with particular strengths reflected in education, innovation, technology and entrepreneurship.

In the USA, the market-driven model supports positive educational outcomes – relatively moderate government investment in education (ranked 50 in the GLRI for education spend) and good PISA results at secondary level are accompanied by a high quality, largely private, tertiary education system which produces strong graduates and makes it easy for companies to find skilled employees (ranked 1 in the GLRI for skilled labour supply and ranked 2 in skillset of graduates).

The dynamism of the US market continues to make it a magnet for talent, notwithstanding recent tightening of immigration policy. However, inequality has been increasing over the past five years and is coming close to the levels seen in less developed countries such as Mexico.

Canada following a European path to labour market resilience

Canada follows a more European model of social support with active labour market policy to support workers getting back into jobs. Moreover, Canada has strengthened workers' rights and worker-employer relationships over the past five years.

While its economy is less dynamic and entrepreneurial than that of the US, it enjoys greater levels of income equality, which helps to further reinforce its social protection model.

Canada is placing a specific emphasis on the future of work with the foundation of the Future Skills Council and the Future Skills Centre. These institutions bring together actors from the public and private sectors to collect and monitor data on future skills, advise the government on policy to address future skills needs and develop innovative approaches to help Canadians gain the right skills and succeed in the workforce[18] (Box 8).

Canada's institutional focus on future skills should be reflected in greater labour market resilience over time.

Box 8: Preparing the workforce with the skills of the future - case of Canada

CANADA

PREPARING THE WORKFORCE WITH THE SKILLS OF THE FUTURE

- The Canadian government launched the Future Skills program in May 2018 is to help Canadians prepare for, acquire and maintain jobs as innovation and technology continue to place new demands on workers' skills and training
- The initiative has a committed budget of $225 million for the first 4 years and $75 million thereafter to support 2 main initiatives: the Future Skills Centre and the Future Skills Council
- The Future Skills Centre is working on:
  - Examining major trends that will have an impact on national and regional economies and workers
  - Identifying emerging skills that are in demand now and into the future that may impact people's education and training decisions
  - Developing, testing and evaluating innovative approaches to help Canadians gain the skills they need to adapt and succeed in the workforce
  - Sharing results and best practices with governments, the private sector, labor, educational and training institutions, not-for-profit organizations, academics and subject matter experts to support broader adoption of innovative approaches across Canada
- The Future Skills Council (15 members) makes recommendations to the Minister on national priorities related to skills development and training for Canadians. The Council will also identify national priorities related to skills of the future that could inform the work of the Future Skills Centre.
  - It has launched a widespread consultation exercise with almost 400 individuals from over 150 organizations to gather perspectives from across private, public, and non-profit sectors, identifying seven major themes to address: availability of relevant labour-market information; skills shortages in the skills-training ecosystem; incorporating essential skills into skills development policies and programming; importance and necessity of lifelong learning; new and emerging models of learning and training; employer involvement in skills development; and support for individuals and groups at higher risk of negative effects of disruptive change.

Source: Whiteshield Partners, Building A Highly Skilled And Resilient Canadian Workforce Through The Futureskills Lab, 2017, www.canada.ca

---

[18] Building A Highly Skilled And Resilient Canadian Workforce Through The Futureskills Lab, 2017.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

EUROPE

Europe shows relatively greater income equality

Europe stands out from other regions because if its high levels of income equality. A majority of countries in the region (58%) have actually seen their income equality scores improve over the past five years with many countries becoming more equal in past 5 years.

Income equality is important for labour market resilience – increased inequality makes middle classes less willing to contribute to social protections[19], potentially increases political volatility, may reduce growth, and restricts educational opportunities and social mobility, all negative outcomes for labour market resilience[20].

Northern and Western Europe stand out in education and innovation

Northern and Western Europe stand apart in labour market resilience compared to Southern Europe, thanks to high quality education systems combined with strong innovation and entrepreneurial ecosystems and more flexible labour market regulation.

The innovation pillar in particular distinguishes the North and West from the rest of Europe, with the clearest gap between the European countries that fall in the top 20 and the rest. Innovation policy is partly the sum of many other policy outcomes – education, entrepreneurship and technology in particular – and strength in each of these areas is reflected in a higher score on the innovation sub-pillar.

Whilst there has been some convergence in the entrepreneurship pillar, with most European countries

aiming to make it easy and cheap to start a business, there remains a real gap in the area of innovation.

Countries in Southern Europe, by contrast, are hindered by more rigid labour laws and burdensome regulations for business which discourages investment in innovation and technology, ultimately weakening the resilience of labour markets. Young graduates find it particularly difficult to enter these labour markets. This is reflected in high rates of youth unemployment in many of these countries (33% in Greece, 32% in Spain, and 27% in Italy in August 2019).

For Southern European countries to catch up with Northern and Western Europe in terms of labour resilience, there will need to be significant efforts to boost innovation – improving educational outcomes, focusing on critical thinking, investing in fundamental research, and working on improving the linkages between universities and the private sector (Box 9). Simply making it easier to start a business and making labour laws more flexible is helpful but not enough to help create and sustain the jobs of the future.

France has traditionally been at the pivot point between the North West and the rest. Its rigid labour laws have discouraged hiring and firing, giving it a comparatively low score on employment policy. Relatively lower levels of tertiary education spending - with lower tertiary attainment rates - combined with gaps in digital skills and critical thinking lead to the comparatively low scores in education. However, the country continues to invest in innovation and has embarked on an ambitious program of labour market reforms under the leadership of President Emmanuel Macron which will be vital for France's longer term labour market resilience to ensure that it continues to hold a place in the GLRI top 20 (Box 10).

---

[19] Rising inequality could explain tepid support for redistribution, Economist, Apr 4th 2019.

[20] Keeley, Brian (2015), "How does income inequality affect our lives?", in Income Inequality: The Gap between Rich and Poor, OECD Publishing, Paris.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

THREE LEADERS IN INNOVATION IN THE GLRI ALL HAVE DIFFERENT CHARACTERISTICS, BUT SHARE FUNDAMENTAL PRINCIPLES

	GERMANY Government & academia combine to support the mittelstand	SWITZERLAND State-funded fundamental research, private sector driven innovation	USA Government support encourages entrepreneurs to innovate
"triple helix" of government, academia and private sector	• Significant government investment at state and federal level in applied and fundamental science • Fraunhofer institutes link government, academia and industry in applied application of research • Focus on Mittelstand support	• Government funding focused on fundamental research with 70% of R&D spend from the private sector • Innosuisse supports innovation through (minimal) funding, advice and access to networks • Innovation mostly driven by private sector	• Significant government funding through federal research institutes • Manufacturing USA and SBIR / STTR* support links between government, academia and business with over $2.5bn in annual support • Strong support for start-ups and SMEs with pro-entrepreneurship tax regime
Excellent Educational institutions	• High quality primary, secondary and tertiary education system • Strong public funding for tertiary education	• Highly regarded publically funded teaching and research universities, including federal institutes of technology in Lausanne and Zurich	• High concentration of leading global universities, both publically and privately funded • Universities own federally-funded IP under Bayh-Dole act
Strong IP protection	• Strong IP protections in place	• Very strong IP protections in place	• IP protection enshrined in US constitution • Very strong protection of intellectual property
R&D spend as % GDP	3.03	3.37	2.80
Patent applications / 10K population	0.82	0.19	1.86
IPR score and rank	7.91 /16	8.62 /3	8.12 / 14

* Small Business Innovation Research Program and Small Business Technology Transfer Research
Source: Whiteshield Partners; European Union, innosuisse, Global Trade and Innovation Policy Alliance

FRANCE

AMBITIOUS LABOUR REFORMS TO TACKLE UNEMPLOYMENT

Creating a more flexible labour market to reduce youth and long-term unemployment…

- Under President Macron, France has undertaken a significant programme of labour market reforms:
  - Welfare reform to encourage workers back into work
  - Simplification of redundancy procedures
  - Giving companies greater flexibility to negotiate with workers over sick-pay, hours worked and other areas
  - Significant investment in large scale training and apprenticeship program to help unemployed (especially long term) into work linked to personal training account
- Further reforms planned in the coming year in particular focusing on pensions reform:
  - Raising the age of retirement
  - Making pension provision more equal
- Whilst too early to see the effects of these reforms fully reflected in the GLRI, over time they will significantly contribute to France's long term labour market resilience
- The effect on unemployment can already be seen in quarterly unemployment data

…Whilst benefitting from structural strengths

- France has continued to see unemployment fall despite a global slow-down in trade, largely thanks to the structure of its economy which is better able to rely on domestic consumption to prop up demand and support employment
- In contrast, Germany's export-led economy has struggled with the global slow down in trade, leading to a slight up-tick in unemployment
- This shows that the balance of an economy between export and domestic consumption is also important for labour resilience

Quarterly Unemployment Rate (seasonally Adjusted)

Source: Whiteshield Partners; IMF 2019

Eastern Europe facing significant labour market resilience challenges

There has been a worrying relative decline in labour market resilience across Eastern Europe over the past five years, in particular in the Balkans. Whilst overall labour market resilience scores have gone up across much of Europe, rankings have fallen in approximately half countries of Eastern and Southeastern Europe.

One of the drivers of this lower performance is lowering ther level of economic diversification. Another driver is slower level of economic development, symptomatic of the general economic malaise affecting these countries. This is part hang-over from the 2008 crisis, part due to more recent crises (in the case of Ukraine),

and is driving lower labour market resilience as governments struggle to raise revenues to invest in basic services (health and education) and yet are unwilling or unable to implement far-reaching structural reforms to unleash the private sector, leading talented young people to emigrate and trapping these countries in a vicious downward cycle of reduced resilience (Box11).

Recovery will require brave reforms to labour markets, making it easier to hire and fire workers and reducing the costs of social support, investments in education to improve the readiness of young people for the workforce, efforts to attract investment and job creation, and further entrepreneurship reform to reduce the burdens on business and encourage company formation.
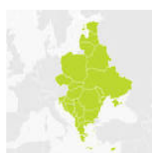
CENTRAL AND EASTERN EUROPE

STOPPING THE BRAIN DRAIN

Brain drain – a vicious cycle facing countries in Eastern Europe

- Since the fall of the Berlin Wall, an estimated 20 Million people have left Central, Eastern and South Eastern Europe, equivalent to about 5.5 percent of the population,
- These emigrants are disproportionately young and well educated and emigration appears to be permanent with only limited return migration seen so far
- This migration has largely been a boon to the countries of Northern and Western Europe, with an influx of talented, driven tax payers who take little in return from the state
- However, it has had a damaging effect on the countries of Southern and Eastern Europe, helping to perpetuate a vicious cycle of reduced labour market resilience and emigration of talented young people:
    - Reduction in the size of the labor force and reduced productivity, adversely affecting growth and slowing per capita income convergence with the rest of Europe.
    - Reduced competitiveness and increased size of government as social spending increases in relation to GDP
    - Contributing to a less growth-friendly budget structure

Potential policy responses to reverse the cycle

- A coordinated policy response across a number of dimensions is needed to reverse this cycle:
    - Strengthening institutions and reducing corruption
    - Stimulating investment and job creation to create opportunities for young people
    - Increased labour force participation and investments in training to improve productivity
    - Injection of EU cohesion funds into projects to support staying behind

Source: Whiteshield Partners; IMF, Carnegie Endowment

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

CENTRAL ASIA AND SOUTH CAUCASUS

The countries of the region can be divided into two categories exemplified by the three regional leaders

Turkey, Russia and Kazakhstan are the labour resilience leaders in the Central Asia and South Caucasus region but represent two different profiles illustrating the two resilience segments present in the region.

The first segment, represented by Turkey has a strong structural comparative advantage and a high labour resilience gap. the Kyrgyz Republic and Tajikistan also fall in this segment. Countries in this segment need to focus on policy improvements to fully achieve their resilience potential.

The second segment, represented by Russia, has a comparative advantage in the policy pillar and a low to negative labour resilience gap. Other members of this segment include Kazakhstan, Georgia, Armenia and Azerbaijan. These countries need to leverage their policy progress to improve structural dimensions.

Turkey, a regional leader with a high resilience potential

Turkey is well ahead of other countries in the region with a GLRI rank 7 points higher than the second-best performer (Russia). Overall Turkey is a mid-performer with a high resilience potential. The country benefits from a clear structural advantage, ranking 25th in the structural pillar mainly thanks to a highly diversified economy (11th), a low dependence on natural resources and improving economic capabilities (increasing by 8 ranks over the past five years). These structural assets are consistent with the country's relatively high performance in innovation and especially in key innovation outputs both in term of environment (high availability of R&D researchers and technicians) and products (especially creative goods and trademark applications).

However, Turkey faces a labour resilience gap of over 35 points, well above the global average, indicating that it can significantly improve its resilience in the short-term by focusing on addressing policy

weaknesses. More specifically, its resilience performance is hampered by regulatory challenges both in labour markets and entrepreneurship policy. Turkey ranks 91st in the flexibility of its labour policy, 113th in workers' rights, 130th in women in labour force, 107th in capacity to attract and retain talent and 117th in labour-employer cooperation. It is also underperforming in entrepreneurship inputs (121st) due to the high cost and bureaucracy.

In addition to this regulatory aspect, Turkey needs to increase its focus on education and skills, performing among the lowest countries in terms of education spending and training of employees. These weak investments lead to low education quality, especially for vocational education (129th) and a worryingly low performance in key skills for the future of work such as digital skills (116th) and critical thinking (130th).

Although Tajikistan and Kyrgyz Republic present a profile similar to Turkey's in terms of structural comparative advantage and high resilience gap, their performance is significantly lower than Turkey's. Their structural strengths are mainly driven by a young demographic and high levels of income equality. They should look to follow Turkey's path in enhancing economic diversification and development to further strengthen their structural labour market resilience. On the policy front they share Turkey's weaknesses in entrepreneurship and skills while also performing poorly in all other policy dimensions.

Kazakhstan, a mid-performer with a policy advantage

The oil rich state of Kazakhstan has been engaged in regulatory reforms to free-up the labour market, promote technology, entrepreneurship and strengthen intellectual property rights. The performance of the country in the time to start a business increased by 55 places in five years, pushing the country into the top 25 in terms of entrepreneurship inputs, and improved its intellectual property regulation framework (up 11 places). In addition to regulatory reforms, Kazakhstan has invested heavily in digital infrastructure, driving ICT affordability (+ 28 places in five years) and ICT access (+10 places).

However, these infrastructure and regulatory improvements have not yet translated into significant policy outcomes such as business density, innovative products or ICT trade. This indicates that while an enabling policy environment is important, Kazakhstan still needs to increase its direct investments in policy areas such as education and innovation. In education the country ranks 117th in education spending and 123rd in tertiary education spending, resulting in low quality of education and a weak performance in PISA and graduate skillsets scores. Similarly, R&D spending remains very limited at only 0,1% of the GDP[21] placing the country 103rd globally. However, in terms of educational policy Kazakh has performance in the field of vocational education with progress in enrolment and quality.

Investments in education and research will help Kazakhstan to reap the benefits of its regulatory and infrastructure improvement.

Such investments would help to address the Kazakh economy's dependence on natural resources, and modest levels of economic diversification and complexity. A well educated workforce, supported by investment in innovation and able to start businesses quickly and cheaply will help to boost trade, increase the proportion of innovative products in exports and grow business density, contributing to economic diversification and increased economic complexity.

Armenia and Azerbaijan have a similar profile to Kazakhstan both in terms of relative strengths and challenges but with a slightly lower overall performance highlighting the potential for these two countries to follow the path of Kazakhstan. Only exclusion is the relatively high performance of employment in Armenia driven by flexible hiring and firing and good labour-employment cooperation.

---

[21] UNESCO Institute for Statistics, 2016.

EAST ASIA AND THE PACIFIC

Labour market resilience convergence in the East Asia and the Pacific Region

There are four discernible groups within the region - the 'Asian Tigers' (include Singapore, Korea, Malaysia, China and Thailand), the 'Ageing Tigers' (New Zealand, Australia and Japan), the 'Emerging Tigers' (Indonesia, Vietnam and the Philippines) and the 'Future Tigers' (Brunei, Lao, Cambodia, Mongolia and Myanmar). However, the divisions between these groups are beginning to blur. In particular, some of the 'Asian Tigers' (Singapore, Korea, and China) are beginning to look more like the "Ageing Tigers" of New Zealand, Australia and Japan with highly diversified, innovation driven economies but increasingly ageing populations.

In order to ensure that their economic strengths and innovation capacity are not threatened by an ageing workforce, all these countries need to find ways to address their demographic imbalances – partly through more flexible immigration policy – to ensure longer-term labour market resilience. China for instance has already seen a two percentage point increase in the population over the age of 65 over the past five years (from 9.02% to 11.19%) and this is expected to increase even more rapidly in the coming years, with projections that it will reach 35% by 2050 (compared to 37.6% in Germany)[22]. Recent changes to the one child policy will help to improve the demographic balance, but it will take some years for this change to impact labour markets.

Brunei the standout performer in the East Asia and the Pacific Region

Brunei has been the standout performer in the East Asia and the Pacific region over the past 5 years, progressing an impressive 19 places in the GLRI ranking and vying for a position amongst the tigers. This is a story of policy improvement across the board (excl. employment), with significant gains in technology (increase in ICT goods and services exports and lower cost ICT leading to a growth in broadband access) and entrepreneurship (with

business climate reforms leading to a boom in corporate registrations). The policy push in Brunei has been driven by "Wawasan Brunei 2035", or "Vision Brunei 2035", which aims to enhance the skills and quality of life of the population and to build a dynamic and sustainable economy through accelerated economic growth and the development of education and skills[23]. Results of the vision have seen increase in economic diversification (through plans to diversify the economy in five key sectors - halal products; innovative technology and creative industries; business services; tourism; and downstream oil and gas) and improvements in the entrepreneurship environment, leading to an increase in business formation (Box 12). Brunei however suffered significant loss in employment sub-pillar mainly due to more challenging hiring and firing and reduced capacity to attract and retain talent.

Countries at the bottom of the East Asia and the Pacific region struggling to build labour market resilience

At the bottom end of the East Asia and the Pacific table, Mongolia (107th), Lao (112th), Cambodia (118th) and Myanmar (130th) still remain highly vulnerable to external shocks – this is shown clearly by the performance of Mongolia over the past five years as declines in commodity markets have significantly affected government budgets and their ability to invest in good policy.

However, despite these challenges, these countries have still seen improvements in their GLRI scores over the past five years, driven by investments in technology and other infrastructure and improved entrepreneurship policy. Further efforts should be put into diversifying the economies, reducing reliance on commodities to make them more resilient and less vulnerable to external shocks.

---

[22] UN Department of Economic and Social Affairs, World Population Ageing 2017 Highlights.

[23] OECD, Brunei Darussalam: 2018 Aspi Country Profile.

Malaysia and Thailand ahead of the Tiger pack, but others closing the gap

Malaysia and Thailand are still some way out in front of the "emerging tigers", with significantly more sophisticated, diversified, innovative, entrepreneurial economies and better functioning labour markets.

However, the Philippines, Indonesia and Vietnam are all catching up with expanding country capabilities,

better entrepreneurial ecosystems and investment in technology. Vietnam, for example, has risen 11 ranks in the policy pillar over five years by boosting the innovation, technology and entrepreneurial environment.

However, further improvements are still needed to develop a more educated workforce and labour market adapted to changing conditions (Box 13).

Box 12: Building labour market resilience in the wake of the oil shock – case of Brunei

BRUNEI

BUILDING LABOUR MARKET RESILIENCE IN THE WAKE OF THE OIL SHOCK

Brunei was hit hard by the fall in oil prices in 2014, experiencing a number of years of budget deficits as a result and a contraction in its current account surplus. The government responded to this external shock with a long term plan - Wawasan Brunei 2035 – to build greater resilience and reduce the country's exposure to oil price fluctuations. The government has implemented a number of important structural and policy reforms to deliver on this long term vision.

Economic Diversification
- Brunei has made great strides to diversify away from oil and gas, seeking out FDI in a number of sectors including tourism, manufacturing, innovative technology and creative industries, acquaculture, agriculture.

Business Environment reform
- Brunei has focused significant energy on business environment reforms covering most areas of the world bank's Doing Business rankings and improving performance from 105 in 2014 to 66th in 2020

- Over the past 5 years, they have made significant reforms, particularly in starting a business (now ranked 16th in the EoDB rankings) and getting credit (ranked 1st) with a significant impact on business formation

Education reform
- The education ministry released a strategic plan for 2018-22 in 2018 with the aim of delivering a "holistic education strategy to achieve the fullest potential for all". The vision covers three main areas vital to long term labour market resilience:
  - Provide equal access to education
  - Improve education quality at all levels
  - Support lifelong learners to boost workforce productivity and competitiveness

- As part of this reform plan, the country took part in the OECD's PISA assessment for the first time in 2018

Source: Whiteshield Partners; IMF, World Bank, OECD

Box 13: Philippines, Indonesia and Vietnam: the emerging tigers

EMERGING TIGERS

ECONOMIC GROWTH, BUSINESS ENVIRONMENT REFORM AND INVESTMENT DRIVING LABOUR MARKET RESILIENCE

PHILIPPINES

ECONOMIC GROWTH & ENTREPRENEURSHIP

- Export-driven growth, supported by a National Export Strategy, has helped inclusive growth, leading to reduced unemployment and increased income equality, strengthening labour market resilience

- Ease of Doing Business reforms have reduced the burden on businesses, lowering the time dealing with government regulation (from 69 rank to 45 rank)

- However, unlike other emerging tigers, Philippines economic growth is predominantly driven by low-skilled services job – more will need to be invested in attracting investment and in delivering education and training to raise the quality of jobs and increase productivity to continue success

INDONESIA

SUSTAINED REFORM AND INVESTMENT

- Investment in productive sectors has helped to boost exports, leading to increased prosperity and significant improvements in income equality

- Government policy has focused on investments in infrastructure to support economic development (in particular ports, roads and dams) and improving the business environment (with Indonesia moving up 33 places since 2015 to 73)

- However, the labour market remains rigid and reform plans have generated significant backlash from the population – the government will need to "sell" these reforms better to help people understand the benefits they will bring

- In additional and more needs to be invested in improving educational outcomes to raise skills and support productivity improvement

VIETNAM

INFRASTRUCTURE AND EDUCATION INVESTMENTS

- Vietnam also has a strong story of export growth, taking advantage of rising Chines labor cost to drive manufacturing development

- Growth has been highly inclusive, with improved income equality and high rates of female workforce participation (88% of male participation, 27th in the GLRI)

- Government has invested in education (particularly primary) to ensure an educated workforce and in infrastructure, leading to fast, reliable, cheap , widely available internet access

- Significant progress has also been made in reducing red tape – from 104th in the 2007 Ease of Doing Business rankings to 70th in 2019

- However, to further improve labour market resilience, it will need to increase the sophistication of its economy and boost domestic consumption to reduce reliance on exports (99% of GDP in 2017)

Source: Whiteshield Partners; World Bank, Heritage Foundation, World Economic Forum, Asian Development Bank, OEDC

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

MIDDLE EAST AND NORTH AFRICA

Israel and Yemen are outliers at the top and bottom of the MENA table

Israel and Yemen stand apart from the rest of the Middle East and North Africa region at opposite ends of the GLRI table. Israel has among the top 20 most resilient labour markets in the world (16th in the Index) with a labour resilience profile that looks more European than Middle Eastern – a highly developed, well sophisticated economy with strong education policies and an innovation and entrepreneurship ecosystem making it economically vibrant and resistant to external shocks. Making the labour market more flexible is one of its few areas for improvement. Yemen, by contrast, is poor, war torn and without a properly functioning government, making it difficult to build a coherent labour resilience framework.

A number of similarities across the rest of the region...

The rest of the Arab world shares a number of characteristics – young populations, ineffective education systems, rigid labour markets, bloated bureaucracies, and under-investment in technology. The demographic dividend of a large youth population is not being taken advantage of in most countries due to a comparatively weak policy environment. Yet the potential for improvement is high: 56% of MENA region countries have labour resilience gaps of over 10 points, with Lebanon, Egypt and Tunisia among the 5 highest. Improving education and employment systems across the MENA region to make them better adapted to the needs of the private sector, whilst a very daunting task, is vital to improving labour market resilience.

...which mask deeper differences, with diverging paths for hydrocarbon exporters and the rest...

However, despite these similarities, there are some significant difference between oil exporters and non-oil exporters. The non-hydrocarbon exporting countries

(Jordan, Lebanon, Egypt, Morocco and Tunisia) have strong structural characteristics – comparatively high levels of economic diversification and income equality. Their primary labour market resilience focus should be on improving education, freeing up labour markets and doing more to help entrepreneurs grow and succeed to generate the jobs needed for their young populations.

The hydrocarbon exporters, the UAE, Qatar, Bahrain, Oman, Kuwait, Saudi Arabia, Algeria and Iran, are characterised by the highest youth demographics in the region, low levels of economic diversification (with oil and gas crowding out other industries), inflexible labour markets with particular favouritism towards country nationals, and relatively high levels of innovation for the region (largely driven by the oil industry). Their labour market resilience challenge is to diversify their economies, free up labour markets, encourage nationals to take up jobs in the private sector (partly through making the terms of government service less attractive, partly by making the education systems better adapted to the needs of the private sector) and to prepare for a future beyond oil with investments in innovation and technology.

...with the UAE beginning to move towards an even more resilient future

The UAE is beginning to forge a more resilient future for itself, using the dividends of oil to invest in more diversified economies across the different Emirates and on the policy side putting significant efforts into better educational outcomes and freeing up labour markets. The UAE has forged a balanced path towards greater resilience, moving up 12 places in the GLRI over the past five years (Box 14). The Kingdom of Saudi Arabia aspires to follow this lead through Vision 2030 which aims for significant economic diversification, a plan to encourage entrepreneurship and increase private sector activity, and, perhaps most importantly, a complete overhaul of the education system to equip Saudi youth with "21st Century skills" that will make them better adapted to the labour market of the future and more resilient to external shocks.

Box 14: Path to resilience leadership - case of the UAE

UNITED ARAB EMIRATES

RISING AS A RESILIENCE LEADER AND A MODEL FOR OTHER MENA REGION COUNTRIES

The UAE is the second performer in terms of labour resilience and is becoming a global one as well progression by 12 tanks over the past five years to become 21st overall. Compared to other GCC countries, the UAE has been more successful in developing economic diversification mainly by increasing the tertiarization of its economy (with a share of services in GDP close to 53% compared to 43% in Qatar, 48% in KSA or 47% in Oman). The country also performs higher in terms of economic complexity and increased by 8 ranks during the past 5 years.

ACHIEVEMENTS OF THE UAE AND REMAINING CHALLENGES

1.   The UAE rising as a global talent hub
The UAE ranks 2nd overall in its capacity to attract and retain talent. Combined with a flexible labour policy in terms of ease of hiring foreign workers (5th), this allowed the country to increase the availability of skilled workers (10th) and enabled high performance in skills output indicators such as tertiary attainment rate (1st) and digital skills (13th).

2.   The UAE increasing its focus on innovation
Compared to its regional peers the country also performs higher in terms of innovation (25th) and especially in innovation inputs thanks to increasing R&D spending and a relatively strong framework for Intellectual Property Rights (20th) progressively translating into higher innovation outputs such as creative goods (13th) .

3.   Continuous regulatory reforms to improve the business environment
The UAE stands out by its business and investment friendly regulations mainly through sustained improvement in the ease of starting a business (3rd),an attractive taxation policy both for workers (3rd) and businesses and a highly flexible labour policy (6th).

1.   Increasing the skills of the national workforce
Although the UAE is rising as a talent hub it is also highly dependent on the expatriate workforce especially in the private sector -a challenge common to all GCC countries. Nationals represent only 9% of the labour force and 54% of them are employed in the public administration sector. The UAE has been tackling this issue through an Emiratization program. However, a more integrated framework is needed to upgrade educational policy as well rather than focus on active labour market policies and training initiatives solely especially since education policy faces a lack of horizontal coordination.

2.   Translating innovation inputs in outputs more effectively
The UAE performs much lower in innovation outputs both academic-oriented outputs (R&D journals) and business-oriented ones (patent and trademark applications or number of researchers) compared to the level of its innovation inputs.

3.   Increasing performance in technology and digital economy
The UAE is performing weakly in terms of ICT affordability (120) and ICT trade (132th). Focusing on the competitiveness of its ICT sector can also help increase tertiarization of the economy which is still weak compared to GLRI top 20 countries.

EXAMPLES OF RESILIENCE INITIATIVES

- **PPP for Sector Skills,** collaboration between Ministry of Human Resources, Higher Colleges of Technology and 16 private sector firms.

- **Education Council** bringing together several ministries and all education authorities for skills policy

- **Young innovative companies support program** dedicated to innovative SMEs

- **National Innovation Fund**

- **National program for SMEs** (credit facilities, funding schemes, training, business services support)

- **7 local SME programs** at Emirate level

Source: Whiteshield Partners

SOUTH ASIA

India is the most labour resilient country in South Asia by a significant margin

India is ahead of the rest of South Asia in terms of labour resilience with its overall score pulling up the mean for the region as a whole. Its sheer size gives it an edge in developing country capabilities through greater economic complexity and supporting economic diversification which have both improved over the past 5 years. However, it has also invested in better policies, improving infrastructure (in particular investments in electricity infrastructure which mean that now 90% of all homes are connected to the grid[24]) and making some strides in cutting red tape - more flexible hiring and firing, a reduced tax burden, increasing its capacity to attract and retain talent and reduced time dealing with government regulations and starting a business (moving up from 102 to 63 in the Ease of Doing Business rankings over the past five years[25]).

At the same time, India faces significant challenges on the technology front, especially in ICT exports and internet subscriptions. Mobile subscriptions have increased but slower than in other countries. As India's prosperity continues to grow, it will need to invest increasingly in education and innovation to ensure it is able to create and sustain the jobs of the future. It will also need to continue to pursue its path towards regulatory reform, doing much more to free up labour markets and encourage entrepreneurship. Furthermore, the country will need to do far more to encourage female labour force participation which is still very low (the lowest in the G20 except for Saudi Arabia) – by some estimates, gender parity in the workforce could make India 25% richer than it currently is[26].

The rest of South Asia is far behind India and needs to pursue significant reforms in education and labour market regulation

The rest of South Asia remains far behind India in terms of country capabilities, economic diversification, educational outcomes, the rigidity of labour markets and in terms of innovation, leaving these countries with low levels of labour market resilience. Their first focus should be on improving educational outcomes to support the development of a more sophisticated and flexible workforce that can drive forward economic diversification; freeing up labour markets to open up jobs to their large youth populations; and investing in infrastructure to improve trade and connectivity with the rest of the region and the rest of the world.

Encouraging examples of reform in Bangladesh and Sri Lanka show that significant short-term improvements can be made in labour market resilience

Bangladesh and Sri Lanka offer encouraging examples of what is possible in terms of maintaining labour market resilience in the short term. Both appear to be pursuing policy-driven paths to increased labour market resilience by increasing FDI, freeing up labour markets and creating more favourable entrepreneurial environments which have led both countries to large gains in the GLRI over the past five years. Bangladesh in particular has done much to address workers' rights, knowledge-intensive employment, capacity to attract and retain talent, lowering tax burden, and female economic empowerment with a significant knock-on effect on labour market resilience (Box 15).

---

[24] The Economist, "A downturn in India reveals the desperate need for deeper reform Narendra Modi is belatedly making changes, but will they be enough?" Special report, Oct 24th 2019 edition.

[25] World Bank, Doing Business 2020 report.
[26] https://www.weforum.org/agenda/2018/07/india-could-boost-its-gdp-by-770-billion-by-just-treating-women-better

BANGLADESH AND SRI LANKA HAVE FOLLOWED VERY DIFFERENT REFORM PATHS TO DRIVER LABOUR MARKET RESILIENCE

BANGLADESH

EXPORT DRIVEN GROWTH AND FEMALE EMPOWERMENT AS DRIVERS OF RESILIENCE

- Bangladesh has been one of the stand-out successes of South Asia over the past few years, with GDP growth significantly higher than Pakistan's and coming close to India's growth rate driven by export industries

- Much of this growth can be attributed to the economic empowerment of women – through opening up employment opportunities (female workforce participation rose over the past five years from 38.5% to 44.3% in comparison to India's 30%), expanding micro credit to women and strengthening workers' rights
  - Female empowerment has knock-on effects on children's health and education (particularly for girls), boding well for future resilience

- To cement these gains and further enhance labour market resilience, Bangladesh will need to focus on further encouraging entrepreneurship by reducing the time and cost to start a business, continuing to invest in education and investing in infrastructure and other measures to protect against the country's high exposure to the shocks of climate change

Female Labour Force Participation
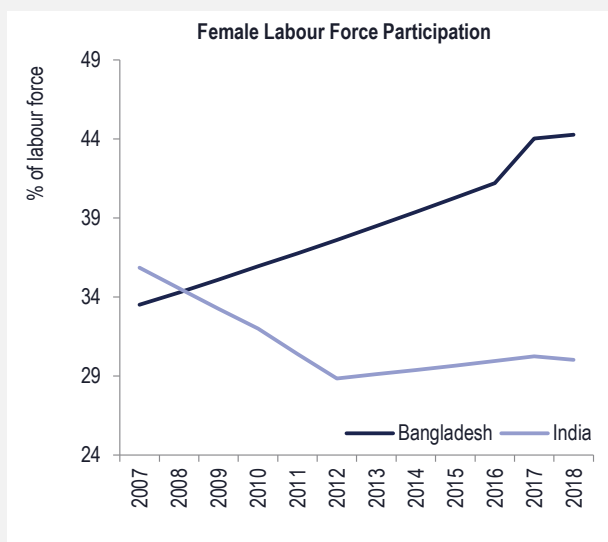
SRI LANKA

STRUCTURAL AND POLICY REFORM GUIDED BY LONG TERM VISION

- Sri Lanka's long term Vision 25 sees Sri Lanka as the "hub of the Indian Ocean" and envisages the creation of over 1 million new jobs by 2025 to address its relatively high levels of unemployment

- Sri Lanka's reform efforts have mostly been focused on fixing public finances and improving transparency and accountability in government, but it has also implemented a number of labour market resilience friendly reforms including:
  - Business environment reform to encourage entrepreneurship (moving from 109 in 2015 to 99 in 2019 in the Ease of Doing Business rankings)
  - FDI attraction to boost economic growth, increase diversification and reduce poverty

- Moving forward, however, to improve labour market resilience it will need to focus on a number of areas:
  - Boosting exports to spur economic growth and increase productivity and quality of jobs
  - Freeing up labour markets to make hiring and firing easier
  - Encouraging formalization to improve workers' rights
  - Learning from Bangladesh and significantly increasing female labour force participation (one of the main sources of unemployment in Sri Lanka) – female labour force participation declined from 41% in 2010 to 36% in 2016

Source: Whiteshield Partners, IMF, Brookings, World Bank, Asian Development Bank

LATIN AMERICA AND THE CARIBBEAN

Challenging labour resilience environment in the LATAM region, but some signs of improvement

The Latin America and Caribbean region on average is the second worst performer in the GLRI and on aggregate the most unequal, with rigid labour markets and limited support for entrepreneurship.

Common features across countries in the region include an inability to diversify away from commodities, insufficient investment in education and infrastructure, as well as corruption and weak rule of law.

Brazil and Argentina demonstrate how rigid regulations represent a major bottleneck to labour resilience even for countries with a relatively high levels of economic development and diversification.

Structurally, these two upper-middle income countries have managed impressive gains, jumping by 76 and 35 places respectively in the economic diversification and development indicators over the past five years. Brazil in particular has managed to increase the tertiarization of its economy (ranking 33rd overall) as well as its economic complexity, improving by eight ranks.

In the policy pillar, both countries also perform well in innovation outputs compared to their peers with relatively high levels of patent applications and creative goods for Brazil and a good number of trademark applications for Argentina. They benefit from strong research ecosystems and an enabling technology environment, with wide access to and usage of ICT.

However, the two countries have some of the highest unemployment rates in the region standing at 12.2%

for Brazil and 10% for Argentina in 2019. In addition, Brazil suffers from extremely high levels of income inequality ranking 126th in this indicator.

This high level of unemployment can be linked to their very weak performance in employment and entrepreneurship. Both suffer from extremely rigid labour policies, ranking 126th (Argentina) and 127th (Brazil), as well as weak labour-employer cooperation. Their taxation policies provide very low incentives to work and both also have particularly ineffective active labour market policies (103rd in Brazil and 98th in Argentina) - very concerning considering its high unemployment rate.

In addition, business regulation is a major barrier for business (ultimately holding back job creation). Both countries are among the poorest performers in terms of time and procedures to register a business. Considering the structural assets of these two countries as well as their progress in innovation and technology, tackling these regulatory barriers could enable quick policy wins to unlock the potential of their economies.

Many of the poorer countries in the region, however, have registered some improvements. Countries like El Salvador, the Dominican Republic, Guatemala, Paraguay and Honduras have increased their level of economic complexity, entrepreneurship and education. Other countries in the region, such as Jamaica, Bolivia and Trinidad and Tobago have seen improvements in the technology and entrepreneurship pillars.

A notable exception to this general trend of improvement is Venezuela where the country's current political and economic turmoil has led to a significant decrease in country capabilities and income per capita and an increase in inequality.

Fragile gains in labour resilience threatened by a worsening education environment and political instability

The region has witnessed a worrying trend of declining education quality, however, with weaker critical thinking skills, poor staff training, a reduction in budget for tertiary education spend and a falling off in the skills of graduates. All this suggests that the youth bulge in the region is putting strains on education systems and governments are failing to keep pace with needed educational investments.

At the same time, countries in the region are reinforcing the labour market divide by giving more job security to those already in work but making it harder for new entrants.

These worrying trends for labour market resilience in the region are compounded by rising political instability in 2019, with political turmoil in Peru and Paraguay, a state of emergency in Chile, riots in Ecuador, street protests in Argentina, burning of ballot boxes in Bolivia, and rising populism in Brazil and Mexico.

Further improving labour market resilience in the region will require significant reforms to free up labour markets and better tailor education systems to meet the needs of the private sector

Freeing up labour markets to help facilitate youth employment, equipping youth with the skills to be able to compete in the workforce through better educational outcomes, while freeing up the entrepreneurial environment and investing in technology should all be high priority policies.

Chile, despite recent protests over inequality, also offers some direction for regional peers and is an encouraging case study. It has one of the most entrepreneurial and employment-friendly regulatory regimes in the region and its investments in education have given it one of the best educated workforces. It must now work to diversify its economy and increase the level of sophistication of its industries to provide more and better jobs for its young people and spread more evenly the gains of economic growth.

Mexico building on strong structural foundations to strengthen policy resilience

Mexico is the most economically developed country in the Latin America and the Caribbean. Membership to the NAFTA free trade agreement has clearly helped to maintain Mexico's structural performance, contributing to the diversification of exports, lowering inequality and driving economic development.

The country must now translate this economic success into better policy making, in particular investing in education and skills to enable its workforce to further build its country capabilities, and reforming labour markets to make them more flexible and less bureaucratic in terms for hiring and firing, workers' rights, women in labour force and labour productivity and ALD effectiveness.

Encouragingly, Mexico already appears to be taking steps towards better policy making with improvements in the areas of innovation and technology over the past five years. Telecoms reforms passed in 2013 to break up Mexico's notorious telecommunication monopolies are beginning to take effect with an important increase in access to ICT supported by a significant decrease in cost of access. In addition, in employment policy Mexico has instituted important reforms to labour law, putting it under judicial purview, eliminating tri-partite "labour board" nature of first instance courts, creating a compulsory conciliation stage that must be completed before any lawsuit can be filed, and mandating a personal, free, and confidential vote to provide "representativity" to union leaders that negotiate on behalf of covered workers. These changes help to improve the transparency of labour law cases, reducing the time and cost of litigation and reduce the power of unions to act against their members' interests, all of which improve the prospects for employment in Mexico.

SUB-SAHARAN AFRICA

Sub-Saharan Africa is the lowest performing region in the GLRI

The Sub-Saharan Africa region has the lowest average score of any region in the GLRI. Only one country in the region is ranked higher than 50 out of 145 countries and economies in the index and almost 80% of the countries in the region are ranked over 100. The region has the lowest or second lowest average score on all dimensions of the Index, with the exception of demographics (where it scores highest) and employment (where it is third from the bottom after Latin America and Caribbean and South Asia).

Route to improved resilience through economic development, improving educational outcomes and economically empowering women

The Sub-Saharan African region is huge and varied but shares some common challenges. Whilst many countries have benefitted from a demographic dividend, the excessively high birth rate in many Sub-Saharan African countries actually undermines labour market resilience by introducing large numbers of workers into a labour market little able to absorb them. Policies to encourage smaller family sizes (most effectively through increasing female workforce participation and economically empowering women) would be very beneficial. Moreover, building and diversifying the economies of Sub-Saharan Africa and improving educational outcomes to ensure that young people are better prepared for work are also key policy priorities.

The case of Rwanda shows a path to greater resilience through a balanced path of improved structural and policy reform

Rwanda, which has made an impressive gain of six places over the past five years, offers a powerful case study of what is possible taking a balanced path towards greater labour resilience with improvements on both the structural and policy pillars (Box 16).

Box 16: Emerging through a balanced path to labour market resilience –case of Rwanda

RWANDA

GREATER RESILIENCE THROUGH A BALANCED PATH OF STRUCTURAL DEVELOPMENT AND POLICY REFORM

Rwanda, which has made a gain of 6 places over the past 5 years, offers a powerful case study of what is possible taking a balanced path towards greater labour resilience with improvements on both the structural and policy pillars

Structural focus on Economic Growth, Investment and Diversification

On the structural side, the government has pushed forward economic diversification plans and has managed to reduce income inequality through a focused programme of economic development with programmes to boost tourism, manufacturing and digital industries. Significant focus has been put on attracting FDI

Broad policy reform agenda covering education, infrastructure investment and entrepreneurship promotion

On the policy side, it has slashed red tape to improve employment practices and ease entrepreneurship (rising to 29th on the Ease of Doing Business rankings), invested in education (reaching 85% literacy rates) and invested heavily in infrastructure.

Rwanda is a reminder that labour resilience can be built no matter the state of development of the country through thoughtful planning and smart policy making and that big and important changes improving the lives of citizens, making them better equipped to deal with the uncertainties of the global economy, can be wrought in a relatively short period of time.

Source: Whiteshield Partners; World Bank, National bank of Rwanda

Countries follow different paths to achieving labour market resilience

An analysis of GLRI dynamics over time reveals three different paths to labour market resilience (Figure 15).

The structural path: countries following the structural path focus first on building an economic foundation based on greater economic diversity and complexity before investing further in policies related to skills, labour, technology, innovation and entrepreneurship. Examples include Turkey, Mexico, Egypt and the Philippines.

The policy path: these countries place an emphasis on shorter-term policies to boost labour market resilience before building longer-term capabilities, improving economic diversification and addressing rising inequality.

Australia and Oman are examples of countries taking the policy path while Norway and New Zealand have followed a similar path in the past and have already managed to improve their structural score.

The equilibrium path: in this case, countries strike a balance between structural and policy improvements to shift progressively towards greater resilience of labour markets. Rwanda is a good example of a country on the equilibrium path.

Countries looking to improve their labour market resilience in the future can learn from the above examples in order to chart their own path to labour market resilience. However, each country must define its own direction, one that is most adapted to its structural characteristics and strategic priorities.

Figure 15: Historical labour market resilience paths for selected countries 10 years trend (GLRI 2009- 2019)
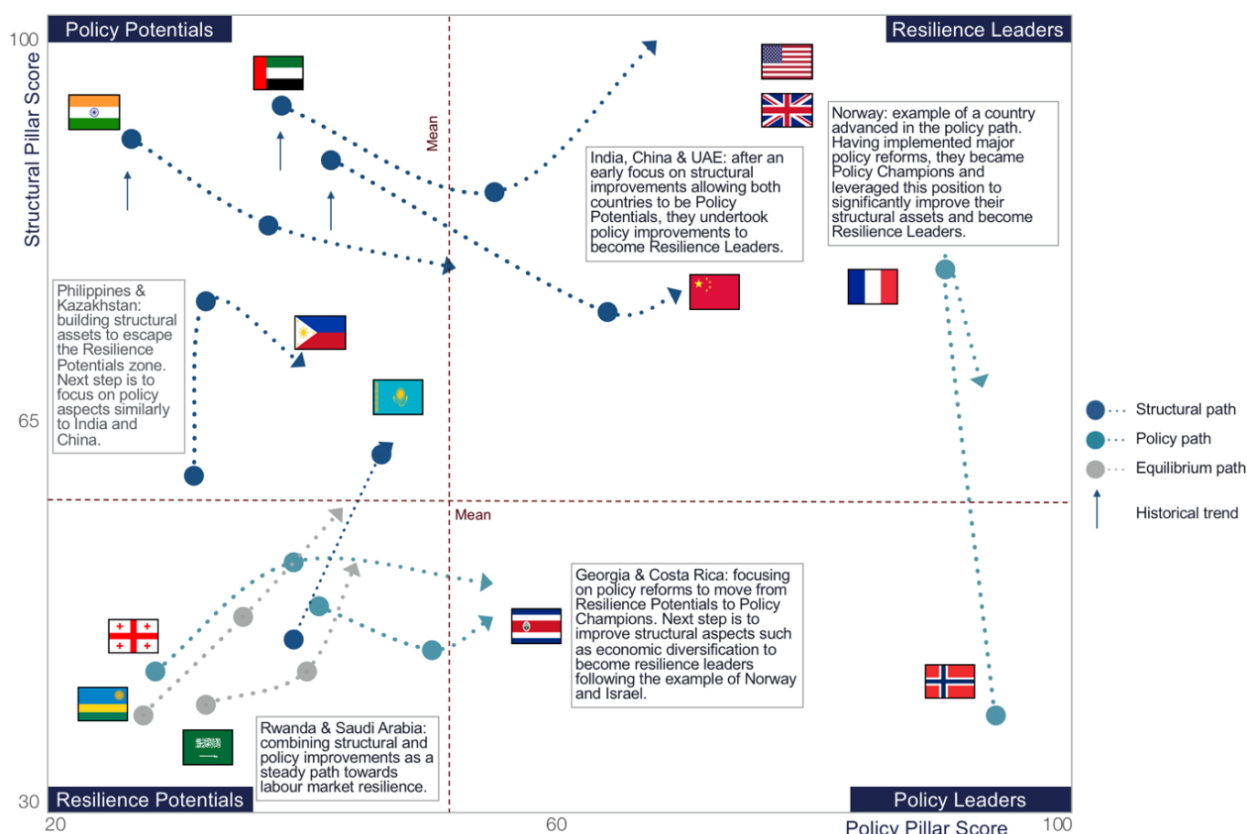
Note: This analysis is extracted from the 2019 GLRI
Source: Whiteshield Partners

CHAPTER 2: THE GEOGRAPHY OF WORK – UNDERSTANDING THE IMPORTANCE OF LOCALISATION AND COMMUNITY ENGAGEMENT FOR FUTURE LABOUR MARKET RESILIENCE

LABOUR MARKET RESILIENCE DISPARITIES AT THE REGIONAL LEVEL

Social unrest in reaction to inequalities at the national and regional level

While many countries are improving labour market resilience at the national level, this often masks important regional disparities. One of the major challenges governments face is to address regional disparities, both urban and rural, at the heart of recent social unrest in many countries, including France, Spain, Italy, the UK, the United States, and many Latin American countries.

Gap in trust better addressed at the local level

According to the Edelman Trust Barometer 2019, a global measure of citizens' trust in different institutions, only one in five of those surveyed believe that the system is working to solve their issues.[27] Almost 60% of citizens fear they risk losing their jobs because of skills gaps or automation and innovation. With the lack of trust in public institutions, especially at the national level, people are turning to what is closest to them – their companies and their local communities – in order to engineer change.

The importance of regions and in particular cities, is even higher given the rapid ongoing urbanisation around the world. By 2050 two thirds of the world's population will be living in urban areas compared to 55% today, with 90% of projected urban growth in developing world cities in Asia and Africa[28].

In the United States, close to 90% of population, income and work is already concentrated in urban areas – a path that most other countries are likely to follow[29].

Meeting the needs of this burgeoning urban population, including housing, transportation, energy, education, healthcare services, and employment, is a challenge that makes a multi-stakeholder approach -

encompassing citizens, government and business - more critical than ever as a driver of transformation.

Large scale urbanisation is causing regional divides with diverging priorities

There is an increasing divide between growing prosperous urban areas and rural areas which suffer from poor infrastructure, investment and declining populations. This economic divide has increasingly widened into a social and cultural divide as well as national governments struggle to balance the different priorities of diverse segments of society.

Maintaining sustainable, prosperous and cohesive societies across diverse regions and cities in the face of such changes is a task that can be best achieved at the local level.

Governments at all levels have a role in solving regional inequality

The issue of regional and inequality has become increasingly important throughout much of the world. A rebalancing is needed, and governments must work towards building more resilient economies and labour forces.

This task cannot be completed at any one level. Instead, it requires cooperation across all levels of government, with a key role for local communities and regions in building a more a resilient national labour force.

The three examples below – the UK, the USA and Kazakhstan – clearly illustrate the regional disparities in labour market resilience highlighted above.

---

[27] https://www.edelman.com/trust-barometer
[28] UN Department of Economic and Social Affairs.

[29] https://www.usmayors.org/metro-economies/september-2019/

UK: THREE REGIONS DRIVING LABOUR MARKET RESILIENCE

In the UK there is a strong resilience divide between the top performing regions (especially Greater London and to a lesser extent South East England and East of England), with an average LRI score of 59, and the rest of the country with an average LRI score of 48 (in the range 42-63). North East England, Wales and West Midlands are the lowest performing regions of the UK in terms of labour market resilience. These areas have suffered from a lack of high skilled, high value-added jobs following the decline of manufacturing and heavy industry which was once concentrated in these areas of the UK (Figure 16).

The South East and East regions have long been the innovation centre of the UK. Innovation in these regions is driven by a combination of world-leading academic research and clusters of advanced innovative businesses. The South East is a leading hub of innovative research – home to 21 universities, 24 science parks and 26 business accelerators[30]. It is also the location of many innovative businesses originating from the 'golden triangle' of Oxford, Cambridge and London. With a high-level of private sector investment, the region is responsible for one-fifth of all UK R&D expenditure, highlighting its key role in the knowledge economy.

The East of England region has become a leader in innovation through sectoral specialization. The region is on the frontier of health and life sciences innovation in the UK. Both the UK Stem Cell Bank and the Precision Medicine Catapult are located there. Similarly, it is at the forefront of advanced engineering, particularly in the aerospace sector. BAE Systems, Lockheed Martin and Marshall Aerospace are all based in the region taking advantage of the innovative cluster in addition to the Aerospace Technology Institute.

Citizens living and working in the vicinity of these innovation hubs reap a number of benefits in terms of the quality of infrastructure, educational institutions, jobs and income levels.

---

[30]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/839755/The_impact_of_business_accelerators_and_incubators_in_the_UK.pdf

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

48%

Of Scotland's labour force have completed tertiary education

Scotland ranked 5th in the UK LRI driven by a strong performance in employment and education

The North-West and Yorkshire's resilience is based on high export diversification and lower inequality

3.15

New businesses registered per 1,000 people (vs 5.1 national average)

Northern Ireland has a young demographic structure and a diverse export base but is weak on entrepreneurship and productivity

6.1%

North-East with highest unemployment rate

The North-East ranks last in the UK LRI with weak structural and policy pillars. In particular, it scores low in demographics, entrepreneurship and technology

133%

London productivity vs UK average

Greater London is the resilience outlier, driven by high firm density, productivity and talent attraction. However, it also has the highest levels of inequality in the UK

West Midlands ranked 11th in the UK LRI suffering from a weak structural foundation. In particular, the region has a low income per capita and an undiversified economic base

Labour resilience segmentation

■ Tier 1   ■ Tier 2   ■ Tier 3   ■ Tier 4

The East and South East are Resilience Leaders with high scores in knowledge-intensive employment, innovation and technology

52%

East, South-East and Greater London contribution to R&D expenditure

Note: Segmentation by tier based on results of the UK Labour Market Resilience model. Darker shades mean greater labour market resilience
Source: Whiteshield Partners

---

[31]Labour Market Resilience Heatmap based on the Labour Resilience Index model for the UK using the Global Labour Resilience Index methodology adapted at the regional level.

UNITED STATES: GEOGRAPHIC DISPERSIONS OF LABOUR RESILIENCE INEQUALITIES

The United States also displays significant inequalities in labour resilience across regions but has a much wider geographic spread than the UK. While, as expected, the prosperous coastal regions have high labour resilience, the USA Labour Market Resilience Heatmap also shows strong labour resilience in the centre of the country (Colorado and Utah), and in states as remote as Alaska (Figure 17).

In contrast, several regions of the country are struggling with low levels of labour resilience, in particular the South-East, the Rustbelt and the North-West. All these regions face challenges in one or more key areas which reduce their resilience in the face of economic shocks (Box 17).

Box 17: Low labour market resilience contributes to unemployment in the Rustbelt

In the USA, the States of the Rustbelt show lower resilience to the recent shocks faced by the labour market, especially the US trade war with China. This is understandable since these States rely largely on manufacturing - including those manufacturing activities at the center of the US's tariffs policy such as steel, aluminum and automotive - which witnessed a noticeable decline in 2019 with a fall in manufacturing jobs and a price crash for some manufactured inputs such as steel.

The states bordering the Great Lakes - Ohio, Michigan, Pennsylvania and Wisconsin - have suffered in particular from a decline in manufacturing jobs with more than 25,000 jobs lost throughout 2019. This was reflected in a much lower increase in total employment when contrasted with the impressive national employment growth figures.

Employment change in the States of the Rustbelt in 2019, thousands

Source: Whiteshield Partners, US Bureau of Labour Statistics

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Figure 17: United States Labour Market Resilience Heatmap 2020[32]

7/10
Best universities in America are situated on east coast

East coast states score 33% better than US LRI average in education and 12% above average in employment

District of Columbia* ranks first in US LRI. The district benefits from its young demographics, high income per capita and the presence of the federal government with associated economic benefits

Southeastern states: Location of 5/10 of the most unequal states and the poorest technological infrastructure in the country, restricting economic development, social cohesion and sustainable growth

7/10
Of the least resilient US states are located in the South-West

-40%
Below US average for technological infrastructure

Many states in the rustbelt are classified as 'policy turnarounds' with poor scores for income per capita and innovation reflecting the regions decline as heavy industry and manufacturing was off-shored

Florida is the 2nd weakest state on the structural pillar, reflecting, in particular, an increase in the number of retirees and high inequality

Illinois is an example of a state whose policy performance, particularly in education and employment is driven primarily by Chicago, which is responsible for over 75% of state GRP

Texas's structural labour market resilience sustained by 4 growth poles of El Paso, Austin, Houston and Dallas. Policy gaps to address in education and innovation which are below the average for the US states in the Whiteshield LRI

Wyoming scores 32% below the LRI average for US states for gender equality

7/10
Of the most resilient US states are located on the two coasts

21:1
Ratio of venture capital per capita in San Francisco to the national average

California scores much higher than the US LRI average for US states for technology, innovation and entrepreneurship reflecting the innovation clusters driving the state's success

Colorado and Utah have become resilience leaders through the combination of a young workforce, a focus on diversifying into advanced technology industries and the development of entrepreneurship activity

Labour resilience segmentation

| Tier 1 | Tier 2 | Tier 3 | Tier 4 |

Note: Segmentation by tier based on results of the US Labour Market Resilience model. Darker shades mean greater labour market resilience
Source: Whiteshield Partners

---

[32] Labour Market Resilience Heatmap based on the Labour Resilience Index model for the USA using the Global Labour Resilience Index methodology adapted at the regional level.

KAZAKHSTAN: LABOUR MARKET RESILIENCE CONCENTRATED IN TWO REGIONS AND TWO CITIES

Kazakhstan, one of the largest economies in Central Asia, represents yet another case of regional disparities that weaken overall labour market resilience at the national level and contribute to its GLRI 2020 rank of 60 out of 145 countries: just two cities (Almaty and Nursultan) and two regions (Mangystau and Atyrau) drive labour market resilience in the country (Figure 18).

Regional inequality in labour market resilience is reflected in a number of outcomes, including pronounced wage disparities (*Figure 19*).

Figure 18: Kazakhstan Labour Market Resilience Heatmap 2020[33]
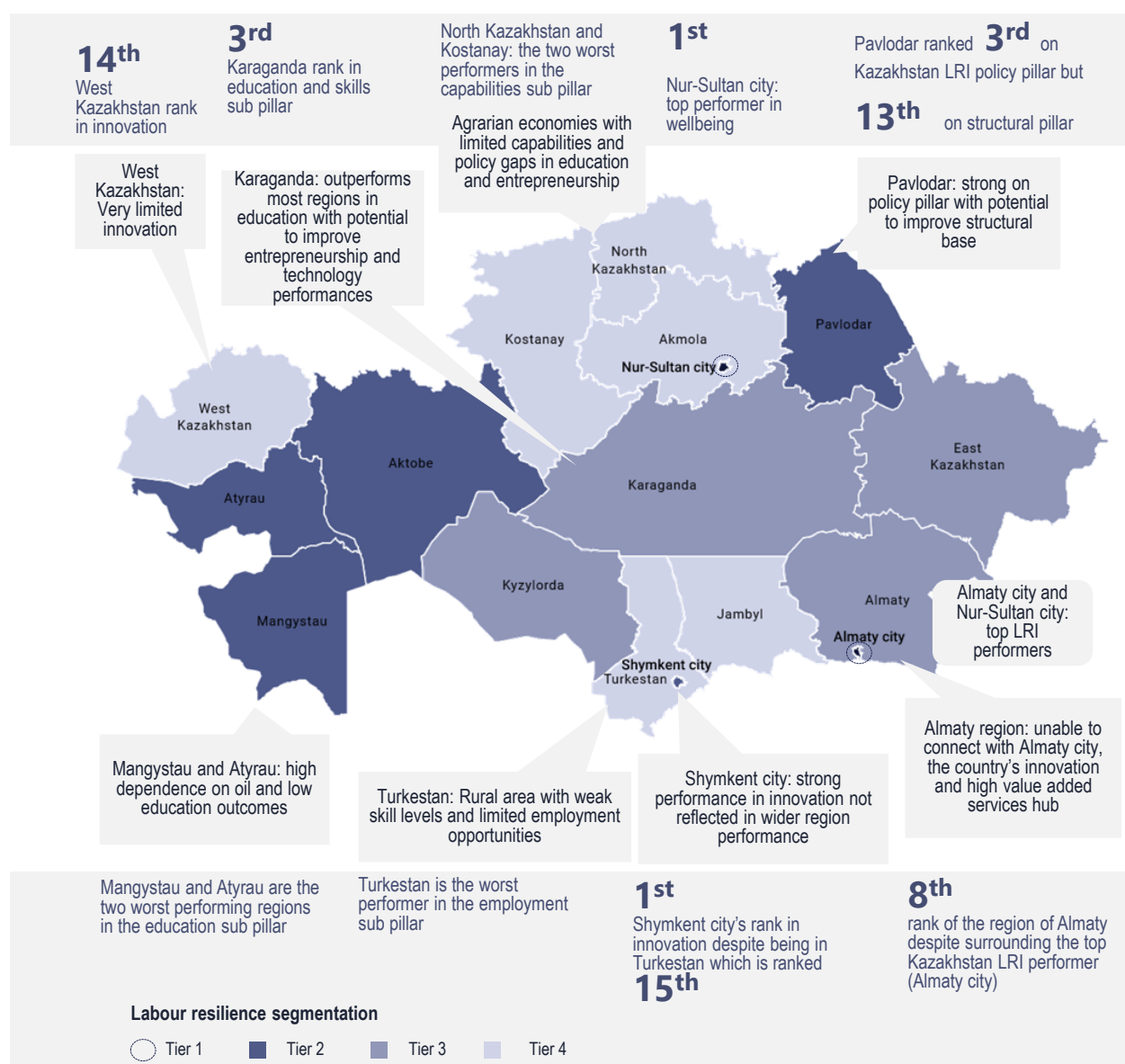
Source: Whiteshield Partners

Figure 19: Average monthly wage distribution in Kazakhstani regions (q3 2019, tenge)

Average National Monthly Wage, tenge
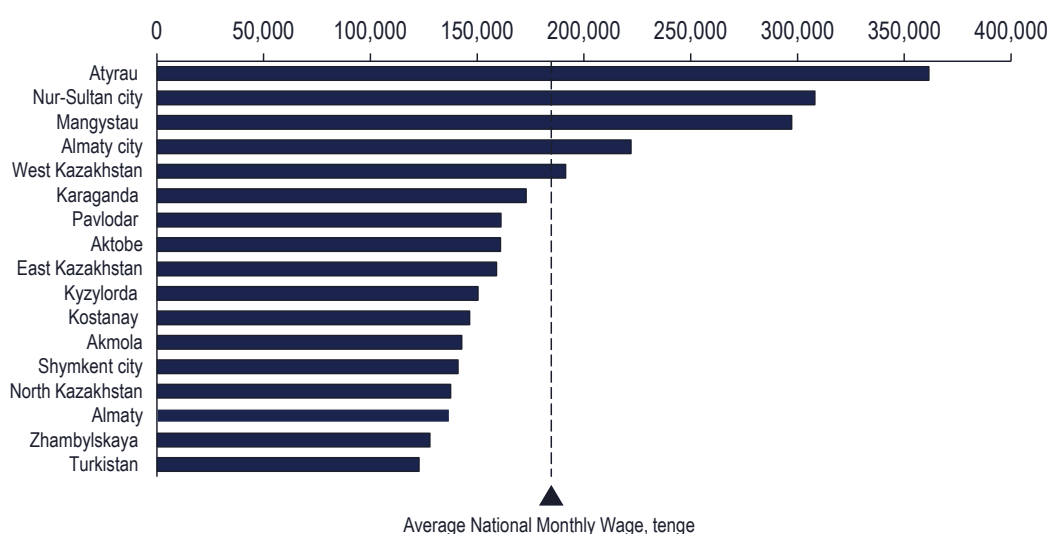
Source: Whiteshield Partners, Kazakhstan National Statistics Committee

The fact that Mangystau and Atyrau are oil producing regions makes this labour resilience concentration even more of a challenge.

As shown in the Figure 20 below, whilst these two regions are overall strong performers in labour market resilience, they are also among the worst performers in regional economic complexity analysis, highlighting their commodity dependence and capability gaps which need to be addressed to ensure they can become sustainable diversified economies with more equal employment outcomes[34].

Figure 20: Regions of Kazakhstan ranked by RCI and RSDG score[35]
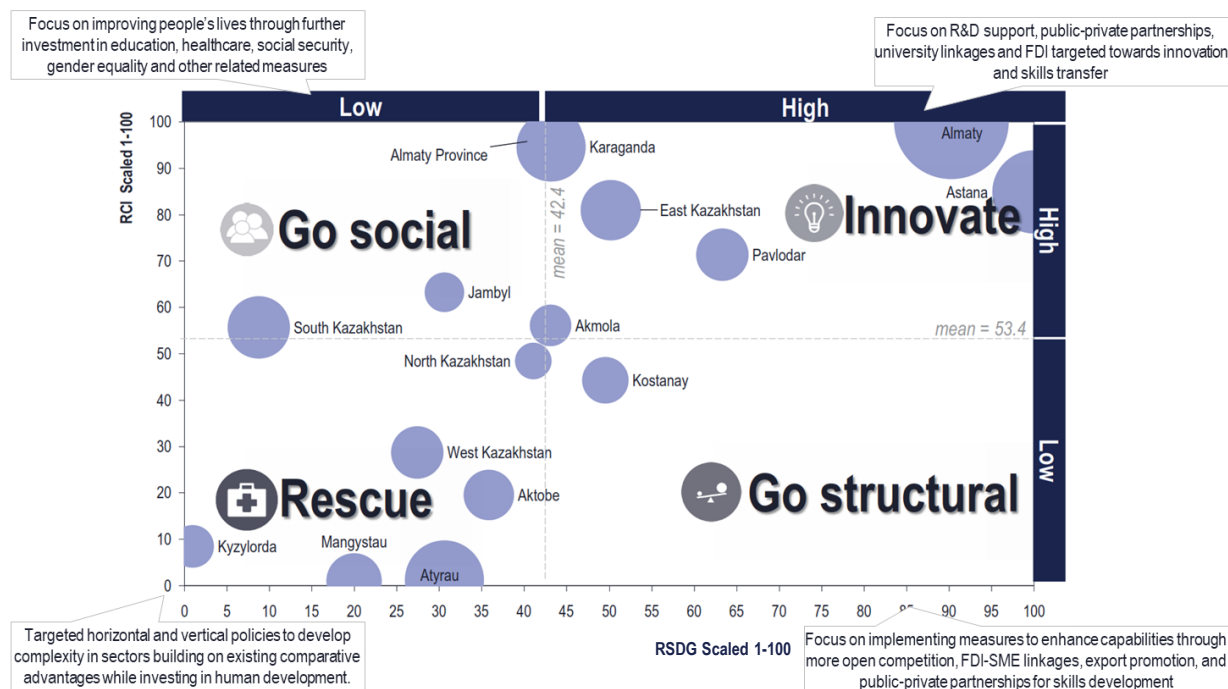
Source: Whiteshield Partners

---

[34] RCI is the extension of Economic Complexity Index formulated by Hausmann and Hidalgo. RCI is the combination of 4 indicators: regional version of Economic Complexity Index , the number of Revealed Comparative Advantages in the region, regional contribution to country's processing and regional contribution to countries services.

[35] RCI is the Regional capability index, RSDGs are the Regional Sustainable Development Goals, which defines sustainable development paths at the regional level and based on 6 Sustainable Development Goals and over 30 indicators at the sub-national level.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

THE RISE OF CITIES AS DRIVERS OF LABOUR MARKET RESILIENCE

As noted at the start of this chapter, the inexorable global transition to urbanisation – from a global level of 55% today to a projected 70% in 2050[36] – is making cities more important than ever for the world of work. The United Nations Sustainable Development Goal (SDG) 11 to "make cities inclusive, safe, resilient and sustainable" by extension requires the development of resilient labour markets. How do the most successful cities foster labour market resilience?

Thriving cities focus on unique capabilities

Since the early 2000's, three quarters of cities grew faster than their national economies - global competition is increasingly happening between cities rather than countries.

The most competitive cities are those which have managed to find niche products, services and markets building on unique capabilities. This specialization around the city's comparative advantages relies on endogenous forces of proximity where the localization of firms and economic activities is not driven by a supply factor such as land availability or cheap labour. Instead, it stems from the benefits offered by the city as a specialized ecosystem - including the ability to attract talent, technological spillovers, knowledge diffusion and the strength of supply chains. The presence of these enablers will condition the type of investors attracted, which new firms are created and the expansion of existing firms, which in turn will shape the positioning of the city along regional and global value chains.

However, this is not to say that cities are locked in their current economic structures or that past specialization patterns prevent the development of city strategies aimed at developing a new set of unique capabilities. Several policy actions can enable a strategic turnaround for cities. This is particularly important for cities facing declining industries which need to transition toward an alternative economic structure. They can leverage the experience of other cities which have successfully managed to specialize around unique capabilities. These cities have usually combined economy-wide initiatives with targeted policies for proactive development in specific sectors or segments of value-chains. Both types of interventions can happen in a diversified set of policy areas such as regulation, investment promotion, infrastructure, skills etc.

While there is no single recipe to building and sustaining city competitiveness, most successful cities have leveraged social dialogue and recognized early that some sectors or activities were no longer competitive, adapting quickly to consider new options rather than creating market distortions such as subsidies and protectionist measures to delay decline of legacy sectors.

Edinburgh, relying on education and knowledge policy to build unique capabilities for labour market resilience

Edinburgh offers a relevant illustration of urban prosperity driven by a focus on unique capabilities. The city followed a somewhat unconventional path to its current prosperity. It did not experience the usual mass industrialization phase that many cities go through before transitioning into high-value added and knowledge-intensive services. Instead, Edinburgh grew to become a banking and commerce hub in Scotland, employing a higher share of the labour force in financial services than London. The city has focused on skills and knowledge at the centre of its strategy to develop its economy in line with these unique capabilities. Edinburgh is home to four major universities attracting almost 30% of all Scotland's students[37]. The city has also invested heavily in innovation inputs through high R&D expenditure and high shares of knowledge-intensive jobs. This focus on innovation, education and skills has enabled Edinburgh to become one of the UK's most educated and productive cities while also driving the labour resilience performance of Scotland as a whole (Box 18).

---

[36] UN World Urbanization prospects 2014

[37] https://www.investinedinburgh.com/choose-edinburgh/a-knowledge-economy/

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Tangier leveraging infrastructure and investment strategies to boost labour market resilience

The city of Tangier in Morocco, leveraged investment in infrastructure including a new port and upgrade of road and rail connectivity to attract foreign investors in automobile manufacturing and supply-chain industries. The city stakeholders worked to leverage these infrastructure improvements combined with investment incentives to attract specific investors, including Renault. One of the key incentives for investment was the public sector's offer to set up a dedicated automotive training center to provide enough skilled workers, with a prior identification of skill needs through sectorial working groups. Renault alone, which initially employed 5,500 employees at its site, has enabled the creation of 30,000 additional indirect jobs linked to the automotive cluster[38]. This shows how large-scale infrastructure, if leveraged well, can also unlock new labour resilience opportunities building on unique existing capabilities.

---

[38] World Bank, "Competitive cities for jobs and growth".

POLICY POTENTIAL: LEVERAGING INNOVATION IN EDINBURGH

Region: Scotland
Employment Rate: 76.6%

Structural Pillar: 8th
Policy Pillar: 4th

5th
UK LRI Rank

38.6%	**9.9%**	**2nd**	**10.1%**	**27.5%**
Percentage of high skilled workers	Percentage of financial services employment in total employment (London = 7.1%)	Highest business survival rate in UK	of population change driven by inward migration	Percentage of Scotland's students who study in Edinburgh

CONTEXT

- Edinburgh traditionally experienced little industrialization and instead grew as a banking and commerce center of Scotland
- The city has developed into one of the UK's most educated and productive regions
- Edinburgh has the second highest GVA per capita (£39,300) and the second highest gross annual earnings per resident (£30,700) out of the UK cities

POLICY

- Edinburgh has 4 universities and is positioning itself as a major UK knowledge hub supported by large government R&D expenditure
- Being the 2nd most visited city in the UK after London, it plans to become world's leading festival city
- The city additionally aims to become UK's most entrepreneurial city with the help of Lothian Business Gateway service that provides guidance to new and existing businesses

KEY CHALLENGES

- Rapid population growth of 12.5% over the last decade is causing stress on services and housing stock
- Rising economic development has been accompanied by rising inequality
- 22% of households live on incomes below the poverty threshold

POLICY PERSPECTIVES

- Identify and support struggling segments through skills development and job support schemes
- Leverage innovational capacity further though development of national and supranational triple helix partnerships
- Sustain economic progress through inclusion of citizens into city decision framework

SELECTED BEST PRACTICES

Digital Belgium Skills Training: Skills fund to provide digital training to disadvantaged youths

Dubai Centre for Innovation: Region-level hub to promote innovation throughout government and public sector

PBNYC: Participatory budgeting in New York City gives greater political autonomy to residents

Source: Whiteshield Partners GLRI 2020 database

Cities must be future proof to ensure sustainability of their labour market resilience

It is imperative that cities plan their development with a focus on what lies ahead. As a natural cycle, industries prosper and decline over time. When cities become over reliant on one or few industries and fail to diversify or innovate this can lead to rapid economic decline, especially in an age of rapid technological disruption.

An overreliance on few industries has been the cause of decline of many developed world cities over the last seven decades – particularly those invested in manufacturing or heavy industry. The rise in developed world costs, combined with rapid globalisation from the 1950s onwards, caused manufacturing in many areas to become uncompetitive. As such, much of it was off-shored to locations with lower manufacturing costs such as China and South-east Asia. This was one of the primary causes of the decline of the cities located in north of the UK and in the American rustbelt such as Liverpool, Manchester, Cleveland and Pittsburgh.

In contrast, other cities have planned to capture new market opportunities as they emerge. This ability involves clearly analysing the future and assessing which trends are likely to be important, what their impact is and how best the city or region can react to them. Examples of these types of cities include Dubai, Dublin, San Francisco and Singapore.

Let us consider the contrasting cases of Manchester and San Francisco.

Manchester was a global leader during the industrial revolution. One of the first ever industrialised cities, Manchester had the reputation as being one of the manufacturing centres of the world during the industrial revolution. The City was at the forefront of global textile manufacturing and at the frontier of other industries such as transport, home to the world's first steam passenger railway. However, the city failed to respond to changing economic trends and deindustrialisation caused a significant decline in the city.

Manchester witnessed severe decline during the post-war years. In the three decades following 1950, total jobs in the City declined by 22% and jobs in the vital textile industry fell by 86%[39]. The result was a sharp decline in living standards and the increased need for the city to reinvent itself. Despite Manchester growing significantly from the 1990s onwards, the city is still trying to find a new economic foundation post-manufacturing. In fact, in 2013, the City still had 90,000 fewer jobs than in 1951[40].

San Francisco, on the other hand, managed a successful transition from finance to innovation. Before becoming a global innovation hub, the city capitalized on the California Gold Rush to build an economy driven by banking and finance. The shift towards innovation occurred in the early 1980s, as San Francisco increased its share of total U.S patents from 4 percent in 1976 to 16 percent in 2008[41].

San Francisco became an innovation hub by leveraging existing capabilities such as proximity to two of the country's top 20 universities (Stanford and UC Berkeley) which made the city attractive to top talent globally. Aside from talent attraction, the presence of leading universities enabled innovation through R&D activities. Silicon Valley's academic R&D investments witnessed a 26 percent growth between 2007 and 2016, exceeding the national average[42]. The government of San Francisco has managed to attract start-ups through tax incentives, allowing the city to capture 40 percent of US venture capital investments in 2018[43]. San Francisco's vision is to remain a leader in innovation. It plans to become the world's Smart City and Internet of Things (IoT) capital through several initiatives in which the city engages the local community in planning for its future.

---

[39] CityMetric.com
[40] CityMetric.com
[41] https://www.siliconvalleycf.org/sites/default/files/publications/svlg-report.pdf
[42] https://www.siliconvalleycf.org/sites/default/files/publications/svlg-report.pdf
[43] Bloomberg, CityLab, https://www.citylab.com/life/2016/02/the-spiky-geography-of-venture-capital-in-the-us/470208/

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY
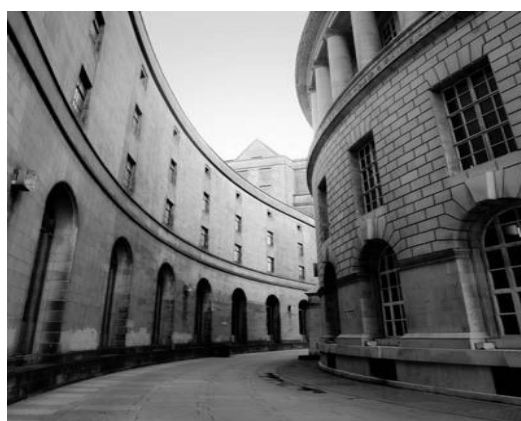
NEW DEAL FOR LABOUR RESILIENCE: TRANSFORMING MANCHESTER

Region: North-West
Employment Rate: 72.5%

Structural Pillar: 3rd
Policy Pillar: 6th

4th
UK LRI Rank

84%
Job growth 2002 - 2015

£6000
Amount GVA per capita is below UK average

45.4%
Percentage of children living in poverty

CONTEXT

- One of the textile hubs of the world during the industrial revolution
- In the three decades following 1950, total jobs in the city declined by 22% and jobs in the vital textile industry fell by 86%
- City has grown for last two decades driven by rise in services, engineering and media

POLICY

- The city aims to develop advanced manufacturing and engineering
- As part of Greater Manchester area it seeks to capture more value from regional universities through "knowledge corridor" including investment into an engineering innovation centre
- Manchester is also developing a digital strategy based around e-commerce, cyber security, media and data analytics

KEY CHALLENGES

- Productivity 15% below the UK average
- Relatively high poverty rates
- In the last years, the city witnessed decline in employment in scientific, research and engineering occupations
- Moreover, even though the city has one of the highest number of business start-ups it is also placed 8 out of 62 cities on number of business closures

POLICY PERSPECTIVES

- Support the development of partnerships between employers and academia to reduce skills gaps and to increase back STEM participation
- Leverage the city's existing industry base to attract new advanced business clusters
- Improve connections with surrounding regions to empower 'Northern Powerhouse' model

SELECTED BEST PRACTICES

- Skills Plus: Norwegian program providing funding to employers to upskill their workforce youths

- Hsinchu Science Park: Regional cluster of research and manufacturing functions containing entire value chain

- North Carolina Research Triangle: Innovative research area consisting of universities and businesses

Source: Whiteshield Partners GLRI 2020 database

CONNECTING FOR LABOUR RESILIENCE
CASE: SAN FRANCISCO

Region: California
Employment Rate: 98%

Structural Pillar: 6th
Policy Pillar: 7th

4th
US LRI Rank

52
Companies worth over USD 1 billion

52%
Projected GMP growth (2020-2030)

13%
Projected growth of tech jobs (2019-2026)

CONTEXT

- San Francisco is well known as a global hub for innovation - it is home to tech giants like Alphabet and Facebook
- San Francisco Bay Area attracted 40% of total US venture capital investments in 2018

POLICY

- The government of San Francisco has effectively leveraged tax policies in order to attract companies. Current tax policy provides clear economic stimulus for clean-tech start-ups.
- The city also benefits from proximity to world's prestigious universities like Stanford and UC Berkeley that creates an inflow of talent

KEY CHALLENGES

- High levels of inequality and homelessness
- High cost of living

POLICY PERSPECTIVES

- Further involve local firms and citizens in helping to solve the city's most pressing problems

- Leveraging existing tech capabilities to provide skills and education to lower-income and disadvantaged citizens

SELECTED BEST PRACTICES

- TechSF: Initiative launched to provide education, training and employment assistance for citizens interested in tech jobs
- ConnectSF: initiative to create a vision for public transport in San Francisco through discussions with community members, focus groups and online forums
- STIR (Startup in Residence): program connecting government agents with startups to develop technology products that address civil challenges

Source: Whiteshield Partners GLRI 2020 database

Cities are replacing regions as local pillars of labour market resilience

Cities are increasingly emerging as the main drivers of growth and labour market resilience, both on a regional and national level. There are several models of spatial development that build on growth through urbanisation, including 'growth poles', 'con-urbations', 'spatial axis', and 'spatial equilibrium' (Figure 21).

Texas, provides an example of the development of wider agglomerations through growth poles which focus on unique capabilities. It is home to four cities which each specialise in a different area: Dallas (business and finance), Austin (education and innovation), El Paso (trade and commerce) and Houston (energy) (Box 21). This balanced growth pole approach allows the state and its citizens to benefit from the agglomeration of specialised industries and associated knowledge spill over effects while avoiding the trap of one single city economy benefiting to the detriment of the wider region.

The labour market resilience of the state of Illinois, by contrast, is driven by a single city, Chicago, which contributes 77% of Gross State Product[44]. Chicago's success, driven by finance and leading educational institutions, has generated tensions between those living and working within the agglomeration and those outside it. Without the counterbalance of other development poles, the state of Illinois is faced with high levels of spatial inequality, which is difficult to sustain over time.

As regions pursue city-led growth it is crucial that adequate policy measures are put in place to ensure the inclusive and sustainable development of urban areas.

Figure 21: Models of spatial development

	"GROWTH POLES"	"CON-URBATIONS"	"SPATIAL AXIS"	"SPATIAL EQUILIBRIUM"
MODEL	Centers of economic activities from which growth gets distributed spatially within a regional urban system	Development of second-tier neighboring cities located in close proximity by connecting to each other	Development of regions and cities by connecting to existing and planned transport corridors	A balanced growth approach in regional development policy
EXAMPLE	• France • Romania	• Czech Republic • UK	• Canada	• USA
PROS	• Allows resources and efforts to be concentrated in priority sectors and regions	• Helps to reduce urbanization in Nur-Sultan and Almaty, and decrease social pressure	• Help to strengthen connections among the disjointed and isolated economic zones,	• Help reduce social risks
CONS	• Risk of left-behind territories if not connected to Growth Poles	• Hard to identify connected cities in Kazakhstan, since economically active people usually move between Nur-Sultan and Almaty only	• Require greater financial resources as small cities and rural settlements are located very far from transport corridors	• Requires greater financial resources, resulting in dispersion of investments and reducing their efficiency

Source: Whiteshield Partners Cities Resilience Index database

---

44 https://www2.illinois.gov/ides/lmi/Annual%20Report/EconomicReport#

POLICY POTENTIAL: CONNECTING GROWTH POLES IN TEXAS

Four growth poles in Texas are the key drivers for its balanced economy

Structural Pillar: 16th
Policy Pillar: 27th

22nd
US LRI Rank

Dallas
Houston
Austin
El Paso

20%
Share of U.S exports

65%
Service sector contribution to private sector activity

75%
Texas's share of US petrochemical production

DALLAS

TEXAS'S BUSINESS AND FINANCIAL HUB

- 30% contribution to Texas GSP
- Population: 1.3 million
- Cost of doing business: 3% lower than national average
- 14% of population employed in business and financial services

HOUSTON

- 28% contribution to Texas GSP
- Population: 2.13 million
- Refines 45% of Texas's oil production
- Energy and mining employs 13% of the city's population

STRONG ENERGY BASE

AUSTIN

A CENTER FOR INNOVATION AND EDUCATION

- 8% contribution to Texas GSP
- Population: 0.9 million
- Highest educated population in Texas (42.8% of people aged above 25 have at least a bachelor degree)
- Contributes to 31% of total patents awarded in Texas

EL PASO

- 1% contribution to Texas GSP
- Population: 0.6 million
- Second largest port of entry between USA and Mexico
- Highest share of employment is in retail (13%)

STRATEGIC POSITIONING FOR TRADE AND COMMERCE

Source: Whiteshield Partners, Federal Reserve Bank of Dallas, US. Bureau of Labor Statistics

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Figures 22 and 23 below highlight a number of proven good practices to support city and regional development through growth poles, and fostering diversification in cities dependent on declining industries.
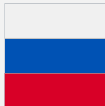
Figure 22: Making growth poles happen to support job resilience

	FINANCING		GOVERNANCE	CONNECTIVITY
	Labeling system	**Industrial poles of competitiveness**	**Inter-municipal associative structure**	**Physical and economic connectivity**
EXAMPLE POLICY ACTIONS	• 71 poles of competitiveness in France, grouped in different categories (labels) relevant for their economic potential • The poles need to report periodically on certain relevance and performance indicators in order to maintain a specific label assigned	• France has launched a new industrial policy based on poles of competitiveness in 2004 • French poles of competitiveness are located in a clearly defined territory and operate in a certain economic field	• In Romania growth poles are governed by the Inter-communal Development Association (IDA) composed of representatives of member territorial administrative units • Interministerial Fund (France)	• Kayseri Free Zone covers large area • Kayseri is connected to the rest of the country with railway service. There are 4 trains per day to Ankara • Kayseri city and Kayseri Province is connected by Light Railway Train (LRT)
OUTCOME	• Labelling system allows projects initiated by companies in a certain pole to gain access to a designated fund	• Competitive cluster is defined as a geographical concentration of businesses • Training centres and public and private research units working in partnership on innovative projects	• București, one of growth poles, accounts for around 25% of the country's GDP, and the 1-hour access area around it produces around 50% of all firm revenues in the country	• Kayseri Free Zone established in 1998, and now there are about 500 firms registered

Source: Whiteshield Partners Cities Resilience Index database

Figure 23: Global best practices on transforming mono-industry cities into sustainable and diversified cities

	SELF-SUSTAINING COMMUNITY	REGIONAL CENTER	MONOCITIES DEVELOPMENT FUND	RECRUITMENT POSSIBILITY
EXAMPLE POLICY ACTIONS	• Sudbury Regional Development Corporation was created together with a group of regional planners to work with industry, business and the city council representatives from government, business, academia, mining and the unions	• Municipality established a City Council together with NGOs, private companies developed Strategy on strengthening Mount Isa's role as a regional centre	• Fund for the Development of Monocities was established to invest in infrastructure and promote economic diversification of mono-cities • It contributes resources and skills, monitors spending, and shares best practices	• The Academia De Código - a recruitment possibility that allows to requalify people in coding areas and turning them in 14 weeks of intense training into IT specialists
OUTCOME	• Sudbury has support from different levels of government, the private sector and not-for-profit organizations • Sudbury became a cluster of innovation and entrepreneurship in the mining sector	• Mount Isa became a hub of knowledge in the mining sector • Mining technology services (MTS) companies transfer knowledge and innovation among all mining companies	• By the end of 2019, there will be eighteen towns with sustainable economies that no longer classify as monotowns • The leading candidate is Cherepovets, a former steel manufacturing center	• 500 direct jobs were created with the Academy • 100 jobs will be created as an indirect result of it

Source: Whiteshield Partners Cities Resilience Index database

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Cities can learn from their peers to boost labour resilience

Examples of different approaches to labour resilience can be found among the leading global cities. Some cities, such as Geneva and Copenhagen, have pursued a sustainable and environmentally friendly path to resilience. Others such as Tokyo, Vancouver, Seoul and Singapore have focused on upgrading their digital infrastructure and capabilities to become world-leaders in connectivity and innovation.

The Whiteshield Partners City Resilience Index (CRI) ranks major global cities along 4 main pillars and 46 indicators to offer insight on relative capabilities and enables an assessment of which areas a city should aim to develop to support more resilient labour markets as well as providing examples of "best practice" peer cities from which to learn.

Table 5: Whiteshield Partners City Resilience Index ©

	Overall CRI Rank		Competitive		Smart		Sustainable		Inclusive	
Rank	City	Country	Economy	Institutions	Connectivity	Governance	Environment	Well-being	Equity	Social Inclusion
1	Copenhagen	Denmark	Geneva	Geneva	Tokyo	Copenhagen	Geneva	Stuttgart	Helsinki	Tokyo
2	Stockholm	Sweden	Zurich	Espoo	Copenhagen	Amsterdam	Zurich	Stavanger	Espoo	Osaka
3	Zurich	Switzerland	Los Angeles	Zurich	Vancouver	Singapore	Aarhus	Trondheim	Tampere	Prague
4	Geneva	Switzerland	New York	Philadelphia	Toronto	Stockholm	Copenhagen	Zurich	Budapest	Zurich
5	Västerås	Sweden	Chicago	Helsingborg	Melbourne	Gothenburg	Helsingborg	Bayreuth	Prague	Geneva
6	Gothenburg	Sweden	Boston	Aarhus	Stockholm	Luxembourg	Västerås	Bochum	Warsaw	Trondheim
7	Helsinki	Finland	Washington	Västerås	Montreal	Helsingborg	Gothenburg	Bergen	Aarhus	Stavanger
8	Aarhus	Denmark	Philadelphia	Copenhagen	Boston	Sydney	Stockholm	Luxembourg	Copenhagen	Bergen
9	Helsingborg	Sweden	Stockholm	Stockholm	Sydney	Västerås	Vienna	Geneva	Amsterdam	Oslo
10	Espoo	Finland	San Francisco	Washington	Seoul	Melbourne	Hannover	Helsinki	Stuttgart	Montreal
11	Trondheim	Norway	Helsingborg	San Francisco	San Francisco	Oslo	Bayreuth	Melbourne	Bayreuth	Sydney
12	Bayreuth	Germany	Västerås	Tampere	Singapore	Adelaide	Bochum	Sydney	Bochum	Stuttgart
13	Stavanger	Norway	Gothenburg	Boston	Amsterdam	Espoo	Düsseldorf	Perth	Hannover	Bayreuth
14	Singapore	Singapore	Helsinki	Singapore	Paris	Trondheim	Stuttgart	Oslo	Berlin	Bochum
15	Bergen	Norway	Espoo	Los Angeles	Helsinki	Seoul	Frankfurt	Adelaide	Hamburg	Hannover
16	Amsterdam	Netherlands	Tampere	New York	Dubai	San Francisco	Köln	Ljubljana	München	Berlin
17	Hannover	Germany	Paris	Chicago	London	Perth	München	Hannover	Köln	Hamburg
18	Oslo	Norway	Copenhagen	London	New York	Aarhus	Hamburg	Gothenburg	Düsseldorf	München
19	Berlin	Germany	Beijing	Vancouver	Geneva	Tokyo	Stavanger	Vancouver	Frankfurt	Köln
20	Hamburg	Germany	Berlin	Toronto	Luxembourg	Stavanger	Trondheim	Abu Dhabi	Montreal	Düsseldorf

Source: Whiteshield Partners Cities Resilience Index database

Figure 24: Extracting best practices to support job resilience from the City Resilience Index

SINGAPORE

Smart Nation
SINGAPORE

6 INITIATIVES TO DRIVE THE INNOVATION IN THE CITY

SINGAPORE RANK AT THE TOP OF ALMOST ALL SMART-CITY INDEXES AND RATINGS

- Capital: Singapore
- Population 5.3 million (39% foreign nationals)
- Area 660 sq. km
- Population density: 7909 sq. km
- GDP 2017: 323.9 billion USD
- GDP pc 2017: 57,714.30 USD
- Foreign reserves 2018: 286 bn USD
- 14th largest exporter and the 15th largest importer in the world
- 2nd second-largest foreign investor in India.
- Life expectancy 79 years (men), 84 years (women)
- Multicultural: Taoism, Buddhism, Islam, Christianity, Hinduism

STRATEGIC NATIONAL PROJECTS

- Codex (future-ready Government)
- E-payments
- Moments of Life (Bundling government services)
- National Digital Identity
- Smart Sensor Platform
- Smart Urban Mobility

TRANSPORT

- Autonomous vehicles
- Contactless fare payments (public transport)
- On-demand shuttle
- Open data and analytics
- Self-driving vehicles standards research

DIGITAL GOVERNMENT SERVICES

- Business grants portal & LicenseOne
- GentEx (government's digital capabilities)
- Resale portal for flats
- Moments of Life – Families (useful services and information to parents and caregivers)

URBAN LIVING

- Automated Meter Reading
- App for environmental updates
- OneService App
- Smart Elderly Alert system
- Smart towns

HEALTH

- Robotics in healthcare
- HealthHub (one-stop digital healthcare portal to access medical records)
- National steps challenge (lifestyle advocacy)
- Telehealth (Bringing care into the home)

STARTUPS AND BUSINESSES

- CorpPass (single login for online corporate transactions with the Government)
- Data Innovation Program Office
- FinTech Sandbox
- Networked Trade Platform
- Punggol Digital District

Source: Whiteshield Partners, Smart Nation and Digital Government Office of Singapore

Kazakhstan offers a useful case study in how cities can learn from each other. The country has a large number of "monocities", dominated by one particular industry (a legacy of Soviet planning). There are many opportunities for these twenty-seven monocities to learn from each, with different lessons to be drawn depending on their stage of development. Cross fertilisation and peer learning at the local level can happen on a number of dimensions to find common solutions to common challenges, such as re-skilling workers pushed out of traditional sectors. Education and reskilling opportunities, in turn, can benefit from wider networks between regions. The cities of Almaty, Nur-Sultan and Karaganda offer university hubs that could also benefit other similar regions which are at earlier stages of development in skilling their citizens.

Another illustration of the opportunity for city / regional peer exchange to boost labour resilience is in

.

improving the business climate to enhance employment growth and opportunities. Here, the wide range of performance displayed by Egypt's regions in the World Bank Doing Business indicators offers a case in point of cross-fertilisation potential for greater labour market resilience. No city or region appears to have the "perfect" policy mix and policy advantages are dispersed geographically. Such policy disparities within country highlight the need for regions to collaborate and share best practices to create a level playing field for private sector investment and business regulation. Even the most advanced cities of the country such as Cairo or Alexandria show weaknesses in areas such as efficiency of contract enforcement or dealing with construction permits. They could learn from other regions how to improve on these dimensions whilst sharing their own expertise in starting a business.

Figure 25: Contrasting performance displayed by Egypt's regions in Doing Business indicators
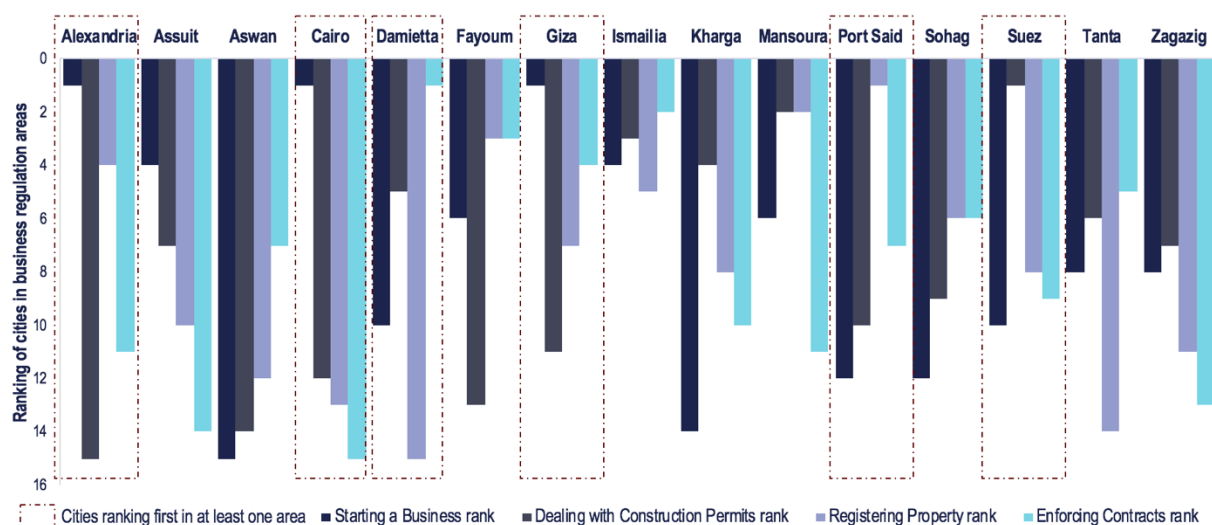
Source: Whiteshield Partners, World Bank Doing Business Egypt sub-national report 2016

From the above analysis it is clear that policy engagement at the regional and city level is key for future labour market resilience. Local stakeholders, including government officials, private sector and citizens, should consider the following actions.

The Future is Local: Labour market resilience challenges can be better addressed at the regional or city level through a new social contract

Delivering labour resilience at the regional and city level involves above all a revived and sustainable social contract. Cities can build a new social contract around labour market resilience in five stages (Figure 26):

Stage 1: Profile – Identify, profile and map the different types of citizens job needs and requirements at the local community level based on different segments of the population. (eg., by local employment agencies)

Stage 2: 'New deal' - Identify the Social Contract(s) parameters between government, citizens and all key stakeholders at the local level that can sustain job resilience drivers (e.g. EU Youth Guarantee program)

Stage 3: Connect – Establish linkages and between different stakeholders with appropriate governance mechanisms to address job resilience drivers, both structural and policy (e.g. create enlarged and more empowered local councils with cross regional or cross city common networks on issues like innovation and R&D)

Stage 4: Accelerate – Focus efforts on specific drivers of job resilience with the relevant community stakeholders over both longer and shorter periods (e.g. multi-stakeholder policy accelerators)

Stage 5: Sustain goodwill – Continuously engage with communities through technology and direct citizen engagement to address job resilience drivers (e.g. Participatory Budgeting – Portugal).

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Figure 26: Framework for building a labour resilience social contract at the local level

THE FUTURE IS LOCAL	DESCRIPTION	EXAMPLES
PROFILE	• Identify, profile and map the different types of citizens job needs and requirements at the local community level	**SINGLE WOMAN, FAMILIES OF 4, RISING YOUTH, ETC**
NEW DEAL	• Identify the Social Contract(s) parameters between government, citizens and all key stakeholders at the local level that can sustain job resilience drivers	**UNLOCKING THE POTENTIAL OF MONO CITIES WITH MAJOR LOCAL FIRMS THROUGH SKILLS FUNDS, ESTABLISHING GROWTH POLES RURAL/URBAN CONNECTIONS THROUGH JOINT EDUCATIONAL PROGRAMS**
CONNECT	• Establish linkages and governance between different stakeholders to address job resilience drivers, both structural and policy	**CREATE ENLARGED AND MORE EMPOWERED LOCAL COUNCILS WITH CROSS REGIONAL OR CROSS CITIES COMMON NETWORKS ON ISSUES LIKE INNOVATION AND R&D**
ACCELERATE	• Focus efforts on specific drivers of job resilience with the relevant community stakeholders over both longer and shorter periods	**ACCELERATORS, CITIZEN SURVEYS, CITIZEN INVESTOR**
SUSTAIN GOODWILL	• Continuously engage with communities through technology and direct citizen involvements to address job resilience drivers	**YEARLY BUDGET POLLING – CASE OF PORTUGAL**

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

CHAPTER 3: RESILIENCE AND THE FUTURE OF WORK IN THE UK – A CASE STUDY

This Chapter is co-authored with Sir Christopher Pissarides and Anna Thomas of the Institute for the Future of Work[45].

---

[45] Whiteshield Partners and the Institute for the Future of Work are working on a version 2.0 of the Labour Resilience Index for the United Kingdom. The Labour Resilience Index 1.0 was derived as an extension of the Global Labour Resilience Index® methodology and algorithm. See Appendix 1 for further details.

UK NATIONAL LABOUR RESILIENCE PERFORMANCE

The UK is among the top 10 most resilient labour markets in the world

According to the Global Labour Resilience Index 2020, the United Kingdom is the ninth most resilient labour market in the world maintaining the same position it had five years ago.

The UK's strong labour market resilience at the national level is upheld by a combination of both structural and policy factors. Building on a sophisticated and diversified economy, the UK is one of the world's top performers in education and skills, in innovation and in fostering an entrepreneurial ecosystem. The country's diversified economic structure supported by a world-renowned financial services sector means that it has, in recent history, been less dependent on international export markets and less affected by cyclical downturns of individual sectors.

The strong position of the UK appears to have been confirmed by resistance to global shocks over the last decade. In spite of slowing GDP growth, employment levels have continued to improve.

However, this outward picture of health masks structural problems that have given rise to insecure employment outcomes, low productivity growth, and new risks to labour market resilience. Job insecurity, higher levels of labour market polarization and declining vocational education and training demand particular attention in the 2020s. Improving the quality of work in the UK should remain a national priority as the UK withdraws from the EU. Further, the UK's resilience performance at a national level, despite its apparent stability, should be viewed alongside our analysis which reveals the extent of regional disparities in several key pillars of resilience, including infrastructure and public investment.

Figure 27: GDP growth and employment trends (2014-2018) for the UK

Note: UK historical GLRI trend calculated based on updated 2020 methodology.

Source: Whiteshield Partners, World Bank, ILO

Over the past five years, the UK still appears to have improved its labour market resilience through greater economic diversification and with improved policies to support innovation, entrepreneurship and employment, in particular. These improvements have allowed the UK to sustain its GLRI rank of ninth place worldwide alongside other labour resilience leaders such as Germany, Belgium, the United States and France.

The US has improved its labour market resilience through better educational outcomes (as measured by PISA scores), quality of vocational training, and improved active labour market program effectiveness. Denmark, in turn, has made significant improvements to its entrepreneurship ecosystem, through an increase in access to loans (24 rank improvement in 5 years), as well as a higher number of corporate registrations and patent applications.

Figure 28: Progress of GLRI top performers (GLRI 2015-GLRI 2020)

Note: Historical GLRI trend calculated based on updated 2020 methodology.

Source: Whiteshield Partners

STRUCTURAL PILLAR: HIGHLY DIVERSIFIED BUT UNEQUAL

Solid structural foundations in terms of economic capabilities and diversification

The relatively high performance of the UK in the structural pillar is mainly driven by its high level of economic complexity and economic diversification which tends to provide a broader and more diversified structure of employment and greater resilience in times of economic downturn or negative shocks for specific industries (*Figure 29*).

However, weaker demographics, productivity, higher levels of inequality and labour market polarization

The UK faces several structural challenges, however. The country has notably higher levels of inequality than peers in the EU and OECD, and the UK is the second most unequal country in the GLRI top 10 after the US. Higher levels of income inequality may be reflected in a labour market more polarized between low and high-skilled workers. As a general rule, low and middle skilled routine work tends to be less resilient to technological disruption.

Another structural challenge is the low productivity growth that has characterized the UK since the financial crisis of 2008.

On the demographic front, the UK's population is ageing more rapidly compared to countries such as the USA, Luxembourg, Switzerland or Singapore (Figure 30). The implications of this ageing demographic pyramid are manifold. The UK will have to prepare for a shrinking working population and hence a higher dependency ratio. This will affect the government's ability to maintain revenue through taxes and will increase the need for social care provisions, already under severe strain. Moreover, based on the current demographic trend, the UK may face labour force shortages of as much as three million workers by 2030 leading to unrealized revenues of more than $ 400 billion[46].

Among other things, the UK government will need to consider ways to support hiring of talented labour from abroad, whilst prioritising upskilling of the national workforce to compensate for shortfalls. Targeted migration policies are particularly important in the Brexit context. The year after the Brexit referendum, the UK witnessed the largest drop in long-term migration to Britain since records began[47]. More than ¾ of the fall was caused by EU nationals leaving the UK.[48] This outflow of skills worsened already existing skills shortages in many industries, with hospitality, manufacturing, healthcare and agriculture particularly affected.

In summary, the structural profile of the UK is consistent with its skewed labour market resilience performance - low unemployment rate and rapid recovery capacity associated with a complex and diversified economy and flexible labour market; but higher levels of income inequality and lower productivity associated with a polarized labour market and insecure work.

---

[46] Korn Ferry, Future of Work, The Global Talent Crunch, https://dsqapj1lakrkc.cloudfront.net/media/sidebar_downloads/FOWTalentCrunchFinal_Spring2018.pdf

[47] Office for National Statistics
[48] https://migrationobservatory.ox.ac.uk/resources/briefings/eu-migration-to-and-from-the-uk/

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Figure 29: Performance of the UK in structural sub-pillars of GLRI 2020
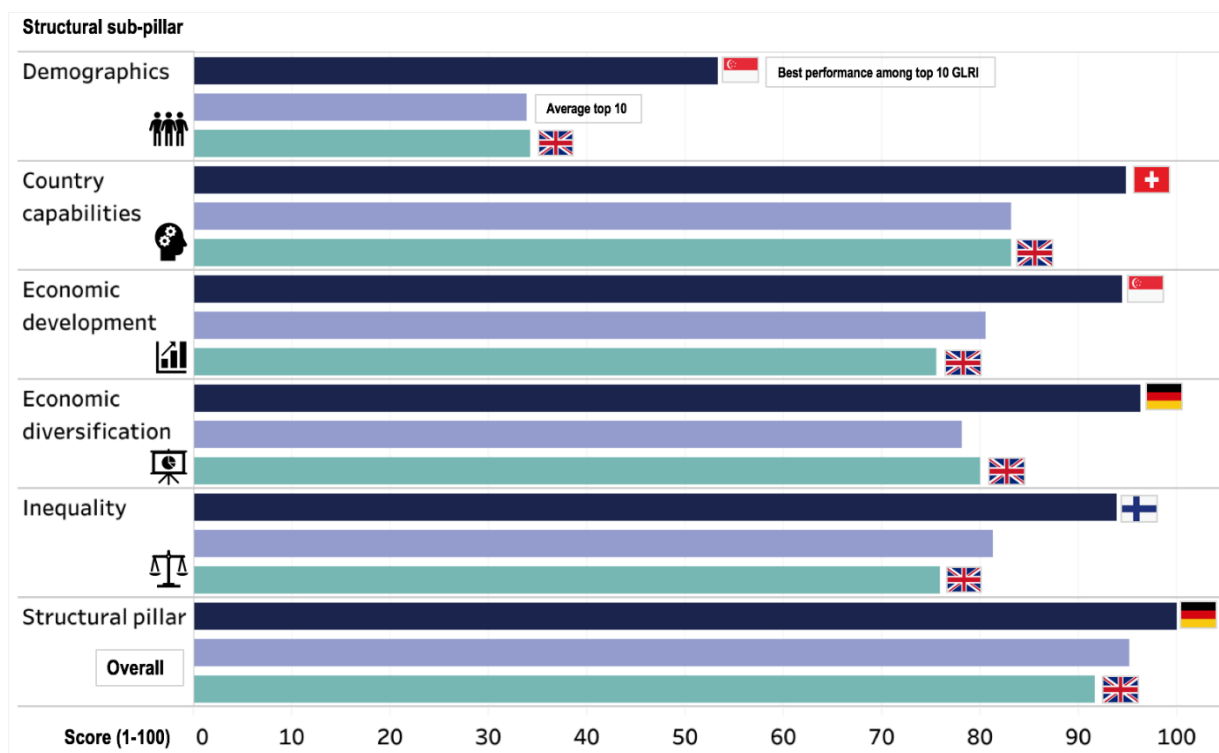
Source: Whiteshield Partners

Figure 30: Structural strengths and weaknesses of the UK compared to peer countries

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY
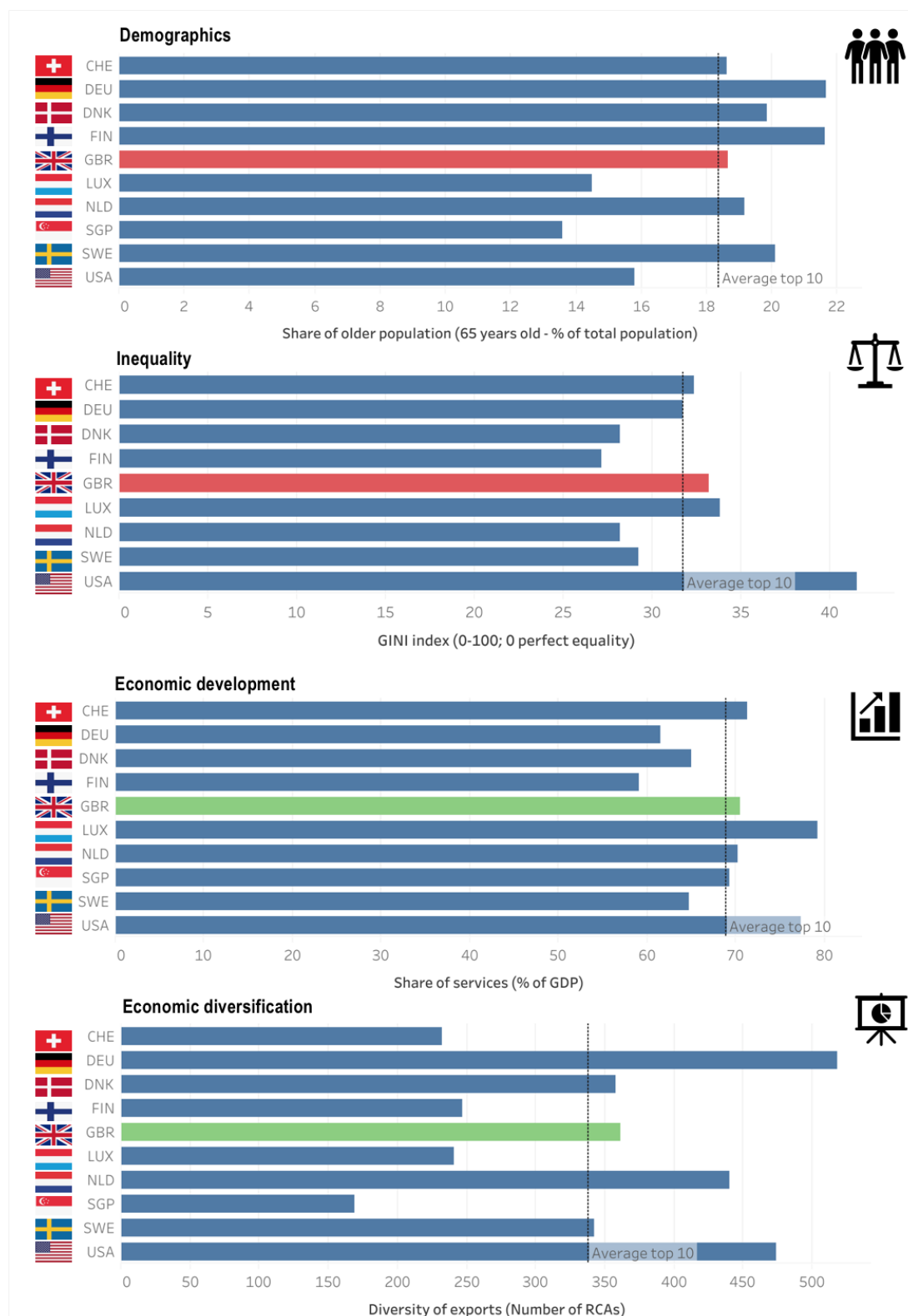
POLICY PILLAR: INNOVATION AND ENTREPRENEURSHIP LEADER, BUT WITH A POLARIZED LABOUR MARKET

The UK is a leader in education, innovation and entrepreneurship outputs

The UK ranks 8th in the policy pillar of the GLRI 2020. The strengths of the UK on the policy front are mainly concentrated in the education, innovation and entrepreneurship fields, standing out particularly on policy outputs (such as skilled labour supply, PISA scores, critical thinking, innovation products and trade and business creation rate) versus inputs (education spending, R&D spending, procedures and time to start a business) (Figure 31).

In education, the UK has managed to sustain a strong foundation with a high access to education overall (illustrated in the 7th highest tertiary attainment rate worldwide) and high quality of education (visible in the high performance of its students in PISA tests and strong capacity for critical thinking as well as in the high availability of skilled labour).

Within the innovation arena, the UK benefits from a historically attractive research system sustained leading global universities, high levels of new doctorate graduates and strong performance in academic research outputs (such as R&D journals and articles). The innovation environment in the UK is also characterized by strong collaboration between the different stakeholders including academia, SMEs, and the private sector in general although this is not evenly spread by region. This enabling environment allows the UK to score highly in innovation products (such as patent applications and creative goods).

Entrepreneurship is another area of strength for the UK, with a vibrant and dynamic ecosystem characterized by a high business creation rate (the UK ranks first in this indicator) and a particularly attractive startup scene thanks to strong venture capital investments (5th worldwide) and government enterprise investment schemes that have stimulated early stage investment in new ventures (Figure 32).

Despite a strong performance in education, innovation and entrepreneurship outputs with a global ranking of respectively 7th, 4th and 7th, the UK still has some weaknesses in these areas that need to be addressed. These are highlighted by comparisons with peers in the EU and USA.

Figure 31: Performance of the UK policy sub-pillars of GLRI 2020

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Figure 32: Comparative strengths and weaknesses of the UK in education, innovation and entrepreneurship outputs

Source: Whiteshield Partners

Box 22: Mapping the research and innovation ecosystem in the UK

KEY FEATURES OF INNOVATION SUPPORT ECOSYSTEM

- The UK research and innovation system is largely centralized especially since the abolition of Regional Development Agencies in 2011.
- The majority of research funding in the UK is driven by Research Councils while InnovationUK leads innovation support. Both stakeholders operate regionally as well but have a UK-wide remit.
- The Higher Education sector is the largest performer of R&D in the UK. Country-specific funding councils are responsible for higher-education block funding.
- At the regional level, Devolved Administrations can adopt customized versions of innovation strategy (e.g. SMART Scotland, SMARTExpertise Wales).
- At the local level, Local Economic Partnerships (which include businesses and councils) are also responsible for the implementation of some innovation-support initiatives.

KEY INNOVATION SUPPORT STRATEGIES

- Our plan for growth: science and innovation
- Industrial Strategy: building a Britain fit for the future
- International Research and Innovation strategy

KEY INNOVATION SUPPORT FIGURES

- SMEs represent over 70% of businesses funded by Innovate UK and received a total of £325m in 2017-2018
- InnovateUK managed £1.1 billion in R&D
- grant funding in 2018-2019
- The UK has committed to raise investment in R&D to 2.4% of GDP by 2027.

CREATING KNOWLEDGE

- Competitive grant schemes provided by research councils
- Block grant funding to universities provided by higher-education funding councils
- SMART grants provided by InnovateUK
- Collaborative R&D programs between Innovate UK and Research Councils
- Pre-commercial procurement programs
- Challenge platforms (Sectorial Catalysts: Agri-tech, Bio-medical, Energy etc.)

EXPLOITING KNOWLEDGE

- Competition based funding streams for knowledge exchange (e.g Higher Education Innovation Fund)
- University exploitation funds (e.g. Fusion IP, IP group)
- University-business staff exchange schemes
- Strong private commercialization sector enabled partly by a flourishing Venture Capital scene

KEY STAKEHOLDERS

- Universities
- Public Sector Research establishments
- Thematic Research Councils
- Higher education funding councils
- Cross-sector research partnerships

Innovative firms

Large firms — RELX — Capita — smith&nephew — dyson — arm — experian — IHS Markit — Revolut — eToro — Startups — CAZOO — FARFETCH — monzo

- Science and innovation parks
- University technology transfer offices
- Catapult Centers (under Innovate UK)
- University business incubators
- University Enterprise Zones

- National academies
- National intellectual property office
- National standard body
- Think tanks and lobbying organisations

- National Innovation agency: InnovateUK
- The Knowledge Transfer Network
- Sector Leadership Councils
- Regional Growth Fund
- Local Economic Partnerships

- Support on Intellectual Property management including IP country guides and IP attachés (provided by the IP office).
- Competitive grant schemes provided by research councils
- Block grant funding to universities provided by higher-education funding councils
- SMART grants provided by InnovateUK
- Collaborative R&D programs between Innovate UK and Research Councils
- Pre-commercial procurement programs
- Challenge platforms (Sectorial Catalysts: Agri-tech, Bio-medical, Energy etc.)

- Direct support for innovation through government agencies. InnovateUK investing in direct innovation support for businesses through several programs including the Catapults (support business R&D, provide access to facilities and business contact research, 9 priority sectors)
- International S&I investment one stop shop (by UKTI)
- Indirect support through comprehensive R&D tax credit scheme
- Various innovation and entrepreneurship support schemes (e.g. Enterprise Investment Scheme, Seed Enterprise Investment Scheme)

ENABLING INNOVATION

SUPPORTING INNOVATION

Source: Whiteshield partners, NESTA, Innovation toolkit

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

The UK is lagging behind in the quality of vocational education, the relevance of graduates' skillsets and digital skills. In innovation, intellectual property and patent applications, and numbers of professionals in R&D, are comparatively weak. Anecdotally, SME's often find obtaining funding for intellectual property and patent protection challenging.

Finally, in entrepreneurship, the UK is under-performing in access to loans, especially for SMEs and in terms of access to patent capital.

Further investment in education, entrepreneurship and innovation needed to sustain labour market resilience

Areas of underperformance in education, entrepreneurship and innovation could benefit from further targeted investment from both government and business. The strong UK ratio of policy outputs to inputs suggests a high level of policy efficiency and a successful policy mix enabling the country to out-perform in outputs compared to its policy investments (Figure 33).

However, despite this policy efficiency, the UK is not spending as much as peer countries in the EU and USA on education in general and on vocational and in-work education, in particular (Figure 34). Historically, this is an area of weakness for the UK. UK firms are also not investing enough in staff training which may explain rising skills gaps especially in digital skills. According to a government report, 72% of large companies and 49% of SMEs are suffering technology-based skill gaps.[49] As market trends demand firms to be more digitally orientated, this gap is set to persist and grow without targeted policy intervention.

Similarly, in innovation, R&D spending remains limited in terms of share of GDP compared to peers in the EU

and the USA. Total UK R&D expenditure represented 1.7% of GDP in 2017. Although this figure has increased by 4.8% versus previous years, it still is well below the EU average of 2.07%. In fact, the UK ranked 11th out of all EU countries expenditure on R&D as a percentage of GDP[50]. Although UK GDP is larger than many EU countries meaning absolute spending on R&D is higher in the UK, it should still look to maintain R&D spending as a proportion of GDP in line with EU peers to boost innovation investment. Additionally, the UK has room to further improve intellectual property and trademark regulation. A recent government report investigated the reasons behind firms choosing not to use trademarks and intellectual property protection for valuable innovations.[51] It found that the requirements for patentability were sometimes overly restrictive, with non-enforcement of patents and trademarks also cited as a concern. The UK government should investigate reforms based on the output of such research to ensure a more effective system of protecting innovative firms.

Finally, in entrepreneurship, the UK has the potential to benefit from quick policy wins by tackling traditional regulation challenges such as time and procedures to register a business.

Declining performance in many technology indicators, threatening UK leadership position

Technology is one dimension in which the UK has witnessed the strongest decrease in performance between GLRI 2015 and GLRI 2020. The UK still ranks among the top 20 for this dimension but has declined relative to other top ranked countries, in particular in technology outputs such as ICT trade and high-tech exports. Anecdotally, it appears that in technology areas where UK is doing very well, for example in immersive technology, UK innovators are struggling to find funding to advance exploitation.

---

[49] Department for Business, Innovation and Skills, Digital skills for the UK economy, 2016
[50] https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/researchanddevelopmentexpenditure/bulletins/ukgrossdomesticexpenditureonresearchanddevelopment/2017

[51] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/744844/SIPU.pdf

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Figure 33: Performance of GLRI top 25 countries in policy inputs vs policy outputs in education and innovation (GLRI 2020)

Note: Size of bubbles represents overall policy/education/innovation score. Trend lines represent polynomial of degree 3 and confidence interval. Countries placed above upper-line are those over-performing in outputs given their inputs.
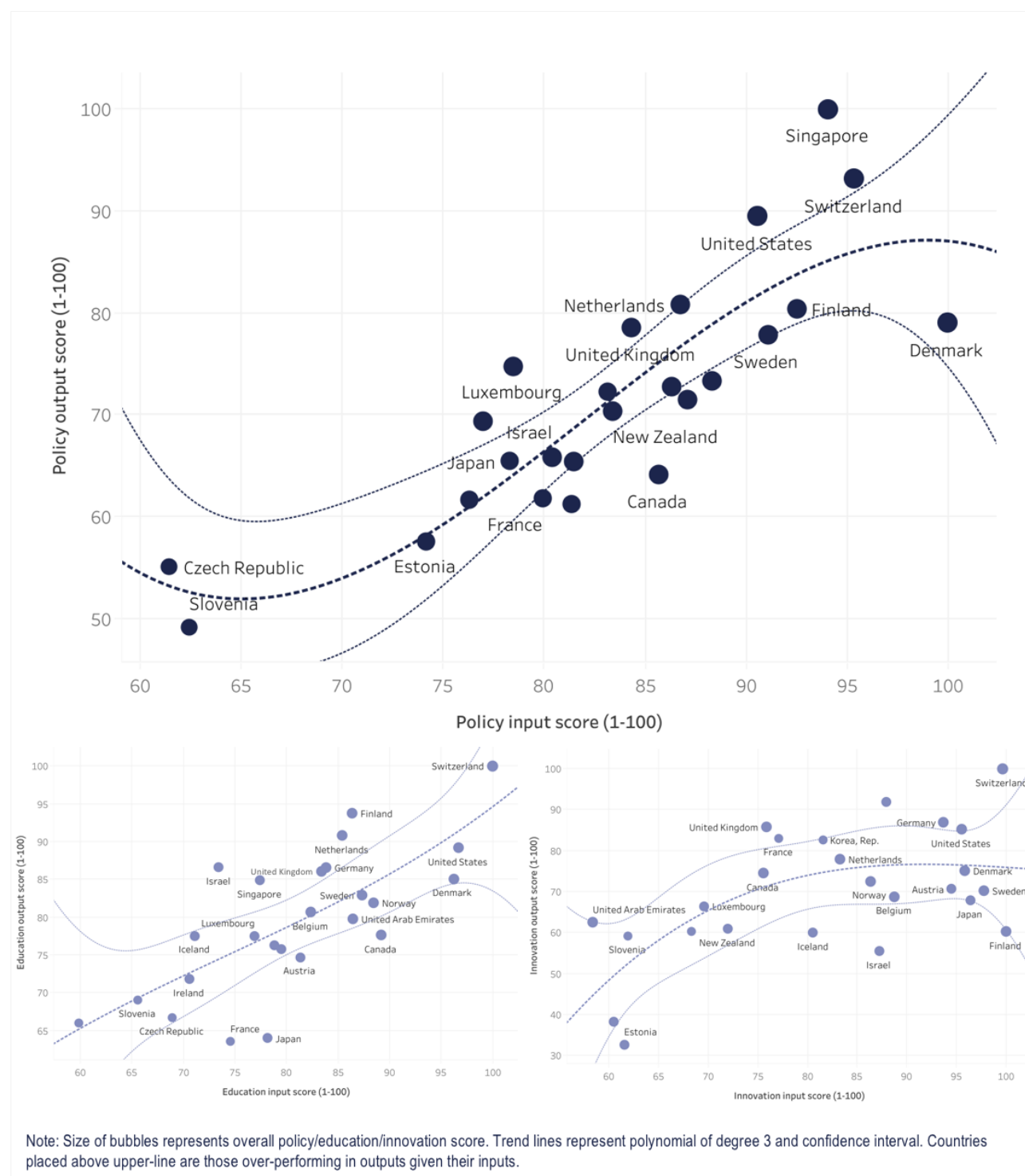
Source: Whiteshield partners

Figure 34: UK investment in education and innovation inputs vs. peers

Tertiary education spending

CHE	
DEU	
DNK	
FIN	
GBR	
LUX	
NLD	
SGP	
SWE	
USA	

Average top 10

0K   5K   10K   15K   20K   25K   30K   35K   40K   45K

Initial government funding per tertiary student, PPP$

Extent of staff training

CHE	
DEU	
DNK	
FIN	
GBR	
LUX	
NLD	
SGP	
SWE	
USA	

Average top 10

0   10   20   30   40   50   60   70   80   90   100

Score (1-100)

R&D expenditure

CHE	
DEU	
DNK	
FIN	
GBR	
LUX	
NLD	
SGP	
SWE	
USA	

Average top 10

0,0   0,5   1,0   1,5   2,0   2,5   3,0

Share of GDP (%)

Intellectual Property Rights

CHE	
DEU	
DNK	
FIN	
GBR	
LUX	
NLD	
SGP	
SWE	
USA	

Average top 10

0   10   20   30   40   50   60   70   80   90   100   110

Score (1-100)

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

In ICT infrastructure, the UK has a prohibitively high cost of ICT, ranked 51st in ICT affordability worldwide. This performance is concerning given the already high costs for companies to upgrade their digital capabilities. This includes the enhancement of their IT architecture, cloud capacity and the utilization of data analytics. This under-performance in ICT infrastructure is already impacting key output indicators such as ICT usage. For instance, the UK ranks 26th worldwide in broadband subscriptions and scores far behind the average of peer countries.

The UK ICT sector benefits from a high-performing environment reflected in its advanced tertiarization of the economy and a vibrant tech-entrepreneurship ecosystem. The country shows strong performance in several key inputs for the digital economy such as strong ICT-related investments (for instance, the UK has one of the highest shares of computer software spending at around 0.7% of its GDP[52], ranking 4th behind the USA, Ireland and Switzerland) and a relatively high availability of ICT specialists (sixth highest among European countries in terms of share of the total workforce[53]).

However, the UK is falling behind in the high-tech sector. For instance, the share of high-tech activities in manufacturing is approximately 40% of total manufacturing output compared to shares as high as 80% for Singapore, 70% for Ireland and 60% for Switzerland[54]. The rising competition faced by the UK is most visible in trade related indicators. The UK

ranks 30th in terms of ICT services exports with a total share of 3.2% in total exports far behind peer-countries such as Ireland (22.7%), Finland (8.1%) or Sweden (6.2%)[55]. High-tech exports, in particular, clearly demonstrate the leadership of rising leaders. While the share of high-tech exports in the UK is relatively high at almost 10%[56] of total trade, it is much lower than peer countries' (including Singapore, France, Japan, Germany, the Netherlands and Ireland). The gap is even more significant with rising leaders such as Malaysia, Philippines and Vietnam where high-tech exports exceed 30% of total trade (Figure 35).

Although the UK benefits from a strong ICT workforce, it is still under-performing in the digital skills of the wider workforce with the lowest score among top 10 peer countries (Figure 36). The UK also has a relatively low share of STEM graduates. These challenges could lead to rising skills gaps and a potential shortage of labour in the near future, hampering the growth of the digital economy and especially the digitalization of other sectors outside the ICT industry. Anecdotally, the UK is already experiencing this skills shortage. For example, start-ups struggle to attract developers and there is a concern that this shortage may become more acute. Government schemes like the Exceptional Talent Visas scheme have been helpful in retaining young IT talent but targeted policy to educate enough developers to support start-ups will be needed.

---

[52] IHS Global Insight, Information and Communication Technology Database, 2018.
[53] Eurostat, 2017.
[54] UNIDO, 2017.
[55] UNCTAD, 2018.
[56] WIPO, 2018.

Country	Share of high tech exports in total exports (%)
Malaysia	34,1
Viet Nam	32,9
Philippines	32,7
China	27,9
Singapore	27,4
Republic of Korea (the)	26,4
Czech Republic (the)	17,1
Mexico	15,0
Thailand	15,0
France	12,8
Hungary	12,5
Japan	12,1
Israel	11,9
Germany	11,5
Netherlands (the)	11,2
Ireland	9,9
Slovakia	9,2
United Kingdom (the)	9,0
Estonia	8,6
Belgium	8,1
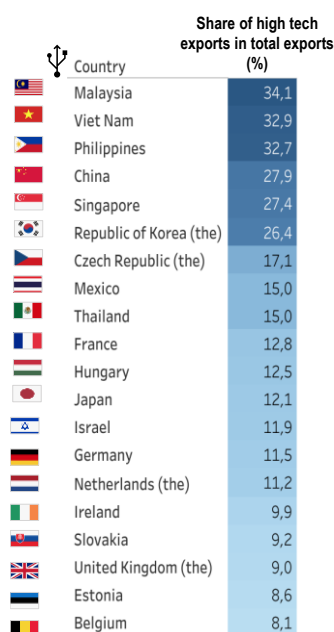
Source: Whiteshield Partners, WIPO, 2018

Figure 36: Performance of UK in digital skills compared to GLRI top 10 peer countries
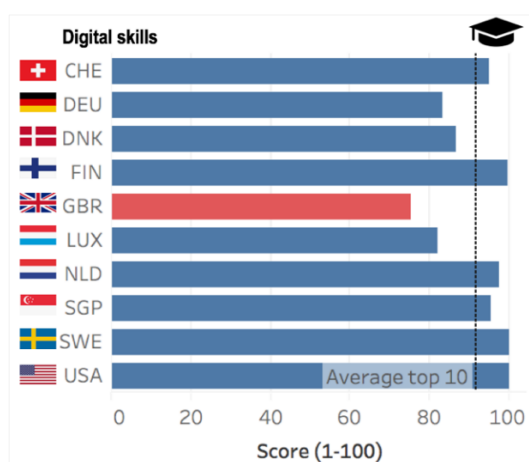
Source: Whiteshield Partners

Polarization of the UK labour market

From a global perspective, the UK remains a hotspot of global talent and skills with its labour market showing a strong ability to attract and retain talent (ranked fifth globally) and with a sustained orientation toward knowledge-intensive, more resilient jobs (ranked eighth globally). This is largely reflective of the country's enviable position as a center of global finance and high-level service provision, despite its under-performance in some key resilience outcome indicators compared to peer countries.

One important area related to the UK's high level of inequality which needs to be monitored closely is polarization of the labour market. Although the polarization of the labour market between high-skilled, high-paying jobs and low and middle skilled, lower paying jobs is a common challenge faced by many industrialized countries, the challenge may be more pronounced in the UK. Three main observations support this finding.

Firstly, occupational shares of employment in the UK have historically witnessed a stronger decrease in mid-skilled occupations and an increase in low-skilled and

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

high-skilled occupations (Figure 37). This area needs more research but there are indications that the trend is set to continue in the future as skills demand forecast show a predicted 19% increase in high-skilled employment, 10% increase in low-skilled employment and 10% decrease in medium-skilled employment by 2020 in the UK[57].

Secondly, the UK labour market is witnessing a notable rise in the 'gig' economy compared to peers in the EU, in particular. Since the financial crisis, there has been a significant increase in insecure, freelance and zero hour contract work particularly visible in the growth rate of self-employment compared to standard full-time employment (Figure 38). There are now over three million workers in the UK labour force with insecure work. While the rise in gig employment highlights the flexibility of the UK labour market, it is also likely to be one of the drivers behind the fall in productivity in the UK, with gig-economy workers increasingly at risk of becoming trapped in a low wage, low skill job cycle. Part-time workers on an involuntary basis represent 5% of the active population, the 5th highest share among EU-28 countries[58]. The UK should at the least maintain its basic floor of statutory protections post-Brexit to maintain labour market resilience.

Figure 37: Occupational changes in terms of share in employment for EU top 10 GLRI countries
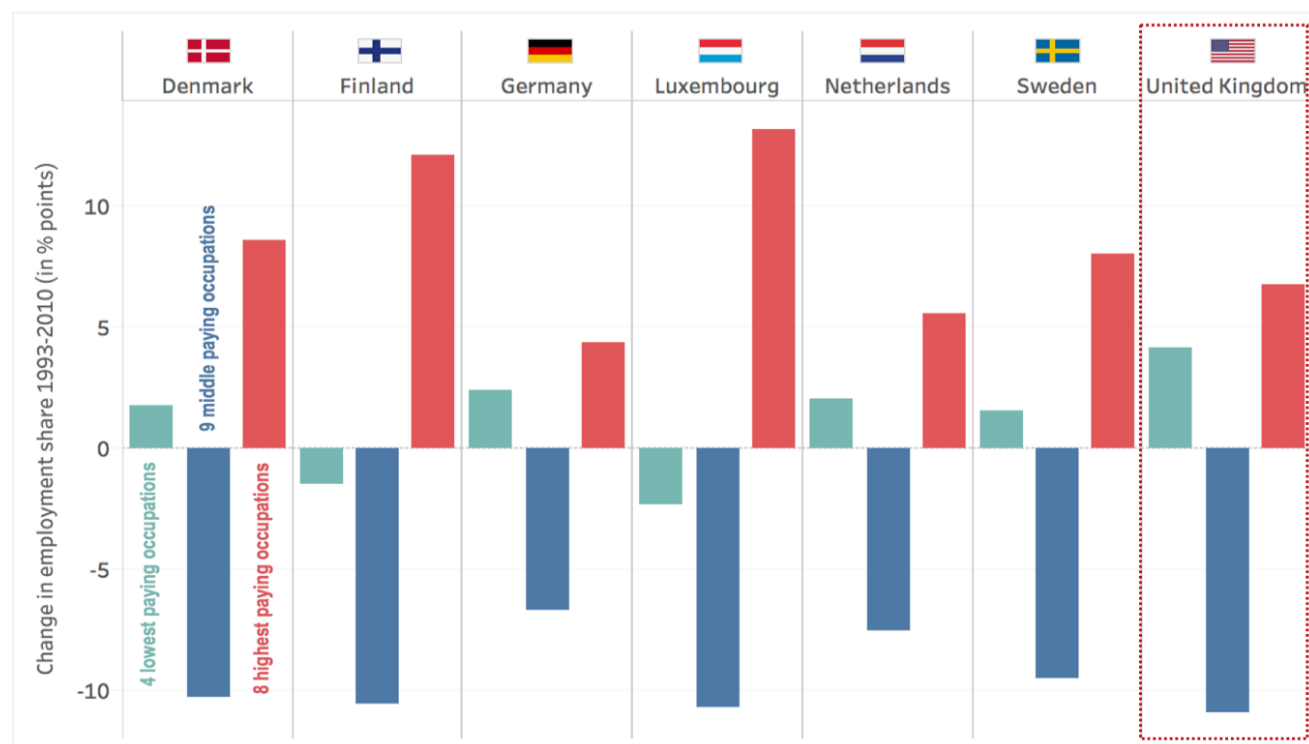
Source: Whiteshield Partners, CEDEFOP

[57]https://skillspanorama.cedefop.europa.eu/en/analytical_highlights/focus-polarisation-skills-labour-market#_edn17

[58]https://skillspanorama.cedefop.europa.eu/sites/default/files/Country%20Fiches%202018.pdf

Source: Whiteshield Partners, Eurostat

Thirdly, the UK is more strongly hit by skills mismatch challenges than other European countries. The country ranks among the lowest performers in the "Skills Matching" pillar of CEDEFOP European Skills Index. More specifically, the UK suffers from a high over-qualification rate where almost 30% of tertiary graduates have a job not adapted to their level of skills. This is one explanation for why over 10% of employed tertiary graduates are low-wage earners, a share considerably higher than the European average (Figure 39). This suggests that although the UK performs well in terms of knowledge-intensive employment, the polarization of the labour market may put even skilled labour at a higher risk of having low-skilled, low-paid jobs. Reducing skills mismatch – a source of labour market friction – will be important in the UK as it undergoes structural economic transformation over the next decade.

Labour markets in developed, resilient countries can be plotted on a spectrum from "market-driven" (characterised by flexible labour markets, limited social protection and entrepreneurship-friendly regulation) to "social-protection driven" (characterised by greater protection for workers and a more generous welfare system). The two main models – market and social driven – have their limitations, especially when pushed to the extreme. An unrestrained market with limited worker protections can lead a "race to the bottom" with many low-skill, low-wage jobs and poor worker security. Too much labour security on the other hand may give employers less incentive to hire more permanent roles.

The UK is the European country closest to the market-driven paradigm with high levels of flexibility, ranking 5th worldwide in the ease of hiring and firing employees, while performing much lower in terms of social protection indicators such as workers' rights (36th) or active labour policies spending (28th).

It should be noted that the UK is under-performing in certain social indicators even when compared to other "market-driven" model countries such as the USA and

Singapore (Figure 40). For instance, the UK scores much lower than the USA and Singapore in the effectiveness of active labour policies.

It is notable that the rapid recovery in jobs after the financial crisis in the UK was mirrored by a fall in real wages and a sharp decline in productivity. Furthermore, the decade since the crash has resulted in a decoupling of real wages growth and GDP growth, which is detrimental for workers (Figure 41).

Currently, the UK presents a mixed picture in terms of resilience outcomes. On the one hand, the UK benefits from a low unemployment rate, the second lowest among GLRI top 10 performers after Germany. On the other hand, the UK also has the lowest labour productivity among top 10 performers as well as the lowest quality of earnings (Figure 42). One reason often cited for this is the rise of low skilled and insecure work which often comes with diminished progression and upskilling opportunities. Whatever the reason, notwithstanding the UK's resilience, creative disruption associated with new technology is not translating into productivity growth. Improving labour resilience across the country should support individual, firm and regional economic wellbeing and, in turn, productivity.

Figure 39: Indicators of skills mismatch for EU countries of the GLRI top 10
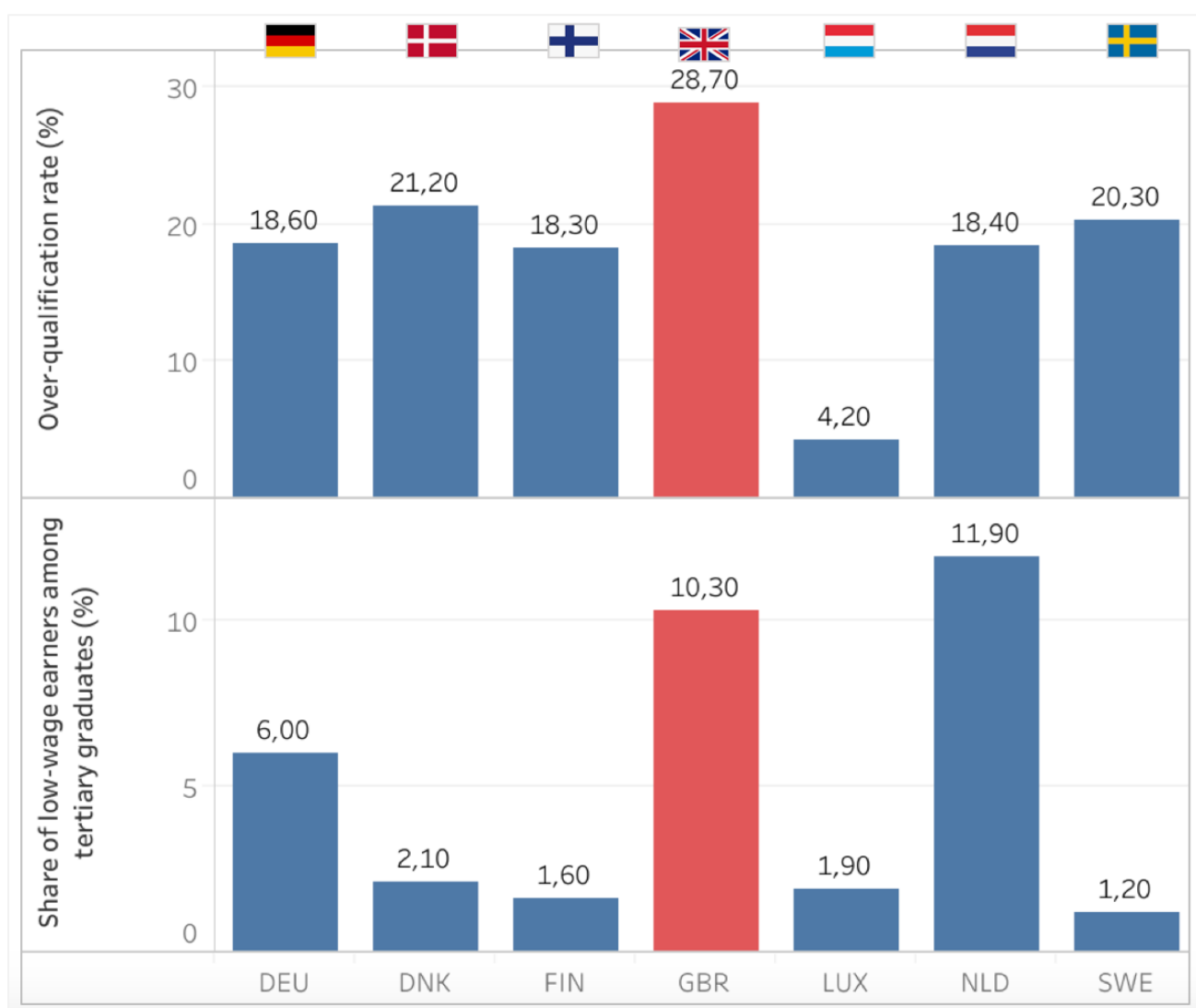
Source: Whiteshield Partners, CEDEFOP

Figure 40: UK's performance in key labour market indicators compared to other adopters of the "market-driven" approach
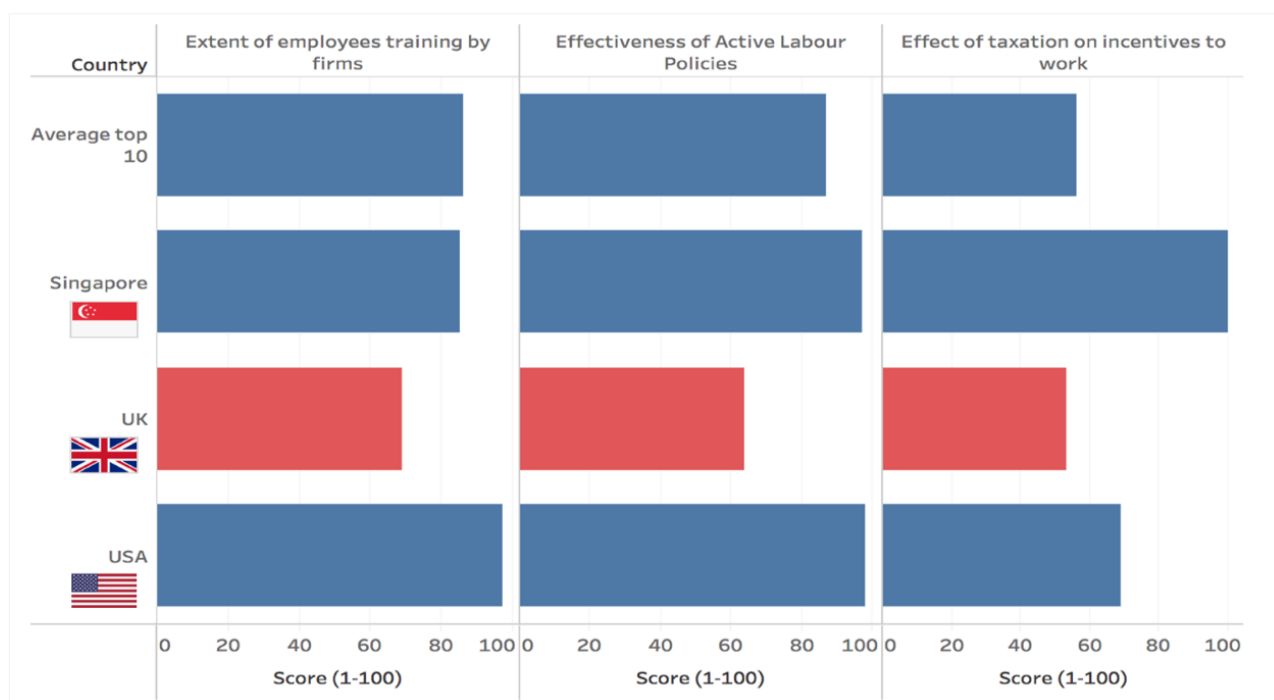
Source: Whiteshield Partners, CEDEFOP

Figure 41: Growth of labour productivity and real wages in the UK (2000-2018)
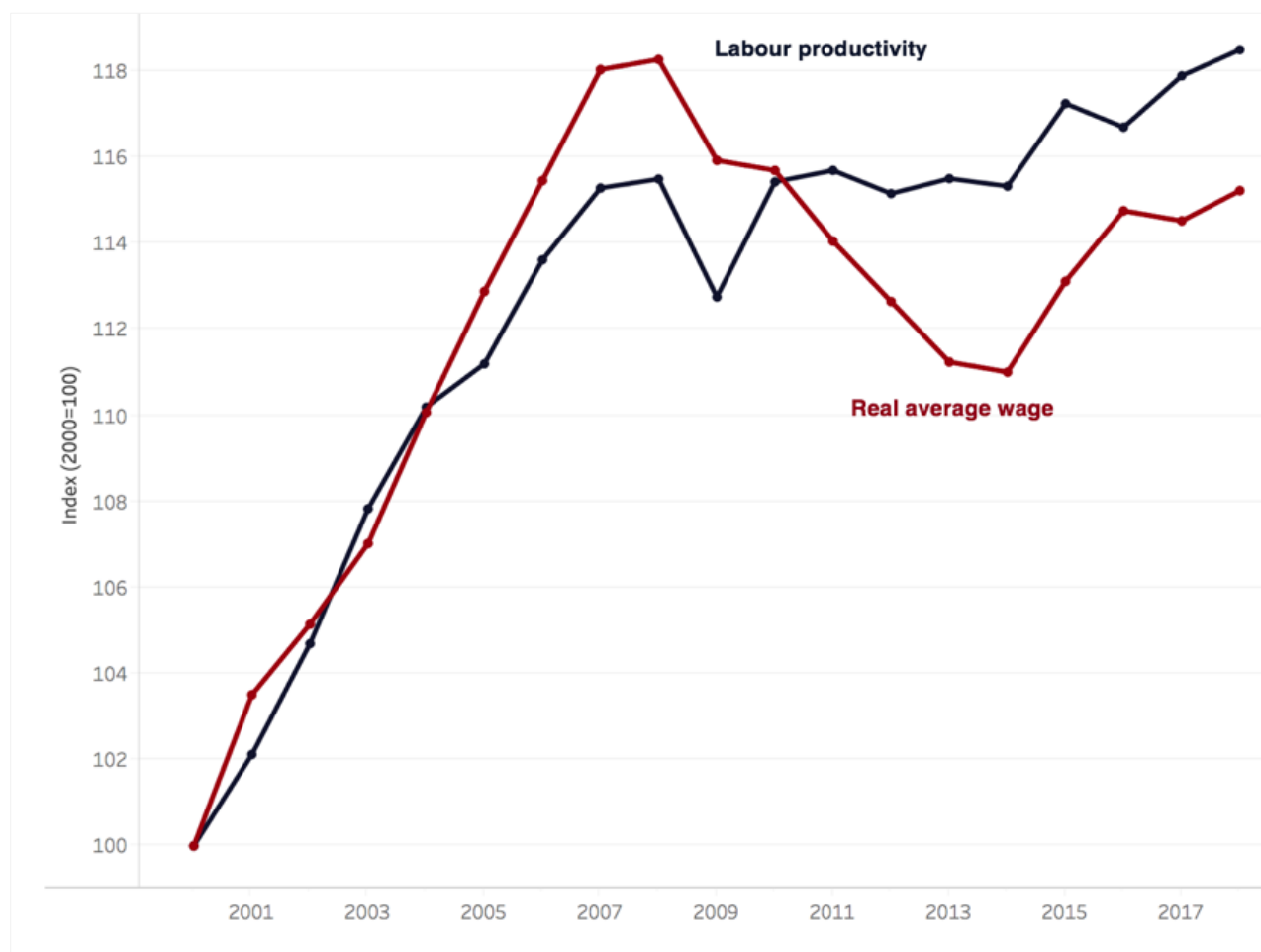
Source: Whiteshield Partners, ILO, ONS

Figure 42: Key labour resilience outcome indicators in 2018 for GLRI 2020 top performers

Note: Size of bubbles represents quality of earnings measured at constant PPPs
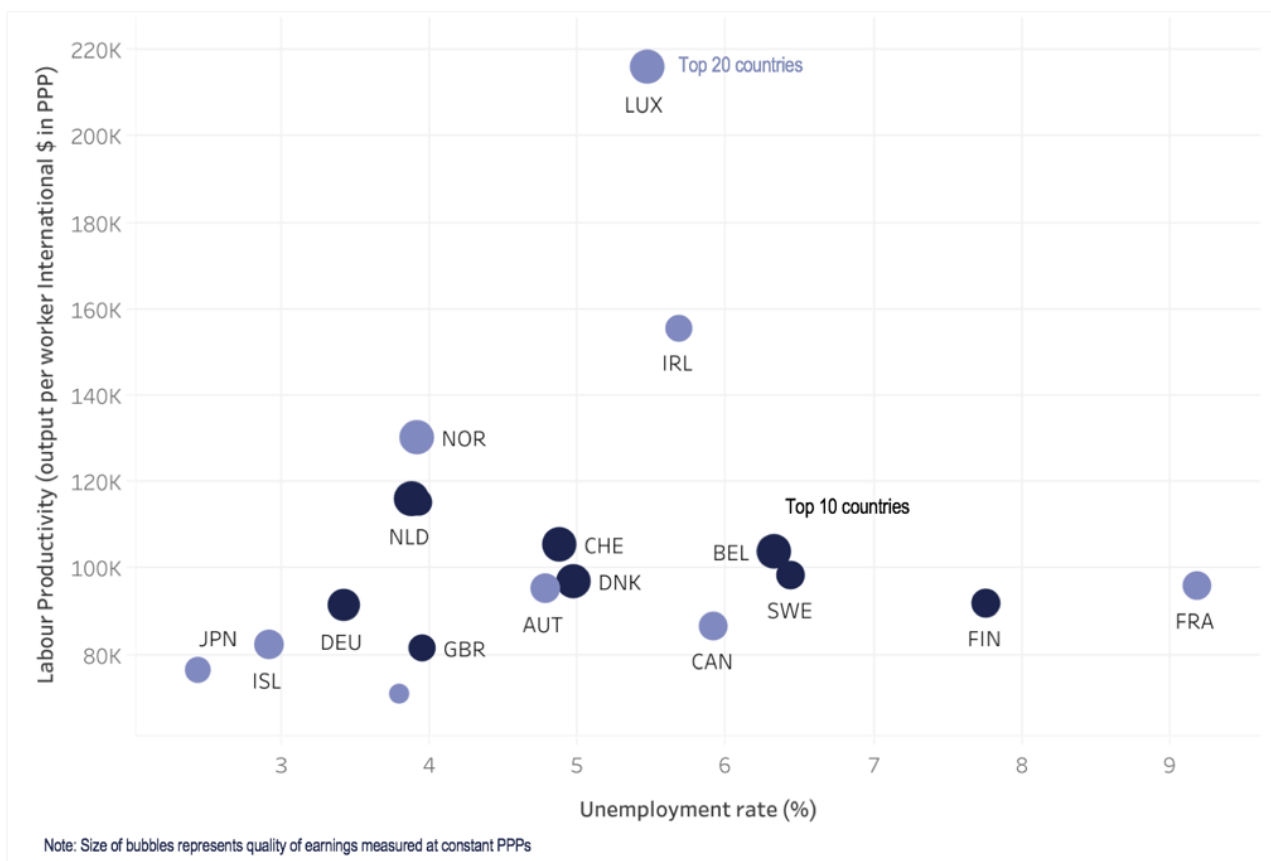
Source: Whiteshield Partners, ILO, ONS

Finally, as discussed in the next section, the UK suffers particularly from a number of different types of inequality. In general, equality builds social cohesion and social cohesion is a strong protection against external shocks. Within this landscape, one equality challenge facing the UK labour market is particularly noticeable: gender equality performance. The UK ranks only 46th globally in the share of women in the labour force and 35th in gender income equality. Closing the gender gap would provide the UK with a more resilient and inclusive labour market. New measures introduced by the government require reporting of the gender pay gap by all companies with more than 250 employees, but this has resulted in only a very small decline from 9.7% to 9.6% so far.

REGIONAL LABOUR RESILIENCE PERFORMANCE: STRONG REGIONAL DISAPARITIES[59]

Analysis of disparities in regional resilence are particularly important for the UK, which is more divided than most other comparable advanced economies in the EU and US. The following section provides a sub-national analysis of labour market resilience in the UK comparing the positioning of the 12 regions of the UK along resilience drivers and analyzing regional disparities.

The Regional Labour Resilience Index for the UK is derived from the Global Labour Resilience Index® methodology and algorithm.

It is based on 19 indicators each of which is detailed in Appendix 1. Indicator values for the UK's regions are scaled according to the best and worst values of OECD countries (100 for best and 1 for worst).[60]

Based on the analysis conducted at the sub-national level, the UK's regions can be divided into five labour market resilience segments (Figure 43).

Figure 43: Matrix of labour market resilience – UK LRI 2020

Note: Size of bubbles represents overall UK LRI score
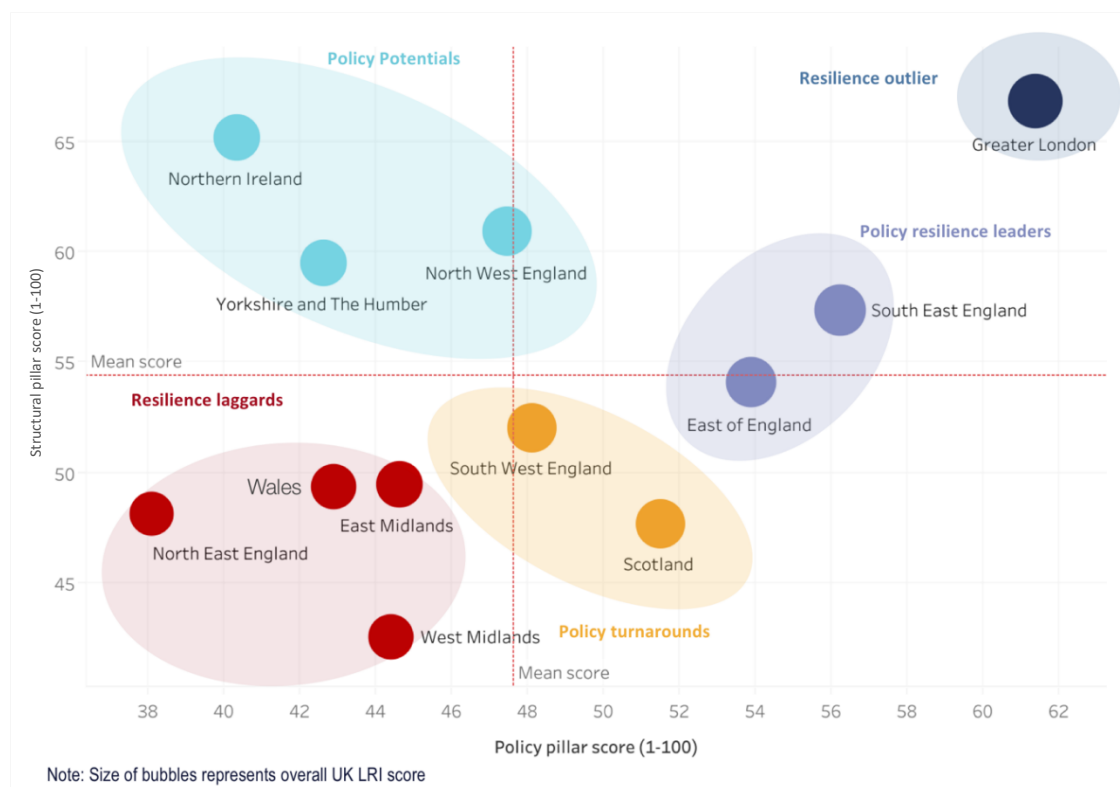
Source: Whiteshield Partners

First, there is the Greater London area which is a *resilience outlier* compared to other regions on both the structural and policy dimension. Second, South East England and East of England which are policy resilience leaders. Third, Northern Ireland, North West

England and Yorkshire & The Humber are *policy potentials* with a strong structural comparative advantage but lower than average policy performance. Fourth, Scotland and South West England are *policy turnarounds* overall, although Scotland's strong

---

performance in education and skills should be noted. Finally, East Midlands, Wales, West Midlands and North East England, are classified as *resilience laggards* behind on both the structural and policy pillar.

Correlation between income and labour market resilience reinforces inequality

Regional income levels are strongly correlated with their labour resilience scores in this model suggesting that the richest regions have more resilient labour markets (Figure 44). This labour market resilience inequality is another expression of the significant divide between the UK's regions.

Figure 44: Regional scores in UK LRI 2020 vs GRP per capita

Note: The trend line represents a polynomial of degree 3. Regions placed above the line are those over-performing in UK LRI given their income level. Countries below the line are under-performing in UK LRI.
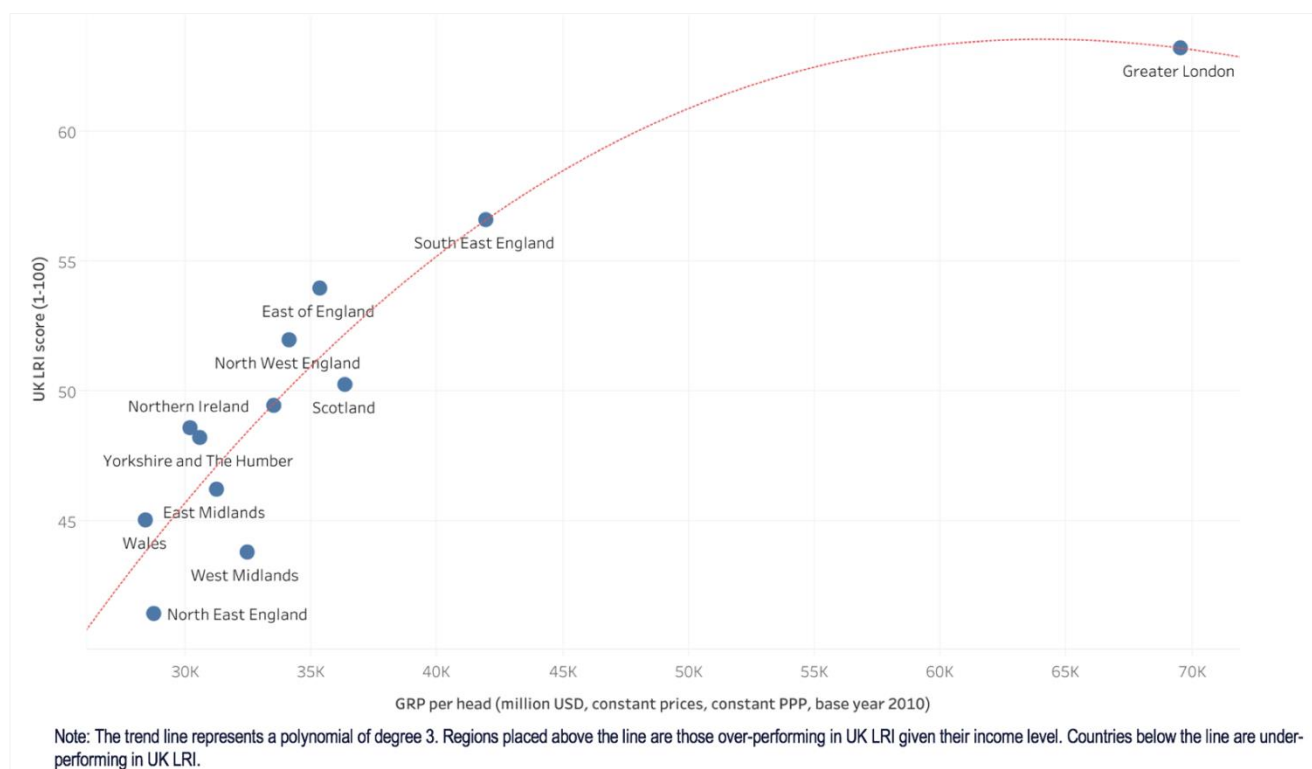
Source: Whiteshield Partners, OECD

London, the resilience outlier, could still do more to address inequalities and reinforce innovation

Unsurprisingly the Greater London region is ranked first in labour market resilience among the UK's 12 regions. It is by far the richest region of the UK with a disposable household income 38% higher than the national average and only 5% lower than the highest EU regional performance (observed in Luxembourg)[61] (Figure 45).

London also benefits from a strong demographic advantage with the lowest share of older population, around 12% compared to 18% at the national level[62]. It is also the best performing in labour market resilience among EU regions. This is partly due to its positioning as a vibrant global economic hub attracting and retaining the best talent from within and outside the country.

Performance in the structural pillar is weakened to an extent by inequality levels which are very high compared to other UK and EU regions.

On the policy pillar, London ranks first in all areas except for innovation. Its main strengths are in educational attainment (with the highest share of tertiary graduates in the workforce among EU regions), knowledge-intensive employment in services (which represents almost 60% of total employment[63]), and labour productivity. London's productivity is 133%[64] of the UK average - both a cause and effect of London's

preeminent status as a center of commerce and finance in the country. It is a significant reason for London's ability to compete with other mega-cities for the best and the brightest employees. It is also the result of highly productive firms locating in London to gain from the knowledge spillovers and an experienced workforce.

London has the highest business creation rate in the country and highest rate of high-growth companies (businesses that grow by 20% for at least three years in a row). London remains a global hub of entrepreneurship and has the 2nd highest rate of startups that have managed to scale-up within 3 years in the country.[65]

London's innovation performance is surprisingly weak, however, ranking 7th among the 12 UK regions (Figure 46). R&D spending is particularly low at 1.1% of GRP[66], much lower than the best performer (East England) (Figure 47). The number of patent applications is approximately 60% of East England's and only 30% of the best performing region in the EU[67].

To a certain extent, London's weaker innovation performance is a reflection of its economic structure more focused on services rather than manufacturing and, in some sectors, the presence of company headquarters rather than operational business units. However, the region will need to improve its innovation performance both in terms of inputs (e.g. spending) and outputs (e.g. patents) in order to sustain its labour resilience leadership.

---

[61] OECD, regional statistics database, 2016.
[62] OECD, regional statistics database, 2018.
[63] OECD, regional statistics database, 2017.
[64] OECD, regional statistics database, 2017.

[65] Although it should also be noted that almost 50% of new businesses in London do not survive after 3 years.
[66] OECD regional statistics, 2016.
[67] OECD regional statistics, 2015.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Figure 45: Disposable income per capita by UK region

Figure 46: Share of R&D spending by UK region
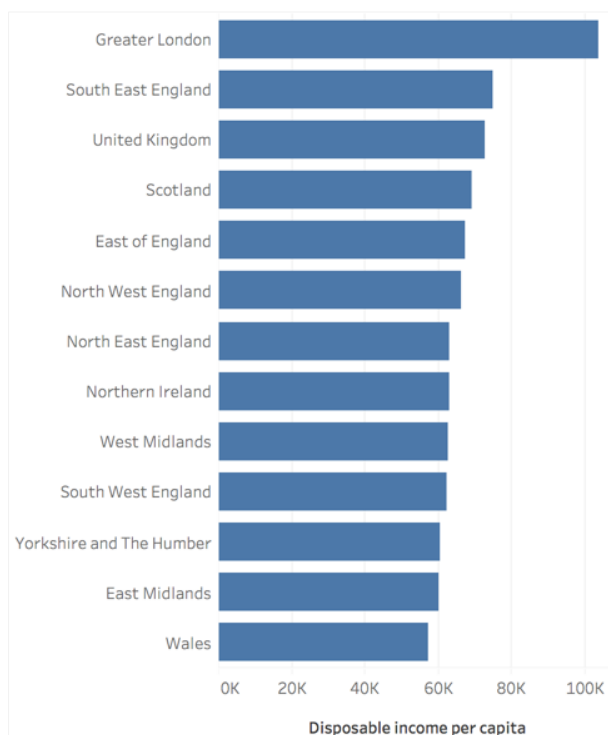
Source: Whiteshield Partners, OECD

Figure 47: Labour market resilience weaknesses of London – Distribution of scores for UK regions in selected dimensions – UK LRI 2020

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY
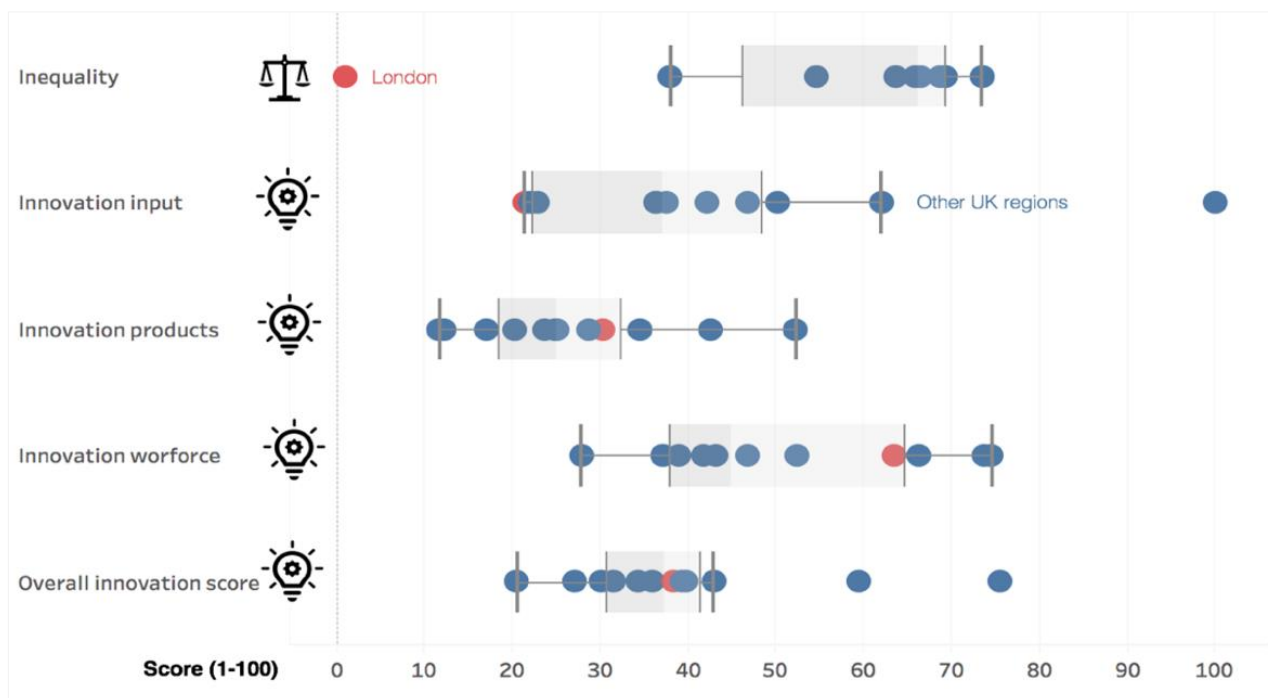
Policy resilience leaders South East England and East England should focus further on productivity, education and demographics

The two regions of South East England and East England are ranked respectively 2nd and 3rd in the UK LRI with a policy score significantly higher than the average but a structural score relatively close to the average. Both these regions benefit from spill-over effects with London. The main structural gaps between these two regions and London relate to demographics and economic development. With a share of older population of around 20%[68] (vs 12% in London), they are both above the national average and significantly above London's share. In terms of economic development, South East England has a disposable income per capita equivalent to 83% of London's and the East of England 76% of London's[69]. Both regions perform better than London in other structural dimensions such as economic diversification and inequality. However, it should be noted that they are still the most unequal regions after London.

On the policy front, both regions have a strong comparative advantage in the innovation dimension where they lead the regional ranking both in terms of innovation inputs and outputs. South East England stands out as the innovation leader, home to 17 universities representing a driving force for innovation, knowledge creation, productivity and economic growth across the region. As a result, the area is a research hub, supporting advanced regional activity in areas such as advanced manufacturing, automotive, aerospace engineering, biotech, pharmaceuticals and healthcare. The two regions are also national leaders in entrepreneurship, ranking close to London, with a particularly strong survival rate of new businesses, one of the highest in the EU.

On the other hand, South East England and East England have lower productivity compared to London, reaching 72% and 65% respectively of London's productivity level[70]. London benefits in particular from a high level of labour productivity in the financial services sector (Figure 48).

Figure 48: Labour resilience weaknesses of East and South East England compared to top performance
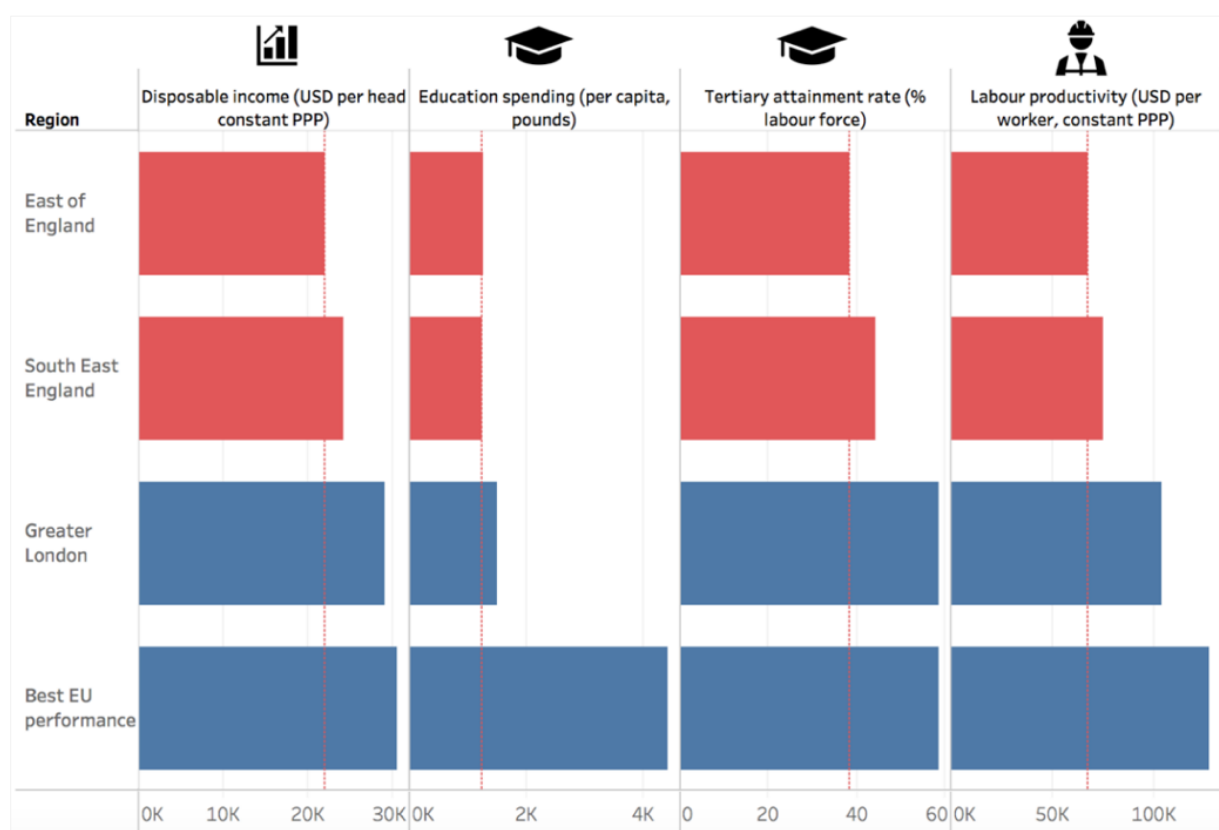
Source: Whiteshield Partners

---

[68] OECD, regional statistics database, 2018.
[69] OECD, regional statistics database, 2016.

[70] OECD, regional statistics database, 2017.

Northern Ireland, North West England and Yorkshire & The Humber have most potential to close policy gaps

The three regions of Northern Ireland, North West England and Yorkshire & The Humber perform comparatively well in the structural pillar, supported by economic diversification and a balanced performance across other areas. For instance, although their disposable income per capita is significantly lower than that of the UK LRI top 3 performers, they also have lower levels of income inequality.

On the policy front, however, these regions perform below the regional average in all areas. Their most significant performance gaps relate to innovation, employment and entrepreneurship intensity. In the employment dimension, these regions have relatively low labour force participation rates and low shares of knowledge-intensive employment, especially for Northern Ireland and Yorkshire & The Humber. This suggests that although they are highly diversified, these economies are lagging-behind in terms of complexity and capabilities, which is consistent with weak innovation performance. In entrepreneurship, the regions benefit from very high business survival rates but also very low business creation rates. Focusing on stimulating entrepreneurship dynamism in these three regions could generate some quick wins while also helping to boost labour participation rates.

Scotland and South West England the policy turnarounds, could strengthen their level of economic diversification and improve their entrepreneurial ecosystems

Among the 3 regions, Scotland benefits from a strong comparative advantage in education and innovation. Scotland ranks 2nd in education, right after London, with the highest rate of education spending in the country supported by the presence of three top universities Edinburgh, St. Andrews and Glasgow. The strong education performance also explains the region's relative innovation advantage. For instance, it ranks second in the number of scientific publications and benefits from a large pool of researchers.

However, Scotland still lags behind in the commercialization of innovation. R&D spending is mainly driven by public sector investment and could benefit from more private sector involvement. Scotland's Business enterprise expenditure on research and development (BERD) as a percentage of GDP (0.72%) is the lowest among UK regions and lags far behind the UK average of 1.12%.[71]

South West England presents a similar policy profile but with a lower performance in education and innovation. This region could learn from Scotland's best practice policies in these areas even taking into account the fact that Scotland benefits from a greater political and fiscal autonomy compared to other UK regions.

East Midlands, Wales, West Midlands and North East England need to tackle a rapidly ageing population while enhancing policy fundamentals

East Midlands, Wales, West Midlands and North East England should aim to catch up to the level of South West England in education (especially tertiary attainment), technology (through improving broadband access) and employment (increasing the labour force participation rate). Currently, many of the youth from these regions are gravitating to cities like London, Manchester, Leeds and Bristol.

There is strong potential for policy learning and convergence between regions

The potential for regions to close the resilience divide through effective peer learning mechanisms is high in the UK, taking into account relative policy strengths, including from some of the weaker regions (Figure 49).

---

[71] https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/scotland-0

Figure 49: Scores of Greater London compared best other UK regions across resilience dimensions – UK LRI 2020

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY
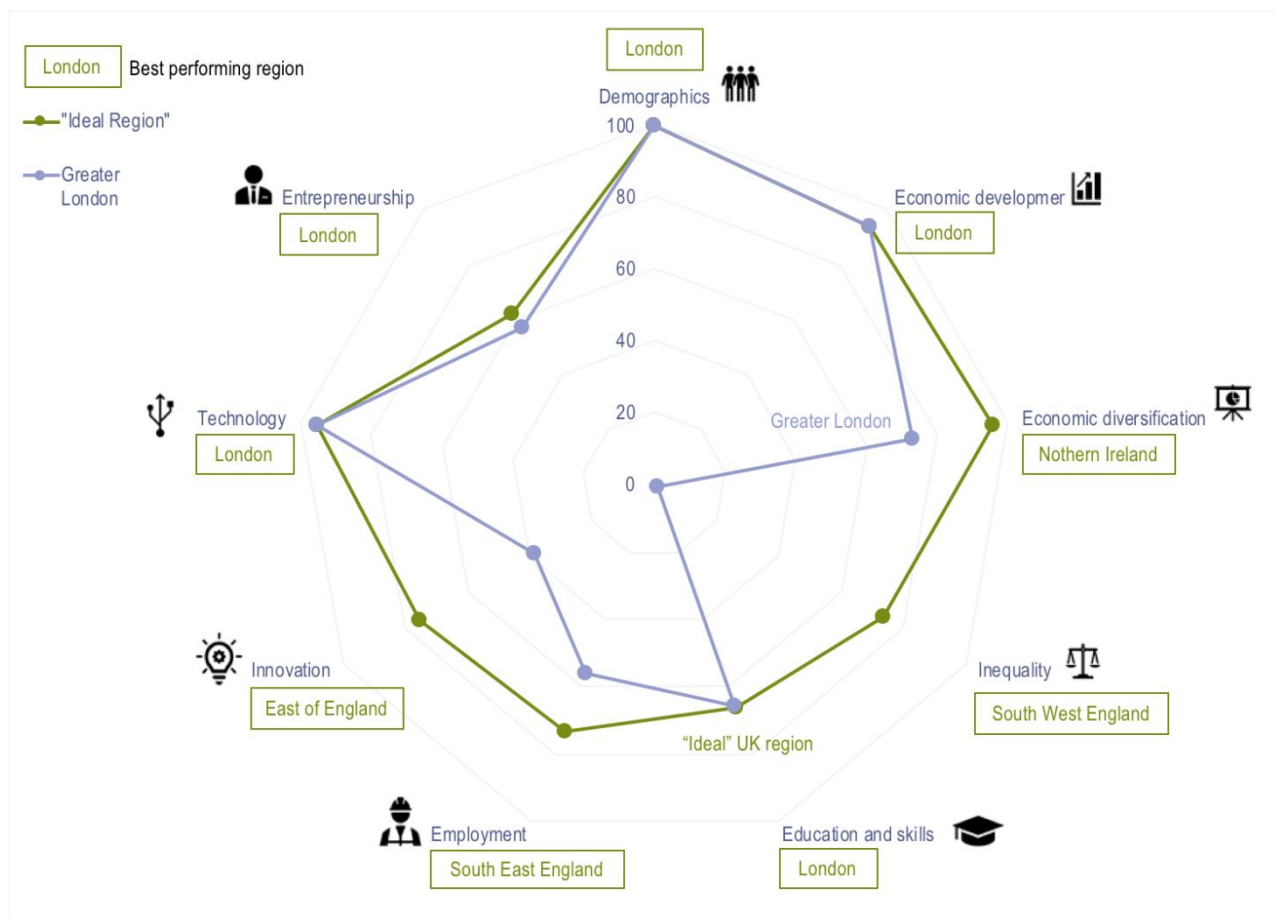
POLICY RECOMMENDATIONS

As this chapter has shown, despite holding the ninth most resilient labour market in the GLRI 2020 ranking, the UK has weaknesses to address such as ageing population, income inequality, low quality vocational training, low levels of STEM graduates and declining productivity. The UK's pronounced regional disparities in labour market resilience also need to be addressed on both the structural and policy fronts to sustain its ranking. Given high levels of regional inequality, and the requirement to satisfy different population segments, a new social partnership model to design and implement effective national and regional policies will be needed in the UK.

Take a strategic approach to public investment to enhance resilience and economic development of the country as a whole

To address regional disparities and build resilience across the country, the government should make public investment decisions based on a strategic view of development across the UK, rather than the economic value of isolated projects. This will involve designing a new horizontal framework for decision making which takes account of regional impacts across the pillars of labour resilience.

Higher levels of regional fiscal and other autonomy in decisions about regional applications of public investment are also recommended and would boost resilience to help the UK maintain its high ranking in the GLRI.

Improve regional data relevant to labour resilience

The ONS should lead in developing, analysing and publishing new data sources relevant to resilience as part of its 2020 review to enable a more granular understanding of relative strengths, weaknesses and trends within and between regions. This should support research and informed policy making to boost productivity and wellbeing, as well as resilience.

Adopt a horizontal, cross-department approach

Building resilience at a regional and national level requires co-ordination between several government departments, including the Department of Business Energy and Industrial Strategy (BEIS), the Department of Work and Pensions (DWP) and the Department for Education (DfE). The extent of regional disparities highlighted in our analysis suggests that departments are approaching questions of resilience and the future of work in silos. To break these silos down and facilitate work across departments in setting priorities and targets, the government should lead in establishing a 'future of work' advisory council or forum aimed at managing transition and building resilience. This should involve cross-disciplinary experts and social partners.

The UK could draw from the strong models of the Danish Disruption Council and Canada's Future of Skills Council (Box 23), noting that supporting future skills development across the country is the single most significant task for the forum. The forum could advise on the design and implementation of the new government's proposed Skills Fund as well as coordinate regional peer learning and set national targets and standards, to be implemented by devolved local authorities.

Invest further in digital infrastructure across the country as next source of competitive advantage

Technology infrastructure offers a unique opportunity to strengthen connectivity, inclusiveness and sustainability across regions. The country should further invest in comprehensive digital infrastructure, including completing existing networks so that all regions have access to current broadband capabilities in addition to investing in next generation networks such as 5G infrastructure.

Provide targeted support for entrepreneurs to close digital skills gaps

Digital skills gaps represent a major challenge for UK SMEs requiring pro-active SME support in the context

of digital transitions. This support should be targeted at SMEs in priority sectors and employees in occupations facing major technological disruptions. Luxembourg's Skill Bridge provides a relevant example of a policy initiative to assist SMEs and employees in their digital journey. The program includes an awareness campaign for firms as well as coaching and upskilling trainings for employees. Another major component is training of trainers in order to develop a pool of certified advisors specialized in supporting SMEs' digital transition. A governance structure based on a tripartite partnership between the public sector, employer associations and trade unions would enable an inclusive policy approach and collaboration between all key stakeholders.

Access to finance and support for entrepreneurs

Access to finance and patent capital should be improved and monitored, as the Treasury Committee has advised. Patent and intellectual property protection, and finance for applications, should be reviewed, alongside improving access to guidance for start-ups and SME's.

Invest further in effective vocational training programs

The government should focus on implementing and improving proposed reforms in the area of vocational training, taking inspiration from models in the EU but tailoring them to regional needs. For example, Switzerland is recognised for its dual system of vocational education, alternating practical firm-based training programs and theoretical school-based learning during weekdays. This dual approach to vocational education is reflected in the governance structure with strong collaboration between public and private stakeholders to manage the governance of vocational schools and firm training. Dual governance enables employers to play a central role in the vocational education system leading to a majority of firms offering at least one apprenticeship scheme. This is particularly relevant for the UK where employers are still often passive actors despite efforts to promote an employer-led skills system (through the apprenticeship levy for instance).

In a context of rapidly evolving skills requirements across different sectors and new risks to the UK labour market, a comprehensive approach to vocational training is more important than ever. The UK should link its vocational education strategy to a national system for lifelong learning involving partnerships with both employers and tertiary level education providers.

Box 23: Case of Canada enabling lifelong learning through a credit scheme. The UK could draw on this model with a wider remit

FUTURE SKILLS
Policies to strengthen labour market resilience

CONTEXT & OBJECTIVES	KEY INSIGHTS	MEASURES / OUTCOMES
• Employee skills are rapidly outdated with rapid advances in technology. • The objective of Future Skills is to help Canadians prepare for, acquire and maintain jobs as innovation and technology continue to place new demands on workers' skills and training.	• Measurement: emphasis on capturing major trends through data, analysis and measurement of outcomes. • Partnership: collaboration with firms, chamber of commerce, labour unions, and not-for-profits. • Co-financing: the program leverages project partnerships and co-financing opportunities to explore new and innovative approaches to skills development and outcome measurement.	• The Future Skills program launched in May 2018 with a committed budget of $225 million for the first 4 years and $75 million thereafter.

DESCRIPTION / APPROACH

Future Skills includes the Future Skills Centre and the Future Skills Council.

The Future Skills Centre will work on:

- Examining major trends that will have an impact on national and regional economies and workers

- Identifying emerging skills that are in demand now and in the future that may impact people's education and training decisions

- Developing, testing and evaluating innovative approaches to help Canadians gain the skills they need to adapt and succeed in the workforce

- Sharing results and best practices with governments, the private sector, labour, educational and training institutions, not-for-profit organizations, academics and subject matter experts to support broader adoption of innovative approaches across Canada.

The Future Skills Council (15 members) makes recommendations to the Minister on national priorities related to skills development and training for Canadians. The Council will also identify national priorities related to skills of the future that could inform the work of the Future Skills Centre.

Source: Whiteshield Partners, Building A Highly Skilled And Resilient Canadian Workforce Through The Futureskills Lab, 2017, www.canada.ca

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Strengthen worker's rights related to self-employment and the gig economy

Gig economy and self-employed workers are currently less protected by the law in relation to workplace rights. The government should consider ways to align the rights of gig economy and self-employed workers with those of salaried workers. The existing statutory floor of protection should be maintained and supplemented as needed. Legislation could also be introduced to enforce full transparency of average pay and conditions of those in insecure work (Box 24 and box 25).

Box 24: Examples of initiatives to regulate the Gig economy

REGULATING THE GIG ECONOMY AND PROTECTING SELF-EMPLOYED WORKERS

DESCRIPTION	INSIGHTS FOR THE UK
PROTECTING SELF-EMPLOYED WORKERS: CONTRACT ENFORCEMENT	
"Freelance isn't free law" is a legislative act passed to protect self-employed workers by mandating the use of contracts and regulating payment terms, as well as offering legal assistance to freelancers.	Developing a legal framework specifically dedicated to ensuring freelancers and self-employed workers are paid is critical given that traditional channels to enforce contracts are too lengthy and costly for freelancers.
FACILITATING INCORPORATION FOR SELF-EMPLOYED	
"Mini-GMBH" is a legal business structure introduced in 2008 to simplify the creation of an LLC. A "mini-GMBH" can be created with a starting capital of 1 euro, as opposed to the 25,000 euros required for a regular corporation.	Creating a simplified corporation structure can be very helpful for self-employed workers who cannot yet create an LLC but wish to incorporate their business. It also facilitates the transition from self-employment to entrepreneurship.
COMBATTING FALSE SELF-EMPLOYMENT	
The 2016 Tax Authority reform aimed at combatting false self-employment by changing the "Employment Relationship Declaration" process. Before the reform, only self-employed workers were held accountable for the accuracy of this declaration. The reform introduced a model contract for self-employment that explicitly specifies the terms of work and obligations of both the self-employed worker and their client(s). The reform also shifted to a joint-accountability approach, holding both self-employed workers and their clients legally responsible and accountable for the accuracy of the declared employment status.	A major issue associated with the rise of the gig economy is an increase in false self-employment, whereby workers are considered as self-employed while they are in reality subordinated to an employer and do not enjoy independence in their daily work. Firms often attempt to disguise standard employment relationships as self-employment to avoid taxes and social contributions. In order to confront this issue, several countries have introduced a category of employment status referred to as "dependent self-employment" to regulate hybrid employment relationships. In the Netherlands, best practices include a contract template that clearly defines the terms of work under self-employment and clarifies its distinction from standard employment rather than creating a new status.

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

SUPPORTING SELF-EMPLOYED WORKERS AND ENHANCING WORKERS' RIGHTS

DESCRIPTION	INSIGHTS FOR THE UK

ENHANCING RIGHTS OF SELF-EMPLOYED WORKERS: SICK LEAVE

The concept of **"Bread funds"** emerged in the Netherlands to provide paid sick leave to self-employed workers since they are not covered by national legislation. A bread fund is a collective of self-employed workers (usually up to 50) who contribute monthly to the fund and receive a payout in case of sickness. In addition to financial support, the community spirit often leads to moral and practical support.

Even the most advanced protections for self-employed workers at the national level only include health insurance and pension schemes. Unemployment benefits and sick leave are rarely guaranteed to self-employed workers by national regulations. Hence, it is important to consider innovative alternatives like bread funds and more importantly to facilitate cooperation between self-employed workers to help them cope with the potential drawbacks of their status.

PORTABLE BENEFITS SYSTEM FOR FLEXIBLE WORKING ARRANGEMENTS

"The Black Car Fund" was established by the State of New York to provide workers compensation insurance to self-employed drivers in the industry of livery-for-hire driving services. The fund surcharges every ride by 2.5%, which is paid by the customer, collected by the ride platform, transmitted to the fund, and used to cover workers' compensation insurance. The fund is an industry-wide initiative, meaning that benefits are portable regardless of the platform to which the worker is affiliated and even in the case of multiple affiliations.

While working arrangements are becoming increasingly flexible, it is important to adapt benefits systems. A recent trend gaining interest is the adoption of portable benefits which are not specific to a job or company but are exclusively tied to workers. This is particularly relevant in the context of the gig economy, where workers often hold multiple jobs and affiliations to online work platforms. The Black Car Fund is an illustration of how to adopt portable benefits. Although this case is specific to one industry and one type of benefit (injury compensation), it is possible to generalize its working model.

THE EMPLOYED ENTREPRENEUR STATUS

Smartcoop is an example of innovative cooperation enabling individuals to combine entrepreneurial and autonomous activities with employee status to grant access to benefits and support services/training (legal, financial, consulting) enjoyed by employees.

The entrepreneurial cooperative model is an innovative mechanism to encourage entrepreneurship while guaranteeing protection for individuals and their access to social benefits and support services. Ultimately, they can create their own company after this supportive transitional phase.

Source: Whiteshield Partners

Introduce more accommodating immigration policy for high skilled workers and selected low skills industries post-Brexit

The UK should aim to ensure that it remains open to high-skilled workers in the post-Brexit labour market. The proposed transition to an 'Australian style points immigration system' would protect the ability of UK employees to attract high-skilled workers.

The country also needs to ensure it also allows for an influx of workers with soft skills for critical industries such as health care and social care.

Support the development of greater autonomy and budget decentralization at the regional level

Regions in the UK need to be given higher levels of fiscal and other decision-making power and boosted resources to make labour market resilience more uniform across the country. The current government plan to shift public investment in infrastructure and

R&D towards the less prosperous northern regions of the country is a step in the right direction. The UK is one of the most centralized countries in the developed world and this appears to be impeding local resilience in key areas.

At the same time, national government should incentivize firms to set up or establish branches in the regions, likely to be increasing attractive as digital infrastructure is improved and communication costs fall.

Develop best practice twinning programs between cities and regions

As noted in chapter 2, many cities and regions in the UK can learn from each other in different policy areas. For instance, the South-East and Scotland can provide guidance to other regions on how to build best-in-class innovation and education ecosystems. Peer learning can take place through policy networks that meet on a regular basis to share challenges, ideas on how to address them and develop common action plans.

Promote further equality

Although masked at a national level, different types of regional inequalities are undermining the country's resilience and longer term prospects. We recommend equality audits are carried out across the public sector to ensure impacts on equality are considered by national and regional decision-makers, and embedded in policy decision making processes.

Review legislation to address remaining problem areas

Our analysis shows there are several areas that would benefit from a review of legislation. First, competition law should be reviewed to ensure it is working and enforceable, as recommended by the government. New law and guidance should make sure impacts on local innovation and job creation are considered. Secondly, a new employment bill which boosts protection for the growing number of insecure and flexible workers is recommended. Finally, given growing inequalities in the UK, the operation of the UK's equality law framework would benefit from a concurrent review. Particular attention should be given to ensuring equal treatment of citizens on the basis of gender, age, and socio-economic disadvantage.

Support a 'people-centred' approach to strengthen the future labour market resilience of cities and regions in the UK through a new social contract

Delivering job resilience at the regional and city level involves above all a revived and sustainable social contract. Policy makers can leverage the five-step approach outlined in chapter 2 to achieve and sustain superior performance in the resilience of their labour markets for the benefit of all communities.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

APPENDICES

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

APPENDIX I: OVERVIEW OF GLOBAL LABOUR RESILIENCE INDEX CONCEPTUAL FRAMEWORK AND METHODOLOGY

The Global Labour Resilience Index assesses over 145 countries and economies on the resilience of their labour markets based on a total of 11 dimensions and 60 indicators from a wide range of international sources.

Most of the GLRI indicators were selected and developed based on an extensive review of the economic literature establishing correlations with both employment and productivity.[72] GLRI indicator correlations with employment and productivity were further tested by the GLRI team of economists throughout the elaboration of the model. Some of the overall results of these tests are noted at the end of this Appendix.

Adopting a comprehensive view of drivers affecting the availability, quality and sustainability of work, the GLRI fills an important gap by expanding the definition of workforce resilience and introducing a comparative assessment of countries on the resilience of their labour markets.[73]

The GLRI framework is structured around a wide range of structural and policy dimensions that directly impact the resilience of labour markets. Some factors which have an indirect impact on labour market resilience, such as monetary policy, have not been included.

Taking into account both longer-term structural factors – such as demographics, level of economic development, country capabilities, economic diversification and inequality – as well as shorter-term policy factors – including education, labour policy, innovation, entrepreneurship and technology, the GLRI gauges which countries are most at risk of generating long-term unemployment (Figure 50 below presented in the introduction of this report).

By measuring the gap between structural and policy factors, the Index also highlights the labour resilience gap: countries which have the greatest potential to improve the resilience of their labour markets in the short-term.

Figure 50: The Global Labour Resilience Index framework

STRUCTURAL

1.1 Demography

1.2 Country Capabilities

1.3 Economic Development

1.4 Economic Diversification

1.5 Inequality

GLOBAL LABOUR RESILIENCE INDEX
(weighted average)

1.Structural Pillar

33%

2. Policy Pillar

67%

LABOUR RESILIENCE GAP
(difference)

POLICY

2.1 Education & Skills

2.2 Employment

2.3 Innovation

2.4 Technology

2.5 Entrepreneurship

2.6 Statistics
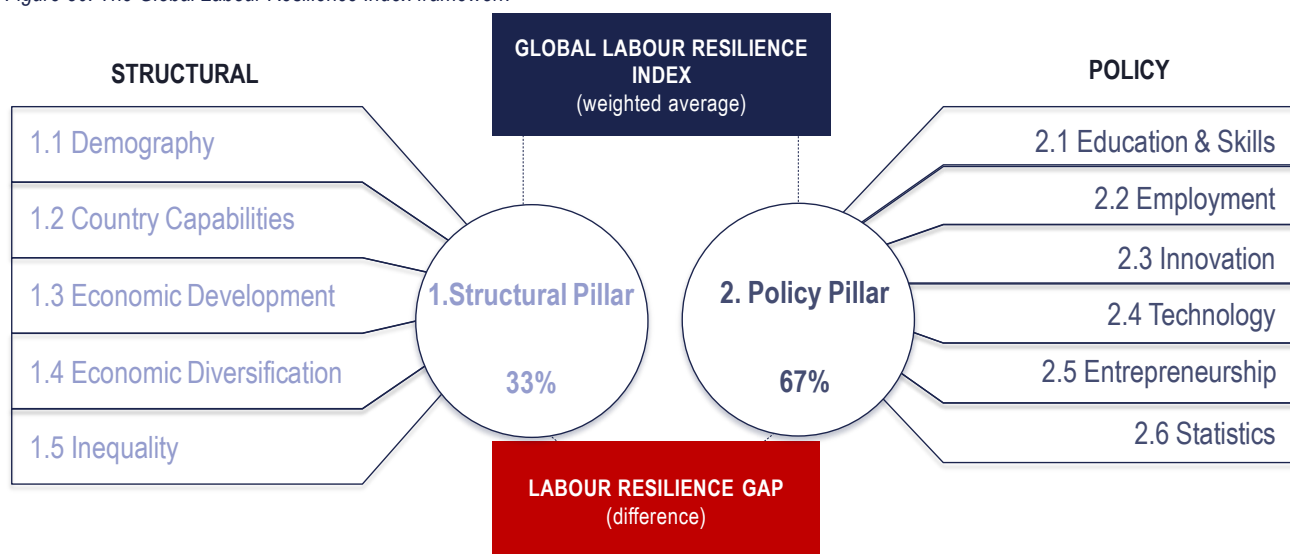
Source: Whiteshield Partners

---

[72] See for example Nicole Maestas, Kathleen J. Mullen, and David Powell, "The Effect of Population Aging on Economic Growth, the Labor Force and Productivity", RAND Labor & Population, USA, 2016; Grimaccia, Lima, "Public expenditure on education, education attainment and employment: a comparison among European countries", XXVIII Conference of the Italian Association of Labour Economists (AIEL) Rome, September 2013 ; Partridge, M.D. J, The relationship between inequality and labor market performance: Evidence from U.S. states, Labor Res (2006) 27: https://doi.org/10.1007/s12122-006-1007-y

[73] Traditional definitions of labour market resilience are more restrictive than the one adopted by the Global Labour Resilience Index. The OECD, for example, defines resilient labour markets as "labour markets that weather economic downturns with limited losses in worker welfare." The definition focuses on workers, but the firm perspective is also integral to the resilience of labour markets. Moreover, the disruptive role of technological evolution is not directly addressed in this definition. See "What Makes Labour Markets Resilient during Recessions," OECD Employment Outlook 2012."

Four main measures are calculated within the GLRI:

The structural pillar score: 5 sub-pillars (demographics, economic development, country capabilities, economic diversification and inequality) capture the fundamental characteristics of a country and its economy which impact employment and the resilience of labour markets in the long-term (10+ years). The structural pillar score is a simple average of the 5 sub-pillar scores involving 8 indicators.

The policy pillar score: 6 sub-pillars (education and skills, employment, innovation, technology, entrepreneurship and statistics) capture key policy areas that impact employment and the resilience of labour markets in the short-term (< 5 years). Each policy sub-pillar (with the exception of the statistics sub-pillar) combines both policy inputs and policy outputs that can be influenced by government action. The statistics sub-pillar highlights the completeness of a country's data set related to labour market resilience– a vital component in being able to make fact-based policy decisions. The policy pillar score is a simple average of the 6 sub-pillar scores covering 52 individual indicators.

The overall GLRI score: a weighted average of the structural pillar (1/3) and policy pillar (2/3). The policy pillar is given a greater weight to take into account the larger number of indicators associated with this pillar and its greater sensitivity to policy action.

The Labour Resilience Gap: measures the difference in scores between the structural pillar and the policy pillar. It shows the potential of a country to improve its labour market resilience through active policy intervention.

The GLRI structural pillar

The first pillar of the GLRI has 5 sub-pillars: demographics, economic development, country capabilities, economic diversification and inequality. These sub-pillars represent the economic foundations and fundamental characteristics of a country that impact employment and resilience of labour markets. They can only be fundamentally altered by policy action in the longer-term (10+ years).

Sub-pillar 1.1: Demographics

This sub-pillar aims at assessing the impact of a country's demographic dynamics on the resilience of its labour market. The demographic sub-pillar mainly captures the impact of population age structures on labour resilience. Age structure as well as long-term demographic trends can have a major impact on the availability of adequate labour supply by affecting both labour force participation and the skills of employees, including their willingness and ability to adapt to new technologies. Population aging can lead to a decrease in labour force participation, causing potential bottlenecks in labour supply. It can also be associated with growing skill gaps, with older generations being less well equipped to deal with technological disruptions. Age structure is an important matter to take into consideration not only to assess the level of labour resilience but also to design effective policies, especially education and labour market related policies.

Sub-pillar 1.2: Economic Development

This sub-pillar captures the impact of the fundamental characteristics of an economy on its labour market resilience. The level of economic development determines the resilience of an economy, which in turn is a major factor of labour resilience. Three variables are included in this sub-pillar: the variable measuring the level of wealth, the variable assessing the focus on services in the economy and the variable determining the dependence of the country on natural resources. Richer, resource-independent countries with a large share of services in GDP are often more resilient to external shocks. They have the resources to develop and adopt new higher value-added technologies and are not reliant on resource extraction. They can benefit from the process of creative destruction and can exploit new opportunities created by technological disruptions rather than just be negatively impacted by their effects.

Sub-pillar 1.3: Country capabilities

The Economic Complexity Index included to this sub-pillar reflects the level of sophistication of an economy. Countries with more complex economies have the knowledge and abilities to develop and adopt new

technologies and harness the opportunities caused by technological disruption.

Sub-pillar 1.4: Economic Diversification

The extent of economic diversification affects both the economy and labour market resilience. A highly diversified economy with a diversified labour structure is less affected by cyclical changes, de-industrialization trends and external shocks in general. The economic diversification sub-pillar captures positive impact through the variable measuring the level of concentration of exports and the variable measuring the diversity of exports, which defines the number of products, for which the country has a revealed comparative advantage. The diversity variable is positively scaled, while the concentration variable is negatively scaled.

Sub-pillar 1.5: Inequality

The inequality sub-pillar measures the negative impact of disparities of personal income on labour resilience. Highly unequal labour markets tend to have higher shares of precarious, low-paid, low-skilled jobs that are susceptible to technological obsolescence and other external shocks.

The GLRI policy pillar

The second pillar of the GLRI has 6 sub-pillars: education and skills, employment, innovation, technology, entrepreneurship and statistics. Five of them represent areas of a country's policy framework impacting labour resilience while the last is focused on measuring results. Statistics characterize the level of country's openness to evaluation and the degree of evidence-based policy making. This, in turn, affects the flexibility of workforce management and ability to adjust to labour disruption.

Sub-pillar 2.1: Education and Skills

Human capital is a major driver of labour resilience starting from early childhood. Higher education is linked with higher employability, employees with higher education are 2 to 3 times less threatened by unemployment compared to employees with lower levels of education.[74]

In the specific context of technological disruption, higher education is a driver of labour market resilience since highly educated employees benefit from advanced skills, reducing the risk of losing their job to automation: they are more likely to have their jobs complemented rather than replaced by new technologies. Higher education also increases the job mobility of workers and their adaptability. It facilitates the job reconversion process if needed.

Poor educational systems can exacerbate skill gaps and low productivity levels in the labour market, reducing its resilience. This sub-pillar includes both input and output policy variables. Input policy indicators relate mainly to expenditure on education, schooling and corporate training; output policy indicators reflect educational attainment, educational quality, digital and soft skills and vocational education.

Sub-pillar 2.2: Employment

The employment input sub-pillar covers labour market policies ranging from employment protection to active labour market policies, the tax wedge, hiring and firing legislation. The labour policy framework is a driver of labour resilience considering its impact on incentives and disincentives to job creation and on the flexibility of the labour market, especially in times of economic downturn. Active labour market policies determine the efficiency of the job search process as well as the ability for workers to undertake professional reconversions.

Output employment indicators measure a variety of variables representing direct determinants of labour resilience: gender balance, level of talent and skills of employees, job quality as well labour productivity and the effectiveness of labour support mechanisms.

Sub-pillar 2.3: Innovation

The innovation sub-pillar aims to measure policy inputs encouraging and protecting innovation in an economy as well as outputs reflecting the level of innovation.

---

[74] See, for example, "The High/Scope Perry Preschool Study Through Age 40," by Lawrence J. Schweinhart, Jeanne Montie, Zongping Xiang, W. Steven Barnett, Clive R. Belfield, & Milagros Nores, 2005.

Innovation increases levels of competitiveness and productivity, driving the resilience of an economy and its labour market. Although innovation can also lead to job destruction, this is usually compensated for by labour-friendly product innovations and the economic growth induced by the productivity and competitiveness gains in innovative economies.

Policy inputs include expenditure on research and development and intellectual property protection. Innovation outputs measure the level of innovation through trademark and patent applications, an overall evaluation of the innovation environment as well as an estimation of the share of innovation in trade.

Sub-pillar 2.4: Technology

This sub-pillar assesses the level of exposure of a country to technology by measuring ICT access, affordability, infrastructure and trade. Technology-enabled employees are more resilient since they have a greater adaptability to technology-driven disruptions in the workplace. Technology-intensive sectors are in general economically more resilient because they drive competitiveness and help create more resilient jobs.

Sub-pillar 2.5: Entrepreneurship

The business regulation framework is a major determinant of business creation and thus job creation in an economy. The entrepreneurship sub-pillar measures the quality of the business environment in supporting entrepreneurship - an important driver of workforce resilience and job creation, in particular in a context of technological disruption that is expanding the pool of the self-employed relative to the overall workforce. The sub-pillar includes indicators assessing the ease of starting and doing business and an assessment of entrepreneurship activity (including the Global Entrepreneurship Index) and access to finance.

Sub-pillar 2.6: Statistics

The completeness of the available GLRI data on the country (59 indicators outside of the statistics indicator) also affects the quality of the country's GLRI ranking. It is indicative of the extent to which the country's policies are evidence-based. The higher the proportion of GLRI indicators that are available for a country (out of a total of 59), the more reliable the value of that country's GLRI rank, and the higher the country's score on this dimension.

The structure of the GLRI 2020 can be seen in Figure 51. Full definitions of each indicator are contained in the Appendix IV below. The detailed methodology is described in Box 26.

Figure 51: The structure and breakdown of indicators for GLRI 2020

Source: Whiteshield Partners

The GLRI 2020 data

Data collection: the GLRI model includes 60 individual indicators, 8 are included in the structural pillar and 52 in the policy pillar. These indicators were selected after careful consideration of the econometric impact on labour resilience and evidence from the relevant academic literature. A detailed rationale is provided for each indicator in Appendix IV.

Hard data: include 44 individual variables drawn from a set of reliable publicly available sources such as the World Bank, the UNESCO institute for statistics, the OECD, Eurostat, the International Labour Organization, the World Intellectual Property Organization, etc.

Composite indicators, indices: includes 2 indicators: The Global Entrepreneurship index and ICT access index. Only widely recognized indices are included after careful consideration of their methodology and all the variables they measure to avoid data bias and redundancy.

Qualitative surveys: 14 survey results are included, mainly from the World Economic Forum's Global Competitiveness Index, measuring variables for which hard data are not available.

Data coverage and missing data: An important component of the GLRI is data availability. If a country has values available for less than 50% of indicators, it is excluded from the GLRI ranking. Thus, the country set includes only 145 out of 234 possible countries.

Individual indicators use the latest available data. In the case of dynamic analysis in the GLRI 2015 some indicators for several countries became available only in later years. In these cases, the earliest available values were used to avoid the lack of data effect.

Missing data are referred to as: "n/a". For transparency and unbiased data purposes, the GLRI does not try to fill in missing data. Instead, a statistical indicator ranging from 1 to 100 has been added to the GLRI as a policy sub-pillar to measure the availability of data for each country.

Countries, for which data are available for 59 indicators of the GLRI, have a "statistics" score of 100 (as the

60th indicator is the "statistical fullness"). This indicator accounts for the positive impact of data availability. Availability of data allows a better assessment of the situation of an economy and thus the adoption of adequate policy actions. The ability to measure progress, based off an accurate assessment of the initial baseline is also critical in improving performance over time.

Note that, outside of the statistics indicator, a country is not negatively penalized if it is missing data in a specific indicator.

Calculation methodology of the GLRI

Data comparability and scaling:

To create uniform, comparable measures across indicators, the index is scaled as follows.

Indicators, sub-pillars, pillars and the overall index which have positive impact on labour resilience are scaled according to this formula:

$$99 \times \frac{X_i - \min(x)}{\max(x) - \min(x)} + 1$$

where X_i is the value of the indicator, category, sub-pillar or pillar in the *i* country.

Indicators, sub-pillars and pillars, which have a negative impact on labour resilience are scaled according to this formula:

$$100 - 99 \times \frac{X_i - \min(x)}{\max(x) - \min(x)}$$

Corrections of scores:

Sometimes we face the situation when a small number of countries have outstanding high or low initial values comparing to the other countries' values. If the data is not adjusted in such cases, it leads to extremely low or high scores for the majority of other countries with a disproportionate impact on the GLRI ranking. In such cases, the distribution of indicator values for countries deviates from normal and becomes, for example, asymmetric. In GLRI these cases are detected using 2 criteria. First, skewness and kurtosis indicators are used: if the skewness is higher than 2.5 or lower than -2.5, and kurtosis is higher than 3.5, then the distribution of the corresponding indicator is corrected.

The second criteria correcting indicators is the number of countries above or below the score 50 (the mid-point of the scoring range): if more than 80% of countries have scores above or below 50, then the indicator is corrected.

In indicators where such a skew has been detected, the high outlier values are capped. In most cases the cap is set at the level of 95–99 percentile. A few exclusions are: "R&D spending" (capped at 93 percentile), "Trademark applications" (capped at 94 percentile), "Patent applications" (capped at 90 percentile), "New corporate registrations", (capped at 92 percentile), "Time to start a business" (capped at 94 percentile), "Venture capital investments" (capped at 89 percentile). On the other hand, for low outlier values, a floor threshold is set at the level of 1 percentile. This approach has been used for the "Tax wedge" and "Women in labour force" indicators.

Sometimes these thresholds do not solve the problem. In these cases, the initial values have been changed using the following formula:

$$x' = \ln(1 + x),$$

where x' is the new value, and x is the initial value. This method has been applied for the following indicators: "Dependence on natural resources", "Cost to start a business" and "Creative goods exports" (also capped at 93 percentile).

In the indicator "Worker's rights" zero values were set as missing.

Methodological changes made in the GLRI 2020 comparing to GLRI 2019

The following adjustments were made to the GLRI 2019 methodology in order to increase GLRI quality for the GLRI 2020, by increasing data availability and elimination of distribution "distortions" etc.:
- Number of countries assessed was extended from 123 to 145
- Country capabilities based on the Economic Complexity Index split as a separate sub-pillar from economic development in the structural pillar of the Index
- Based on a more refined correlation analysis the weights of structural and policy pillars were

changed to 1/3 and 2/3 correspondingly (previously 1/4 and 3/4 were used)
- The data availability within GLRI 2020 was extended by using the latest available data in the entire period of available data
- GLRI 2015 and GLRI 2020 have equal data availability, which eliminates the impact of any "missing values" on the results of dynamic analysis: for some countries and indicators, data is available only after the period covered in the GLRI 2015. In this case, the closest available data to the GLRI 2015 data period was used
- Several indicators were excluded due to low data availability for countries, methodological issues or lower correlation with employment outcomes (concentration of production, labour market insecurity, H-index, fixed internet broadband subscriptions, fibre internet subscriptions, ICT specialists, high technology exports, PIAAC score, innovative firms, labour market insecurity, Logistics Performance Index)
- Several indicators were included in the GLRI 2020 due to their strong correlation with employment outcomes combined with high data availability:
  - Dependence on natural resources was included in the Economic development sub-pillar
  - Diversity was included in the Country capabilities sub-pillar
  - Government and household funding per tertiary student were included in the Education and skills input sub-pillar
  - Vocational enrolment of 15-24 olds was included to the Education and skills input sub-pillar
  - ICT access was included to the Technology input sub-pillar
- Several methodological updates were provided for existing indicators:
  - ICT goods trade and ICT services trade were replaced by ICT goods and services exports (ICT import was excluded from the indicator)
  - Tertiary attainment rate indicator is now calculated for "at least Bachelor degree" (ready UNESCO indicator). It is not the combination of corresponding indicators of Doctoral, Bachelor, Masters attainment rates as in GLRI 2019
  - Critical thinking was moved from education input to education output

- In the scoring of more than 20 indicators, caps and floor thresholds were used as well as a logarithm to limit excessive influence of outliers on the ranking

(see previous section). In comparison, in GLRI 2019 capping was applied only for 1 indicator – ICT goods exports and import.

Box 26: GLRI is calculated using the weighted average approach

For each country the Global Labour Resilience Index is a weighted average of the two pillar components included to it:

$$GLRI = 1/3 * P_p + 2/3 * P_s$$

where

- P_s- the score of structural pillar
- P_p– the score of policy pillar

Each pillar is a simple average of all sub-pillars' scores included to it:

$$P_t = \frac{1}{n_t}\sum_{j=1}^{n_t} SubPillar_{jt}$$

where

- $SubPillar_{jt}$- the score of sub-pillar j included to the pillar t, $t=p,s$
- n_t- the number of sub-pillars included to the pillar t

In the structural pillar each sub-pillar is a simple average of all indicators' scores included to it.

$$SubPillar_j = \frac{1}{n_j}\sum_{m=1}^{n_j} Ind_{mj}$$

where

- Ind_{mj} - the score of indicator m included to the sub-pillar j
- n_j– the number of indicators included to the sub-pillar j

In the policy pillar each sub-pillar is a simple average of the corresponding sub-pillar input and sub-pillar output scores, which are simple average of all categories included in them:

$$SubPillar_i = 1/2*(SubPillar_{input\ i} + SubPillar_{output\ i})$$

$$SubPillar_{p\ i} = \frac{1}{n_{pi}}\sum_{j=1}^{n_{pi}} Category_{pij}$$

where

- $Category_{pij}$ - the score of category j included to the input sub-pillar i or output sub-pillar i (input and output are identified by the index p, p="input" or "output")
- n_{pi} – the number of categories included to the sub-pillar pi

Each category is a simple average of all indicators' scores included to it:

$$Category_j = \frac{1}{n_j}\sum_{m=1}^{n_j} Ind_{mj}$$

where

- Ind_{mj} - the score of indicator m included in category j
- n_j– the number of indicators included in category j

Note that indicators can be included to the categories with a positive or negative sign depending on the direction of their impact.

Source: Whiteshield Partners

Methodology of the Regional Labour Resilience Index[75]

The methodology of the Regional Labour Resilience Index is based on the Global Labour Resilience Index© methodology. It is structured around the same longer-term structural and shorter-term policy dimensions of the GLRI with two exclusions (Figure 52).

First, the Regional LRI does not take into account the level of sophistication of the regional economies as measured by Economic Complexity Index due to limited availability and comparability of data.

Second, statistical fullness has been excluded from Regional LRI as regions have the same data availability.

---

[75] The Regional Labour Resilience Index methodology described in this section was first applied to the United Kingdom and then adapted to several other countries, including the United States and Kazakhstan. When adapted to other countries, some of the indicators are subject to be adjusted based on their level of availability.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY
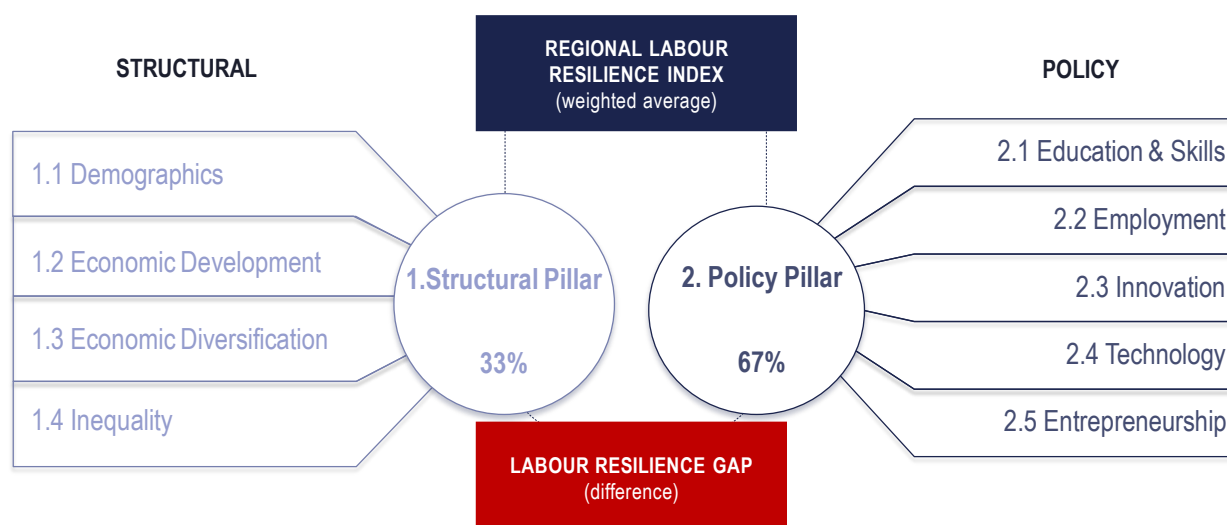
The structural and policy pillars in the Regional LRI have the same weights as in the GLRI, 33% and 67% respectively.

When comparable data is not available at the regional level, it is replaced by the next proxy or excluded.

The Regional LRI structural pillar

The first pillar of the Regional LRI has 4 sub-pillars: demographics, economic development, economic diversification and inequality, which can be fundamentally influenced by regional policy actions only over the longer-term (10+ years).

The demographics and inequality sub-pillars in the Regional LRI are based on almost the same set of indicators as in the GLRI.

The economic development sub-pillar captures the level of economic development as a fundamental characteristic of the economy measured by the disposable household income indicator. Regions with richer populations are often more resilient to external shocks and more adaptive to the changes in skill demand by the labour market because wealthier people often have a greater financial bulwark against economic downturns.

The economic diversification sub-pillar includes the level of regional export concentration, measures as Herfindahl-Hirschman Index and calculated by the

Whiteshield Partners, unlike the corresponding indicator in the GLRI, where UNCTAD data was used.

The Regional LRI policy pillar

The second pillar of the Regional LRI has 5 sub-pillars: education and skills, employment, innovation, technology and entrepreneurship, which represent areas of regional policy framework that impact labour resilience.

The education and skills sub-pillar includes the educational spending and educational attainment variables. Educational attainment in the Regional LRI includes the estimate of the share of labour force with tertiary education.

The employment sub-pillar considers a variety of variables representing direct determinants of labour market resilience: gender balance, level of talent and skills of employees, labour force participation, as well as labour productivity. Most of these variables are similar to the indicators used in the GLRI, with exception of the labour force participation variables, which include the participation rate of working-age population, as well as part-time employment incidence. Higher participation rate means that more people are involved in labour market. These people are less in danger of loss of their skills and qualifications, less in danger of future poverty and thus more resilient in the labour market. At the same time, the high level of part-time employment incidence negatively affects labour resilience, because part-time employees are more prone to dismissal compared to full-time employees.

The innovation sub-pillar captures the policies related to innovation in the economy and measures the levels of R&D spending and R&D environment, as well as innovation products, using less number of variables than in GLRI due to the lack of data at regional level.

The technology sub-pillar includes only one indicator: the share of households with broadband internet access. High levels of internet access makes the population more familiar with technological innovations, more adaptive to them, better able to access job market and skills information and thus, more flexible in the context of job change and learning.

The entrepreneurship sub-pillar in the Regional LRI significantly differs from the corresponding sub-pillar in the GLRI, because it includes the indicators related only to business demography. However, it goes into

greater detail on business demography than the GLRI. Business births/death and survival rates are included, in addition to the entrepreneurship activity measure. These rates characterize the sustainability and survival of business in the regions and regional resistance to external shocks.

The structure of the Regional LRI 2020 can be seen in the Figure 53. This structure can be adapted for different countries and their regions depending on data availability. In the USA LRI, for example, a different indicator of education spending is used (government expenditure on elementary and secondary education).

In the case of a Regional LRI for non-OECD countries the set of indicators can be quite different (largely due to data availability), but the indicators used still measure the same broad categories within each pillar.

Figure 53: Breakdown of structure and indicators for the Regional LRI 2020

Source: Whiteshield Partners

The Regional LRI data

The Regional LRI includes 19 indicators: 4 in the Structural pillar and 15 in the policy pillar. 19 of them are hard data and only 1 is the results of the qualitative survey.

In the case of UK, the regional LRI was calculated for all 12 UK regions. For each indicator the latest available data was used. Unlike the GLRI in the UK LRI there is no missing data.

Calculation methodology of the Regional LRI

One of the significant differences of the Regional LRI is the scaling system. As in the GLRI, all individual indicators were scaled from 1 to 100 with a positive and negative direction, depending on the influence of the indicator on the labour resilience, using the formulas described above. However, one of the purposes of the Regional LRI was to estimate the performance of country's regions on labour resilience compared to other OECD countries. Therefore in scaling each indicator the values of OECD countries with the best

and the worst performance in this indicator are used. It is expected, that the «worst» OECD country has a score of 1, and the «best» a score of 100, and the scores of the country's regions are scaled between these extremes. In reality, for some indicators, some regions have the worst and the best scores. In other words, for positive and negative scaling we used the following formulas:

Positive direction: $99 \times \frac{X_i - \min(x)}{\max(x) - \min(x)} + 1$

Negative direction: $100 - 99 \times \frac{X_i - \min(x)}{\max(x) - \min(x)}$

where X_i is the value of the indicator in the i region or in OECD countries with the best and the worst performance. Categories, sub-pillars and pillars are not scaled.

In the structural pillar, each sub-pillar contains only one individual indicator; thus, the structural pillar is a simple average of sub-pillars (which is the same as simple average of the scaled indicators).

In the policy pillar, categories are simple averages of the scored indicators included in them, sub-pillars are simple average of categories included in them, and the overall policy pillar is a simple average of the sub-

pillars included in it. The Regional LRI is the weighted average of the structural and policy pillars with using weights of 33% for the structural pillar and 67% for the policy pillar. Categories, sub-pillars and pillars are not scaled. The detailed methodology is described in Box 27.

Unlike the GLRI, in the Regional LRI there is no correction of outlier scores.

In the case when Regional LRI is calculated for non-OECD countries it is often not possible to compare the regional performance with the OECD best and the worst, because of differences in indicators or their methodologies. In that case all the indicators are positively scaled using the normalization formula:

$$\frac{X_i - \bar{X}}{\mathrm{st.\,dev(X)}},$$

or negatively scaled using the normalization formula:

$$\frac{-(X_i - \bar{X})}{\mathrm{st.\,dev(X)}}$$

where $\bar{X}$ is regional average of the indicator and $\mathrm{st.\,dev(X)}$ is the standard deviation of the indicator. This scaling is applied not only for indicators, but also for categories, sub-pillars and pillars.

Box 27: Regional LRI is calculated using the weighted average approach

For each country the UK Labour Resilience Index is a weighted average of the two pillar components included to it:

$$UK\ LRI = 1/3 * P_p + 2/3 * P_s$$ where
- P_s- the value of structural pillar
- P_p– the value of policy pillar

Each pillar is a simple average of all sub-pillars included to it:

$$P_j = \frac{1}{n_j}\left(\sum_{t=1}^{n_j} SubPillar_{tj}\right)$$ where
- $SubPillar_{tj}$- the value of sub-pillar t included to the pillar j
- n_j- the number of sub-pillars included to the pillar j

In the structural pillar each sub-pillar is a simple average of all scaled indicators included to it.

$$SubPillar_j = \frac{1}{n_j}\sum_{m=1}^{n_j} Ind_{mj}$$ where
- Ind_{mj} - the score of indicator m included to the sub-pillar j of the structural pillar
- n_j– the number of indicators included to the sub-pillar j of the structural pillar

In the policy pillar each sub-pillar is a simple average of the of all categories included to them:

$$SubPillar_j = \frac{1}{n_j}\sum_{m=1}^{n_j} Category_{mj}$$
- $Category_{mi}$ - the value of category m included to the sub-pillar j of the policy pillar
- n_j – the number of categories included in sub-pillar j of the policy pillar

Each category is a simple mean of all scaled indicators included to it:

$$Category_j = \frac{1}{n_j}\sum_{m=1}^{n_j} Ind_{mj}$$ where
- Ind_{mj} - the score of indicator m included to the category j
- n_j– the number of indicators included to the category j

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Global Labour Resilience Index 2020 versus Unemployment and Productivity

GLRI vs Unemployment

The link between the GLRI and unemployment is an important measure. Correlation between unemployment and the GLRI score is both a validation of the GLRI and an indicator of future potential disruption. A low score in the GLRI is indicative of the risk of higher unemployment, both at present and in the near future. The correlations between GLRI 2020 and unemployment rates are broken by different country segments in the table below.

Table 6: Correlation between GLRI and unemployment rate for the corresponding years[76]

Correlations	2015	2016	2017	2018	2019	2020
BRICS	-0.52	-0.50	-0.58	-0.63	-0.66	-0.59
OPEC	-0.65	-0.68	-0.67	-0.67	-0.56	-0.56
NATO	-0.57	-0.58	-0.58	-0.57	-0.54	-0.53
OECD	-0.39	-0.38	-0.39	-0.42	-0.41	-0.43
EU	-0.53	-0.50	-0.48	-0.45	-0.40	-0.37
CIS	-0.28	-0.30	-0.30	-0.29	-0.28	-0.29
Least developed	-0.14	-0.14	-0.17	-0.19	-0.18	-0.20
Overall	0.03	0.01	-0.03	-0.07	-0.10	-0.15

Source: Whiteshield Partners

As can be seen from the Table 6 and Figure 54, for most groups of countries this correlation is strongly negative: for GLRI 2020 it is strongest for the BRICS (-0.59), OPEC (-0.56) and NATO (-0.53) groups; it is slightly weaker, but still strong for OECD (-0.43) and EU (-0.37) groups. These correlations for most of the country segments have also been strengthening over time, which is an indicator of the increasing relevance of the GLRI.

Correlation between the GLRI and unemployment in CIS countries, less developed economies and at the global level is weaker, however. One of the main reasons appears to be the limited data availability in many developing countries, which can have as little as a half of the 59 indicators.

.

---

[76] Each year compares GLRI with unemployment rate for 2 years before. This is done because there is a lag in employment data availability - e.g. for GLRI2020 calculations the most recent data used is 2018, thus we compare GLRI 2020 with unemployment rate 2018

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Figure 54: Country Global Labour Resilience Index 2020 vs unemployment rate 2018 for OECD countries
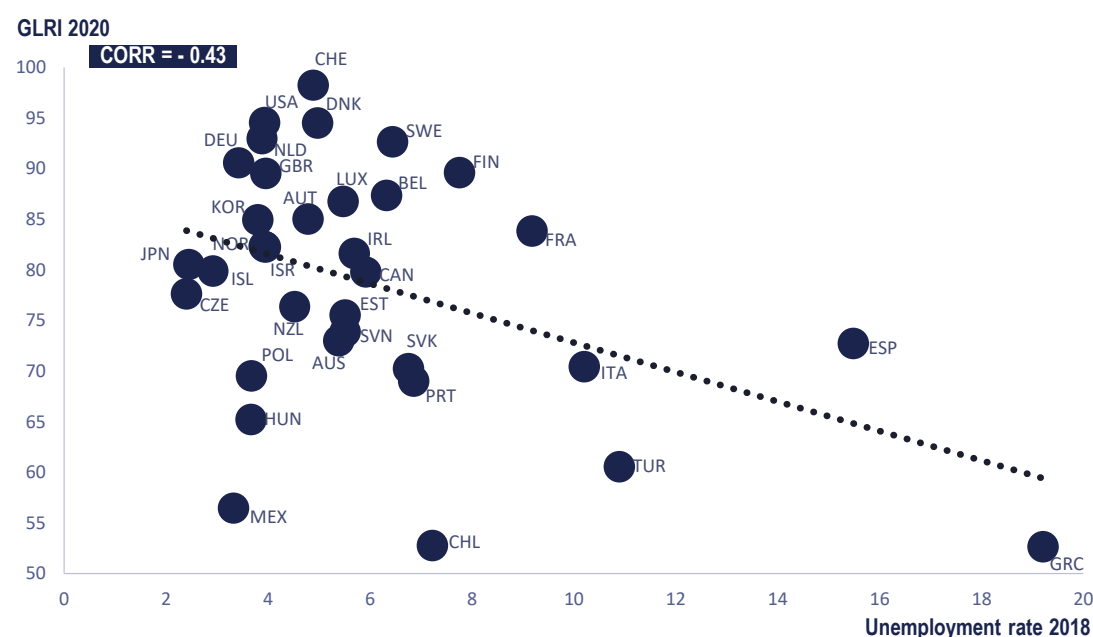
Source: Whiteshield Partners

GLRI vs Productivity

The GLRI also underscores the resilience of the labour market to cope with technological progress. Since technological progress usually leads directly to an increase in labour productivity, it is expected, that the GLRI would be positively and significantly correlated with labour productivity. This strong correlation can be seen in Table 7 for the entire set of countries as well as for most of the different groupings of countries used for analysis. In addition, as in the case of unemployment, this correlation has improved over time for most groups of countries.

However, this strong correlation does not hold for either the least developed group of countries or for the BRICS countries. In the case of the least developed group of countries, the reasons for this poor correlation are likely similar to the reasons cited for the lack of correlation with unemployment cited above. This may also be true for the BRICS countries.

Table 7: Correlation Between GLRI Sub-Pillars and Labour Productivity[77]

Correlations	2015	2016	2017	2018	2019	2020
OPEC	0.60	0.62	0.64	0.61	0.65	0.66
CIS	0.56	0.57	0.58	0.61	0.64	0.59
NATO	0.58	0.58	0.59	0.56	0.57	0.57
EU	0.56	0.57	0.56	0.54	0.56	0.54
OECD	0.56	0.56	0.54	0.51	0.54	0.52
Least developed	0.16	0.20	0.16	0.15	0.21	0.19
BRICS	0.00	0.00	0.09	0.16	0.15	0.16
Overall	0.55	0.56	0.58	0.57	0.59	0.59

Source: Whiteshield Partners

---

[77] To calculate this correlation, the labour productivity indicator was excluded from the GLRI.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

APPENDIX II: GLRI 2020 COUNTRY PROFILES

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
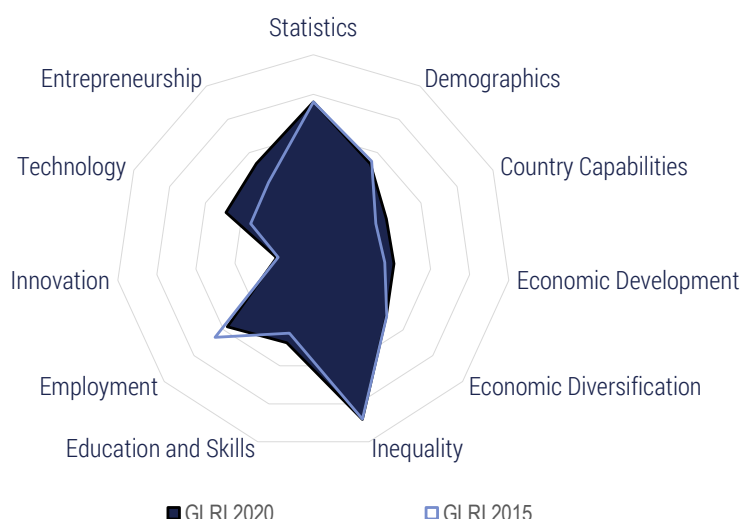
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**59**	**68**	▲ 11
1.1 Demographics		53	99	● 0
1.1.1 Share of older population (% of total population)	13.6	53	99	● 0
1.2 Country Capabilities		41	80	▲ 5
1.2.1 Economic Complexity Index	-0.4	41	80	▲ 5
1.3 Economic Development		41	80	▲ 14
1.3.1 Income per capita (PPP)	12 306	18	78	▲ 5
1.3.2 Dependence on natural resources (% of GDP)	1.7	74	67	▲ 11
1.3.3 Tertiarisation of economy (% of GDP)	47.9	53	109	▲ 4
1.4 Economic Diversification		49	75	▲ 1
1.4.1 Concentration of exports	0.3	67	89	▼ -7
1.4.2 Diversity	170	31	61	▲ 8
1.5 Inequality		88	17	▲ 1
1.5.1 Income inequality	29.0	88	17	▲ 1
2. Policy Pillar		**49**	**58**	▲ 4
2.1 Education and skills		48	57	▲ 17
2.1.1 Education and skills input		50	66	▲ 1
2.1.1.1 Government education spendings (% of GDP)	4.0	34	85	▲ 10
2.1.1.2 Tertiary public education spendings (% of gov.exp)	19.1	36	83	▼ -17
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	5 529	27	43	▲ 1
2.1.1.4 Years of schooling	10.1	69	64	▼ -11
2.1.1.5 Staff training (1-7 survey)	4.0	45	60	▲ 8
2.1.2 Education and skills output		52	61	▲ 19
2.1.2.1 Tertiary attainment rate (% of pop 25+)	12.9	28	58	▼ -6
2.1.2.2 PISA score	420	38	53	▲ 11
2.1.2.3 Skillset of graduates (1-7 survey)	4.2	53	54	▲ 19
2.1.2.4 Skilled labour supply (1-7 survey)	4.0	54	72	▲ 10
2.1.2.5 Vocational enrollment (% of students)	7.7	17	84	▲ 4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	4.9	18	70	▼ -3
2.1.2.7 Quality of vocational education (1-7 survey)	3.9	39	74	▲ 9
2.1.2.8 STEM graduates (%)	20.6	35	71	▲ 27
2.1.2.9 Digital skills (1-7 survey)	4.7	68	42	▲ 11
2.1.2.10 Critical thinking (1-7 survey)	4.5	68	19	▲ 6
2.2 Employment		58	28	▼ -13
2.2.1 Employment input		82	4	▲ 2
2.2.1.1 Hiring and firing practices (1-7 survey)	4.2	58	38	▼ -12
2.2.1.2 Worker's rights (1-7 score)	80.4	58	36	▲ 5
2.2.1.3 Hiring of foreign labour (1-7 survey)	5.8	100	1	● 0
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		31	104	▼ -22
2.2.2.1 Women in labour force (% female-male)	72.7	63	87	▲ 2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.4	23	122	▼ -60
2.2.2.4 Knowledge insentive employment (%)	17.7	28	86	▲ 11

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	29 958	20	81	▼ -2
2.2.2.6 ALP effectiveness (1-7 survey)	2.7	28	99	▲ 6
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.9	56	33	▲ 3
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.1	24	122	▼ -56
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		19	87	▲ 5
2.3.1 Innovation input		18	109	▲ 6
2.3.1.1 R&D spendings (% of GDP)	0.2	6	97	▲ 1
2.3.1.2 IPR score	4.5	31	102	▲ 5
2.3.2 Innovation output		19	72	▼ -5
2.3.2.1 Trademark applications per th. pop.	1.2	39	47	▲ 8
2.3.2.2 Patent applications per th. pop.	0.01	3	104	▲ 8
2.3.2.3 R&D journals per th. pop.	0.07	4	81	▼ -13
2.3.2.4 Researchers in R&D per mln.pop.	156	3	84	▼ -2
2.3.2.5 Technicians in R&D per mln.pop.	40	3	78	▼ -1
2.3.2.6 Creative goods exports (% of goods exp.)	0.73	28	36	▼ -3
2.4 Technology		49	89	▲ 1
2.4.1 Technology input		58	90	▼ -9
2.4.1.1 ICT affordability	4.7	63	91	▼ -25
2.4.1.2 ICT access index	5.1	51	77	▼ -1
2.4.2 Technology output		38	89	▲ 11
2.4.2.1 ICT goods and services export (% of exp.)	8.1	35	71	▲ 33
2.4.2.2 Mobile broadband per 100 pop.	52.6	33	78	▼ -10
2.5 Entrepreneurship		53	65	▲ 31
2.5.1 Entrepreneurship input		75	45	▼ -1
2.5.1.1 Time dealing with gov. regulations (%)	6.7	77	55	▲ 1
2.5.1.2 Time to start a business (days)	4.5	92	18	▼ -10
2.5.1.3 Procedures to register a business	5.0	68	38	▼ -19
2.5.1.4 Cost to start a business (% GNI per cap)	12.0	57	82	▼ -1
2.5.2 Entrepreneurship output		36	92	▲ 35
2.5.2.1 Global Entrepreneurship Index	24.2	21	79	▼ -7
2.5.2.2 New corporate registrations per th. pop.	0.9	14	62	▲ 3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	3.5	50	93	▲ 39
2.6 Statistics		76	43	● 0
2.6.1 Statistical fullness (%)	0.88	76	43	● 0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
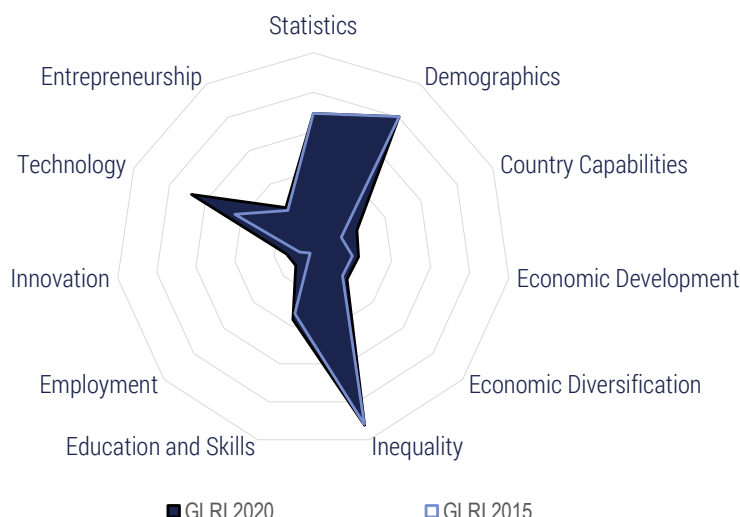
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**46**	**103**	▲	19
1.1 Demographics		80	65	●	0
1.1.1 Share of older population (% of total population)	6.4	80	65	●	0
1.2 Country Capabilities		24	111	▲	8
1.2.1 Economic Complexity Index	-1.1	24	111	▲	8
1.3 Economic Development		23	121	▲	9
1.3.1 Income per capita (PPP)	13 886	20	72	▼	-1
1.3.2 Dependence on natural resources (% of GDP)	14.7	27	122	▲	13
1.3.3 Tertiarisation of economy (% of GDP)	45.6	49	117	▲	4
1.4 Economic Diversification		23	129	●	0
1.4.1 Concentration of exports	0.5	42	125	▲	3
1.4.2 Diversity	27	3	141	▲	1
1.5 Inequality		92	11	▼	-2
1.5.1 Income inequality	27.6	92	11	▼	-2
2. Policy Pillar		**32**	**105**	▲	21
2.1 Education and skills		37	95	▲	8
2.1.1 Education and skills input		41	98	▲	3
2.1.1.1 Government education spendings (% of GDP)	4.3	39	72	▲	2
2.1.1.2 Tertiary public education spendings (% of gov.exp)	27.0	54	28	▲	6
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	7.4	48	95	▼	-3
2.1.1.5 Staff training (1-7 survey)	3.4	29	116	▲	9
2.1.2 Education and skills output		40	103	▲	5
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	362	15	75	●	0
2.1.2.3 Skillset of graduates (1-7 survey)	3.4	34	117	▲	5
2.1.2.4 Skilled labour supply (1-7 survey)	3.8	48	91	▼	-16
2.1.2.5 Vocational enrollment (% of students)	8.3	18	80	▼	-1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	2.2	8	85	▼	-2
2.1.2.7 Quality of vocational education (1-7 survey)	3.6	31	100	▼	-15
2.1.2.8 STEM graduates (%)	34.2	61	11	▲	21
2.1.2.9 Digital skills (1-7 survey)	3.8	45	88	▲	7
2.1.2.10 Critical thinking (1-7 survey)	2.9	29	102	▼	-20
2.2 Employment		12	142	▲	2
2.2.1 Employment input		22	133	▲	6
2.2.1.1 Hiring and firing practices (1-7 survey)	3.6	41	83	▲	40
2.2.1.2 Worker's rights (1-7 score)	58.8	12	106	▼	-5
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.2	27	124	▲	7
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		16	142	▼	-1
2.2.2.1 Women in labour force (% female-male)	22.1	1	142	▼	-1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.3	19	134	▲	3
2.2.2.4 Knowledge insentive employment (%)	17.6	28	87	▼	-8

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	54 807	37	50	▲	2
2.2.2.6 ALP effectiveness (1-7 survey)	2.9	34	81	▲	7
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.0	29	106	▲	28
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.7	38	90	▲	12
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		14	108	▲	23
2.3.1 Innovation input		22	100	▲	24
2.3.1.1 R&D spendings (% of GDP)	0.5	20	59	▲	56
2.3.1.2 IPR score	4.1	24	113	▲	8
2.3.2 Innovation output		5	109	▲	2
2.3.2.1 Trademark applications per th. pop.	0.2	7	105	▲	14
2.3.2.2 Patent applications per th. pop.	0.02	7	94	▼	-1
2.3.2.3 R&D journals per th. pop.	0.11	6	75	●	0
2.3.2.4 Researchers in R&D per mln.pop.	821	11	53	▲	25
2.3.2.5 Technicians in R&D per mln.pop.	42	3	77	▲	5
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	131	▲	1
2.4 Technology		68	35	▲	34
2.4.1 Technology input		52	102	▼	-14
2.4.1.1 ICT affordability	4.4	57	98	▼	-34
2.4.1.2 ICT access index	4.7	45	88	▲	11
2.4.2 Technology output		79	11	▲	44
2.4.2.1 ICT goods and services export (% of exp.)	30.5	99	7	▲	17
2.4.2.2 Mobile broadband per 100 pop.	46.8	29	87	▲	46
2.5 Entrepreneurship		26	141	▼	-5
2.5.1 Entrepreneurship input		28	143	▼	-4
2.5.1.1 Time dealing with gov. regulations (%)	25.1	13	110	▲	1
2.5.1.2 Time to start a business (days)	18.0	65	99	▼	-13
2.5.1.3 Procedures to register a business	12.0	13	138	▼	-9
2.5.1.4 Cost to start a business (% GNI per cap)	11.1	58	80	▼	-5
2.5.2 Entrepreneurship output		30	118	▼	-20
2.5.2.1 Global Entrepreneurship Index	24.7	22	76	▼	-1
2.5.2.2 New corporate registrations per th. pop.	0.4	6	80	▲	2
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.2	42	111	▼	-27
2.6 Statistics		69	59	●	0
2.6.1 Statistical fullness (%)	0.85	69	59	●	0

Angola

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
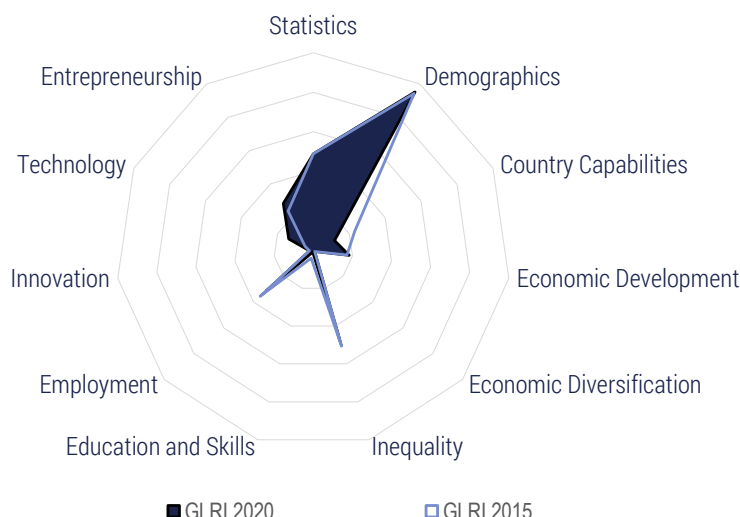
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		16	143	▼	-2
1.1 Demographics		95	8	▼	-2
1.1.1 Share of older population (% of total population)	2.5	95	8	▼	-2
1.2 Country Capabilities		12	121	▼	-15
1.2.1 Economic Complexity Index	-1.7	12	121	▼	-15
1.3 Economic Development		18	127	▲	9
1.3.1 Income per capita (PPP)	5 725	8	108	▼	-9
1.3.2 Dependence on natural resources (% of GDP)	16.4	24	126	▲	10
1.3.3 Tertiarisation of economy (% of GDP)	46.8	51	112	▲	6
1.4 Economic Diversification		1	145	●	0
1.4.1 Concentration of exports	0.9	1	143	●	0
1.4.2 Diversity	17	1	143	▲	1
1.5 Inequality		48	98	▼	-2
1.5.1 Income inequality	42.7	48	98	▼	-2
2. Policy Pillar		11	144	▼	-1
2.1 Education and skills		1	145	▼	-2
2.1.1 Education and skills input		9	141	▼	-1
2.1.1.1 Government education spendings (% of GDP)	3.4	28	102	▼	-4
2.1.1.2 Tertiary public education spendings (% of gov.exp)	8.7	14	132	●	0
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	4.0	21	118	▼	-2
2.1.1.5 Staff training (1-7 survey)	2.6	7	134	▲	2
2.1.2 Education and skills output		5	144	▼	-1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	2.6	7	90	▼	-3
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	2.2	1	139	▼	-1
2.1.2.4 Skilled labour supply (1-7 survey)	2.1	1	137	●	0
2.1.2.5 Vocational enrollment (% of students)	14.1	31	56	▼	-51
2.1.2.6 Vocational enrollment of 15-24 olds (%)	2.4	9	82	▼	-4
2.1.2.7 Quality of vocational education (1-7 survey)	2.3	1	137	●	0
2.1.2.8 STEM graduates (%)	12.0	18	112	▼	-1
2.1.2.9 Digital skills (1-7 survey)	2.2	1	136	●	0
2.1.2.10 Critical thinking (1-7 survey)	1.9	1	137	▼	-1
2.2 Employment		31	106	▼	-5
2.2.1 Employment input		33	118	▼	-14
2.2.1.1 Hiring and firing practices (1-7 survey)	3.6	50	90	▲	40
2.2.1.2 Worker's rights (1-7 score)	70.1	36	70	▼	-13
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.4	34	120	▼	-3
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		38	75	▼	-2
2.2.2.1 Women in labour force (% female-male)	94.2	89	10	▼	-2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.7	50	49	▲	8
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	14 948	10	105	▼	-5
2.2.2.6 ALP effectiveness (1-7 survey)	1.5	1	137	●	0
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.5	10	137	▲	5
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.0	45	69	▼	-32
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		2	143	●	0
2.3.1 Innovation input					
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		2	129	▼	-2
2.3.2.1 Trademark applications per th. pop.	0.1	3	126	▼	-4
2.3.2.2 Patent applications per th. pop.	0.00	1	130	●	0
2.3.2.3 R&D journals per th. pop.	0.00	1	142	●	0
2.3.2.4 Researchers in R&D per mln.pop.	47	1	99	▲	1
2.3.2.5 Technicians in R&D per mln.pop.	35	2	82	▼	-2
2.3.2.6 Creative goods exports (% of goods exp.)	n/a	n/a	n/a		
2.4 Technology		14	142	▼	-3
2.4.1 Technology input		25	129	▼	-1
2.4.1.1 ICT affordability	3.4	42	118	▲	3
2.4.1.2 ICT access index	1.9	10	130	▼	-8
2.4.2 Technology output		9	143	▼	-4
2.4.2.1 ICT goods and services export (% of exp.)	1.3	15	139	▲	1
2.4.2.2 Mobile broadband per 100 pop.	12.1	8	132	▼	-20
2.5 Entrepreneurship		28	140	▼	-3
2.5.1 Entrepreneurship input		49	122	▼	-1
2.5.1.1 Time dealing with gov. regulations (%)	12.2	58	81	▲	1
2.5.1.2 Time to start a business (days)	36.0	30	127	▲	5
2.5.1.3 Procedures to register a business	8.0	45	92	▼	-17
2.5.1.4 Cost to start a business (% GNI per cap)	17.4	51	98	▲	7
2.5.2 Entrepreneurship output		13	140	▼	-3
2.5.2.1 Global Entrepreneurship Index	14.4	8	114	▼	-5
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	2.2	19	139	▼	-2
2.6 Statistics		49	121	●	0
2.6.1 Statistical fullness (%)	0.75	49	121	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
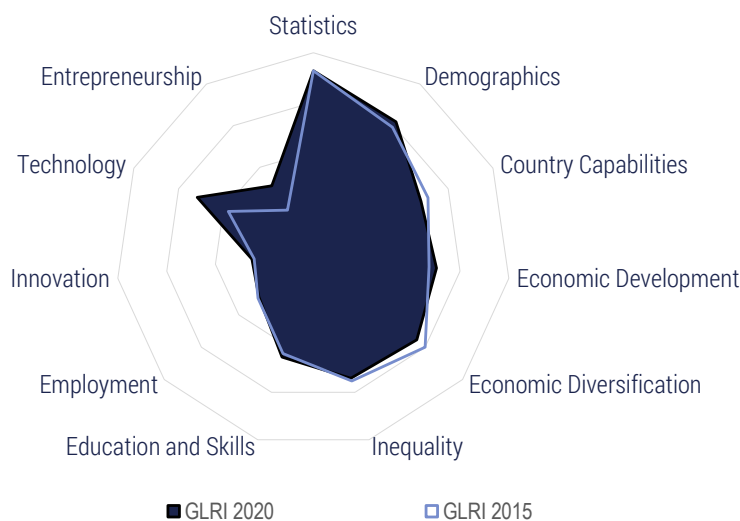
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		58	73	▼	-6
1.1 Demographics		62	91	▲	5
1.1.1 Share of older population (% of total population)	11.3	62	91	▲	5
1.2 Country Capabilities		48	62	▼	-10
1.2.1 Economic Complexity Index	0.0	48	62	▼	-10
1.3 Economic Development		50	54	△	5
1.3.1 Income per capita (PPP)	18 282	26	58	▼	-6
1.3.2 Dependence on natural resources (% of GDP)	1.3	78	59	▲	14
1.3.3 Tertiarisation of economy (% of GDP)	55.6	64	68	▲	3
1.4 Economic Diversification		55	60	▼	-7
1.4.1 Concentration of exports	0.2	77	68	▼	-19
1.4.2 Diversity	188	34	55	▲	1
1.5 Inequality		54	89	▽	-4
1.5.1 Income inequality	40.6	54	89	▼	-4
2. Policy Pillar		39	84	▲	5
2.1 Education and skills		45	71	▼	-3
2.1.1 Education and skills input		52	58	▲	3
2.1.1.1 Government education spendings (% of GDP)	5.5	52	28	▲	10
2.1.1.2 Tertiary public education spendings (% of gov.exp)	22.1	43	60	▲	18
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	3 974	20	53	▲	3
2.1.1.4 Years of schooling	11.2	77	43	▼	-1
2.1.1.5 Staff training (1-7 survey)	3.7	37	85	▼	-9
2.1.2 Education and skills output		45	88	▼	-6
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	395	28	67	▼	-5
2.1.2.3 Skillset of graduates (1-7 survey)	4.0	48	70	▼	-13
2.1.2.4 Skilled labour supply (1-7 survey)	4.1	56	67	▼	-14
2.1.2.5 Vocational enrollment (% of students)	16.2	35	48	▲	4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	7.9	28	53	▼	-2
2.1.2.7 Quality of vocational education (1-7 survey)	4.5	52	40	▼	-7
2.1.2.8 STEM graduates (%)	13.6	21	109	▼	-7
2.1.2.9 Digital skills (1-7 survey)	4.0	49	76	▲	7
2.1.2.10 Critical thinking (1-7 survey)	3.1	33	87	▼	-4
2.2 Employment		29	116	▲	6
2.2.1 Employment input		36	109	▼	-11
2.2.1.1 Hiring and firing practices (1-7 survey)	2.3	4	126	▼	-5
2.2.1.2 Worker's rights (1-7 score)	70.1	36	70	▲	17
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.7	70	17	▲	1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		31	103	▲	13
2.2.2.1 Women in labour force (% female-male)	67.2	56	102	▲	3
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.3	41	75	▲	29
2.2.2.4 Knowledge insentive employment (%)	23.9	38	62	▲	23

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	46 753	32	58	▼	-5
2.2.2.6 ALP effectiveness (1-7 survey)	2.8	30	98	▼	-13
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.7	16	127	▲	10
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.5	9	141	▲	2
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		25	69	▽	-1
2.3.1 Innovation input		29	75	▲	2
2.3.1.1 R&D spendings (% of GDP)	0.5	20	60	▼	-9
2.3.1.2 IPR score	5.0	39	77	▲	13
2.3.2 Innovation output		21	69	▼	-4
2.3.2.1 Trademark applications per th. pop.	1.7	53	27	▲	9
2.3.2.2 Patent applications per th. pop.	0.08	26	50	▼	-8
2.3.2.3 R&D journals per th. pop.	0.19	11	57	▼	-3
2.3.2.4 Researchers in R&D per mln.pop.	1 233	16	46	▼	-2
2.3.2.5 Technicians in R&D per mln.pop.	310	14	45	▼	-3
2.3.2.6 Creative goods exports (% of goods exp.)	0.04	3	85	▼	-5
2.4 Technology		52	81	●	0
2.4.1 Technology input		61	84	▲	16
2.4.1.1 ICT affordability	3.7	46	114	▲	1
2.4.1.2 ICT access index	6.8	72	45	▲	3
2.4.2 Technology output		41	80	▼	-12
2.4.2.1 ICT goods and services export (% of exp.)	3.7	22	100	▼	-49
2.4.2.2 Mobile broadband per 100 pop.	80.5	50	37	▲	39
2.5 Entrepreneurship		31	136	▲	5
2.5.1 Entrepreneurship input		40	132	▲	2
2.5.1.1 Time dealing with gov. regulations (%)	20.5	29	106	▼	-2
2.5.1.2 Time to start a business (days)	11.0	79	63	▲	30
2.5.1.3 Procedures to register a business	11.0	21	131	▲	5
2.5.1.4 Cost to start a business (% GNI per cap)	10.4	59	77	▼	-3
2.5.2 Entrepreneurship output		28	124	▲	7
2.5.2.1 Global Entrepreneurship Index	24.0	21	81	▼	-28
2.5.2.2 New corporate registrations per th. pop.	0.3	5	89	●	0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.1	40	116	▲	24
2.6 Statistics		73	51	●	0
2.6.1 Statistical fullness (%)	0.86	73	51	●	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
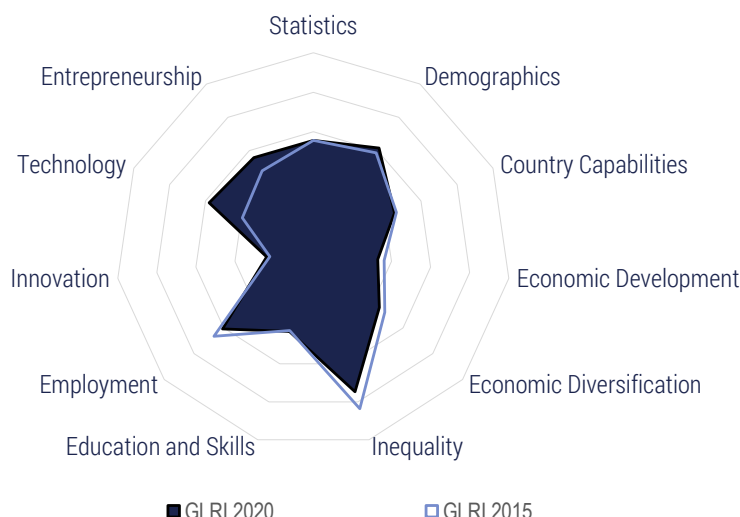
■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**53**	**85**	▽ -17
1.1 Demographics		61	92	▲ 5
1.1.1 Share of older population (% of total population)	11.4	61	92	▲ 5
1.2 Country Capabilities		45	70	▽ -10
1.2.1 Economic Complexity Index	-0.2	45	70	▽ -10
1.3 Economic Development		33	97	▽ -2
1.3.1 Income per capita (PPP)	9 178	13	91	▲ 3
1.3.2 Dependence on natural resources (% of GDP)	5.8	49	96	▽ -21
1.3.3 Tertiarisation of economy (% of GDP)	52.6	60	84	▲ 25
1.4 Economic Diversification		44	85	▽ -6
1.4.1 Concentration of exports	0.3	72	79	▽ -16
1.4.2 Diversity	99	17	93	● 0
1.5 Inequality		75	43	▽ -22
1.5.1 Income inequality	33.6	75	43	▽ -22
2. Policy Pillar		**48**	**63**	▲ 2
2.1 Education and skills		43	81	▽ -4
2.1.1 Education and skills input		44	91	▲ 5
2.1.1.1 Government education spendings (% of GDP)	2.7	20	122	▽ -2
2.1.1.2 Tertiary public education spendings (% of gov.exp)	13.0	23	118	▲ 11
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	11.3	78	39	▽ -7
2.1.1.5 Staff training (1-7 survey)	3.6	35	94	▽ -1
2.1.2 Education and skills output		49	71	▽ -10
2.1.2.1 Tertiary attainment rate (% of pop 25+)	24.4	53	24	▽ -6
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	3.8	43	88	▲ 15
2.1.2.4 Skilled labour supply (1-7 survey)	3.9	49	87	● 0
2.1.2.5 Vocational enrollment (% of students)	8.4	19	79	▽ -5
2.1.2.6 Vocational enrollment of 15-24 olds (%)	2.9	11	77	▽ -1
2.1.2.7 Quality of vocational education (1-7 survey)	3.8	36	83	▲ 6
2.1.2.8 STEM graduates (%)	15.2	24	105	▽ -18
2.1.2.9 Digital skills (1-7 survey)	4.4	61	56	▽ -1
2.1.2.10 Critical thinking (1-7 survey)	3.6	46	53	▽ -2
2.2 Employment		61	20	▽ -6
2.2.1 Employment input		81	5	▽ -1
2.2.1.1 Hiring and firing practices (1-7 survey)	4.4	64	25	▽ -15
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a	
2.2.1.3 Hiring of foreign labour (1-7 survey)	5.0	78	8	▲ 2
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		37	78	▲ 11
2.2.2.1 Women in labour force (% female-male)	71.0	60	95	▽ -15
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.0	33	100	▲ 14
2.2.2.4 Knowledge insentive employment (%)	26.9	43	51	▲ 6

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	23 777	16	88	▲ 7
2.2.2.6 ALP effectiveness (1-7 survey)	3.2	39	68	▲ 10
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.7	52	39	▽ -7
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.1	49	57	▲ 17
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		24	74	▲ 1
2.3.1 Innovation input		21	104	▽ -3
2.3.1.1 R&D spendings (% of GDP)	0.2	9	89	● 0
2.3.1.2 IPR score	4.7	34	92	▽ -2
2.3.2 Innovation output		26	58	▲ 2
2.3.2.1 Trademark applications per th. pop.	1.5	49	33	▽ -6
2.3.2.2 Patent applications per th. pop.	0.04	13	72	▽ -4
2.3.2.3 R&D journals per th. pop.	0.18	10	59	▽ -2
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.6 Creative goods exports (% of goods exp.)	0.82	31	35	▲ 7
2.4 Technology		58	67	▲ 8
2.4.1 Technology input		78	45	▲ 34
2.4.1.1 ICT affordability	6.3	90	16	▲ 62
2.4.1.2 ICT access index	5.8	59	67	● 0
2.4.2 Technology output		36	93	▽ -12
2.4.2.1 ICT goods and services export (% of exp.)	6.5	30	81	▲ 12
2.4.2.2 Mobile broadband per 100 pop.	53.9	34	76	▽ -21
2.5 Entrepreneurship		56	60	▲ 8
2.5.1 Entrepreneurship input		74	51	▲ 1
2.5.1.1 Time dealing with gov. regulations (%)	12.2	58	81	▲ 1
2.5.1.2 Time to start a business (days)	4.0	93	13	▽ -5
2.5.1.3 Procedures to register a business	3.0	84	7	▲ 5
2.5.1.4 Cost to start a business (% GNI per cap)	0.9	89	20	▽ -2
2.5.2 Entrepreneurship output		42	74	▲ 18
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a	
2.5.2.2 New corporate registrations per th. pop.	1.2	17	52	▲ 4
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	3.9	60	65	▲ 21
2.6 Statistics		56	100	● 0
2.6.1 Statistical fullness (%)	0.78	56	100	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics · Demographics · Country Capabilities · Economic Development · Economic Diversification · Inequality · Education and Skills · Employment · Innovation · Technology · Entrepreneurship
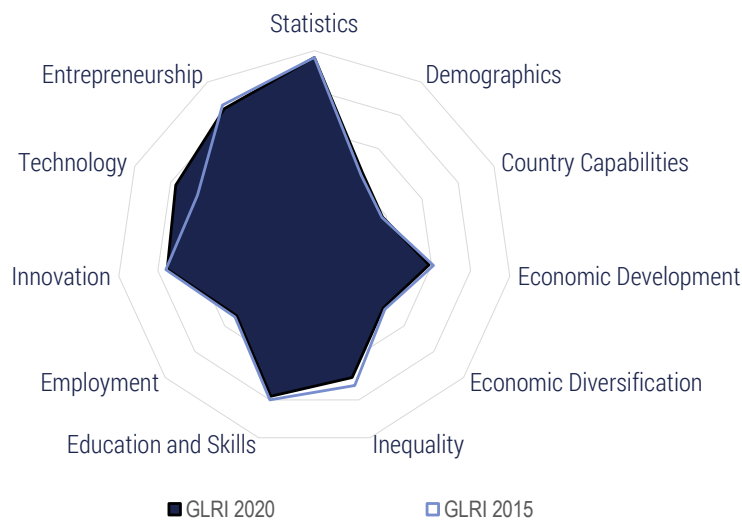
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**52**	**89**	▼	-9
1.1 Demographics		45	113	◐	0
1.1.1 Share of older population (% of total population)	15.7	45	113	●	0
1.2 Country Capabilities		38	86	▼	-9
1.2.1 Economic Complexity Index	-0.5	38	86	▼	-9
1.3 Economic Development		59	41	▼	-4
1.3.1 Income per capita (PPP)	45 439	65	18	▼	-2
1.3.2 Dependence on natural resources (% of GDP)	7.2	44	106	▼	-8
1.3.3 Tertiarisation of economy (% of GDP)	66.6	81	20	▲	1
1.4 Economic Diversification		46	83	▼	-3
1.4.1 Concentration of exports	0.3	68	87	▼	-8
1.4.2 Diversity	136	24	78	●	0
1.5 Inequality		68	59	▼	-11
1.5.1 Income inequality	35.8	68	59	▼	-11
2. Policy Pillar		**84**	**11**	▲	3
2.1 Education and skills		78	15	▼	-3
2.1.1 Education and skills input		79	16	◐	0
2.1.1.1 Government education spendings (% of GDP)	5.3	50	36	▲	9
2.1.1.2 Tertiary public education spendings (% of gov.exp)	26.8	54	29	▲	14
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	11 203	54	15	▼	-1
2.1.1.4 Years of schooling	12.5	87	21	▲	4
2.1.1.5 Staff training (1-7 survey)	5.0	76	14	▲	5
2.1.2 Education and skills output		80	13	▼	-5
2.1.2.1 Tertiary attainment rate (% of pop 25+)	31.7	69	10	▲	3
2.1.2.2 PISA score	399	30	66	▼	-52
2.1.2.3 Skillset of graduates (1-7 survey)	5.0	74	17	▲	12
2.1.2.4 Skilled labour supply (1-7 survey)	4.8	75	24	▼	-10
2.1.2.5 Vocational enrollment (% of students)	36.6	78	12	▼	-6
2.1.2.6 Vocational enrollment of 15-24 olds (%)	19.9	68	18	▼	-17
2.1.2.7 Quality of vocational education (1-7 survey)	4.9	61	20	●	0
2.1.2.8 STEM graduates (%)	18.4	31	80	▲	2
2.1.2.9 Digital skills (1-7 survey)	5.1	81	22	▼	-4
2.1.2.10 Critical thinking (1-7 survey)	4.9	79	13	▲	2
2.2 Employment		52	40	▲	10
2.2.1 Employment input		38	102	▲	11
2.2.1.1 Hiring and firing practices (1-7 survey)	3.3	31	100	▲	19
2.2.1.2 Worker's rights (1-7 score)	75.3	47	49	▲	6
2.2.1.3 Hiring of foreign labour (1-7 survey)	2.8	16	135	▼	-5
2.2.1.4 Tax wedge (% of labour cost)	28.9	58	7	●	0
2.2.1.5 ALP spendings (% of GDP)	0.9	28	17	●	0
2.2.2 Employment output		66	19	▲	2
2.2.2.1 Women in labour force (% female-male)	84.6	77	41	▲	6
2.2.2.2 Gender pay gap (% of employees)	11.7	64	23	▲	10
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.7	70	16	▲	9
2.2.2.4 Knowledge insentive employment (%)	44.9	72	13	●	0

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	91 559	63	22	▼	-1
2.2.2.6 ALP effectiveness (1-7 survey)	4.8	77	16	▲	4
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.4	40	65	▲	36
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.4	31	108	▼	-50
2.2.2.9 Earnings quality (PPP)	21.0	68	10	●	0
2.2.2.10 Quality of the working environment (%)	25.6	66	14	▼	-4
2.3 Innovation		75	16	▼	-1
2.3.1 Innovation input		82	14	▼	-4
2.3.1.1 R&D spendings (% of GDP)	1.9	69	18	▼	-4
2.3.1.2 IPR score	8.3	94	7	▲	4
2.3.2 Innovation output		68	16	●	0
2.3.2.1 Trademark applications per th. pop.	3.0	94	12	▲	2
2.3.2.2 Patent applications per th. pop.	1.16	100	1	●	0
2.3.2.3 R&D journals per th. pop.	2.04	100	1	●	0
2.3.2.4 Researchers in R&D per mln.pop.	4 539	58	16	▼	-1
2.3.2.5 Technicians in R&D per mln.pop.	1 136	49	18	▼	-1
2.3.2.6 Creative goods exports (% of goods exp.)	0.42	18	44	▼	-1
2.4 Technology		77	15	▲	9
2.4.1 Technology input		88	16	▲	20
2.4.1.1 ICT affordability	5.6	78	55	▲	43
2.4.1.2 ICT access index	8.2	90	13	●	0
2.4.2 Technology output		60	28	▼	-12
2.4.2.1 ICT goods and services export (% of exp.)	3.0	20	114	▼	-12
2.4.2.2 Mobile broadband per 100 pop.	130.2	80	6	●	0
2.5 Entrepreneurship		84	5	▼	-1
2.5.1 Entrepreneurship input		92	6	●	0
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	2.5	96	5	▼	-2
2.5.1.3 Procedures to register a business	3.0	84	7	▼	-2
2.5.1.4 Cost to start a business (% GNI per cap)	0.7	91	15	▼	-1
2.5.2 Entrepreneurship output		78	8	▲	2
2.5.2.1 Global Entrepreneurship Index	75.5	89	5	▼	-2
2.5.2.2 New corporate registrations per th. pop.	9.9	100	1	●	0
2.5.2.3 Venture capital investments (% of GDP)	0.02	26	21	▲	3
2.5.2.4 SME outstanding loans (% of loans)	30.9	36	29	▼	-3
2.5.2.5 Access to loans (1-7 survey)	5.0	85	13	▲	13
2.6 Statistics		97	10	●	0
2.6.1 Statistical fullness (%)	0.98	97	10	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Global Labour Resilience Index 2020

GLRI 2015 Rank 15 ▲

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Radar chart axes (clockwise from top): Statistics, Demographics, Country Capabilities, Economic Development, Economic Diversification, Inequality, Education and Skills, Employment, Innovation, Technology, Entrepreneurship
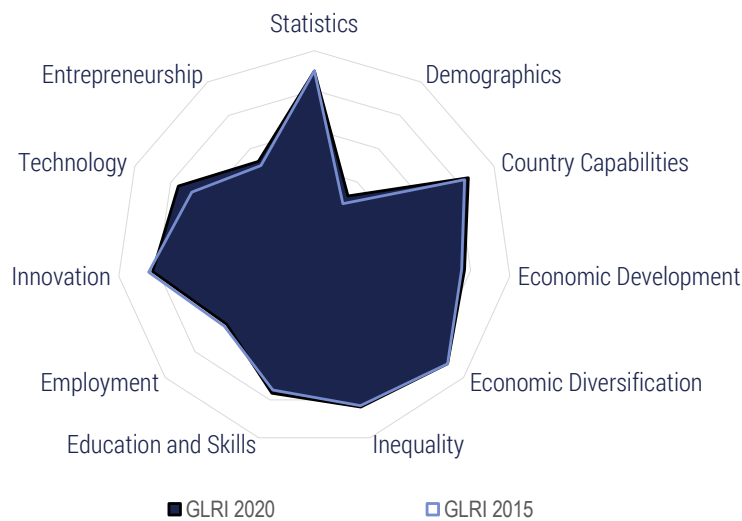
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**100**	**3**	▲	5
1.1 Demographics		32	128	▲	8
1.1.1 Share of older population (% of total population)	19.4	32	128	▲	8
1.2 Country Capabilities		86	8	▲	2
1.2.1 Economic Complexity Index	1.7	86	8	▲	2
1.3 Economic Development		77	12	▲	1
1.3.1 Income per capita (PPP)	46 473	67	16	▼	-2
1.3.2 Dependence on natural resources (% of GDP)	0.1	97	21	●	0
1.3.3 Tertiarisation of economy (% of GDP)	62.7	75	32	▼	-1
1.4 Economic Diversification		89	9	▼	-2
1.4.1 Concentration of exports	0.1	98	3	▼	-1
1.4.2 Diversity	428	81	9	▼	-2
1.5 Inequality		84	21	▲	2
1.5.1 Income inequality	30.5	84	21	▲	2
2. Policy Pillar		**78**	**22**	●	0
2.1 Education and skills		77	16	●	0
2.1.1 Education and skills input		81	13	●	0
2.1.1.1 Government education spendings (% of GDP)	5.5	52	29	▲	4
2.1.1.2 Tertiary public education spendings (% of gov.exp)	32.5	66	13	▲	1
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	12.3	85	26	●	0
2.1.1.5 Staff training (1-7 survey)	5.0	76	16	▼	-1
2.1.2 Education and skills output		75	20	▼	-2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	14.2	31	55	●	0
2.1.2.2 PISA score	491	66	25	▼	-7
2.1.2.3 Skillset of graduates (1-7 survey)	5.1	77	13	▼	-2
2.1.2.4 Skilled labour supply (1-7 survey)	4.7	70	34	▼	-17
2.1.2.5 Vocational enrollment (% of students)	34.6	74	14	●	0
2.1.2.6 Vocational enrollment of 15-24 olds (%)	27.7	94	3	▼	-2
2.1.2.7 Quality of vocational education (1-7 survey)	5.5	77	4	▼	-2
2.1.2.8 STEM graduates (%)	30.3	54	14	▲	4
2.1.2.9 Digital skills (1-7 survey)	4.8	72	34	▲	5
2.1.2.10 Critical thinking (1-7 survey)	4.1	57	35	▲	3
2.2 Employment		59	26	▲	3
2.2.1 Employment input		50	59	▲	22
2.2.1.1 Hiring and firing practices (1-7 survey)	3.3	31	102	●	-4
2.2.1.2 Worker's rights (1-7 score)	100.0	100	1	●	0
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.8	45	95	▼	-10
2.2.1.4 Tax wedge (% of labour cost)	47.6	13	32	▲	2
2.2.1.5 ALP spendings (% of GDP)	2.3	71	7	▲	2
2.2.2 Employment output		65	20	▼	-2
2.2.2.1 Women in labour force (% female-male)	83.2	75	53	▼	-4
2.2.2.2 Gender pay gap (% of employees)	15.4	51	33	▲	1
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.1	58	36	▼	-9
2.2.2.4 Knowledge insentive employment (%)	40.4	65	22	▲	6

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	95 137	65	19	▼	-2
2.2.2.6 ALP effectiveness (1-7 survey)	5.7	98	3	●	0
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.5	78	10	▼	-1
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.7	14	137	▼	-30
2.2.2.9 Earnings quality (PPP)	21.3	69	8	●	0
2.2.2.10 Quality of the working environment (%)	28.5	57	20	▲	5
2.3 Innovation		83	7	●	0
2.3.1 Innovation input		95	7	▼	-2
2.3.1.1 R&D spendings (% of GDP)	3.2	100	1	●	0
2.3.1.2 IPR score	8.0	89	15	▼	-3
2.3.2 Innovation output		71	12	▼	-2
2.3.2.1 Trademark applications per th. pop.	0.9	30	59	▼	-9
2.3.2.2 Patent applications per th. pop.	0.26	86	16	●	0
2.3.2.3 R&D journals per th. pop.	1.40	71	17	▼	-1
2.3.2.4 Researchers in R&D per mln.pop.	5 158	66	11	●	0
2.3.2.5 Technicians in R&D per mln.pop.	2 580	100	1	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	1.87	54	26	▼	-2
2.4 Technology		76	17	▲	2
2.4.1 Technology input		97	2	▲	10
2.4.1.1 ICT affordability	6.7	96	5	▲	31
2.4.1.2 ICT access index	8.0	88	18	▲	2
2.4.2 Technology output		49	53	▼	-15
2.4.2.1 ICT goods and services export (% of exp.)	6.1	29	84	▼	-26
2.4.2.2 Mobile broadband per 100 pop.	88.3	55	31	▼	-9
2.5 Entrepreneurship		52	69	▼	-11
2.5.1 Entrepreneurship input		58	99	▼	-11
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	21.0	59	106	▼	-11
2.5.1.3 Procedures to register a business	8.0	45	92	▼	-17
2.5.1.4 Cost to start a business (% GNI per cap)	5.1	69	57	▼	-1
2.5.2 Entrepreneurship output		51	48	▲	9
2.5.2.1 Global Entrepreneurship Index	66.0	77	13	▲	4
2.5.2.2 New corporate registrations per th. pop.	0.4	6	78	▲	2
2.5.2.3 Venture capital investments (% of GDP)	0.03	27	20	▲	5
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.7	77	24	▲	28
2.6 Statistics		90	26	●	0
2.6.1 Statistical fullness (%)	0.95	90	26	●	0

Azerbaijan

Global Labour Resilience Index 2020

GLRI 2015 Rank 71 ⬇

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
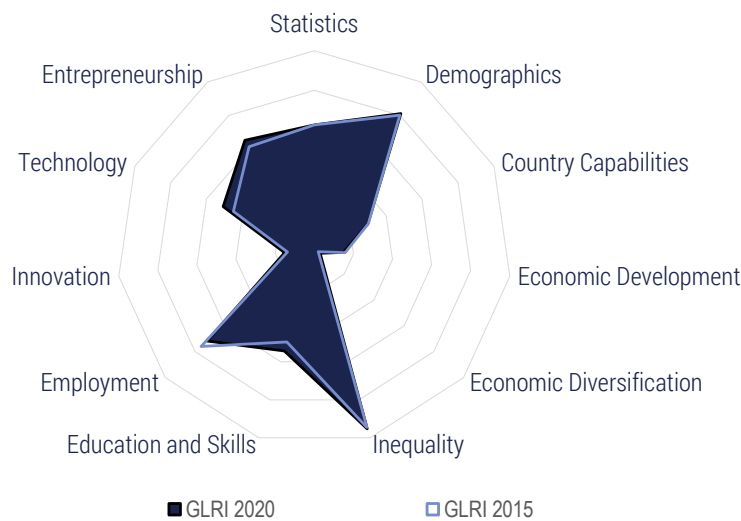
- ◼ GLRI 2020
- ◻ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**38**	**122**	▲ 4
1.1 Demographics		81	64	▲ 2
1.1.1 Share of older population (% of total population)	6.2	81	64	▲ 2
1.2 Country Capabilities		30	98	▼ -4
1.2.1 Economic Complexity Index	-0.9	30	98	▼ -4
1.3 Economic Development		15	133	△ 5
1.3.1 Income per capita (PPP)	16 011	23	67	▼ -8
1.3.2 Dependence on natural resources (% of GDP)	21.0	18	134	▼ -3
1.3.3 Tertiarisation of economy (% of GDP)	35.2	34	140	● 0
1.4 Economic Diversification		4	142	△ 1
1.4.1 Concentration of exports	0.8	1	143	● 0
1.4.2 Diversity	48	7	127	▲ 8
1.5 Inequality		95	6	● 0
1.5.1 Income inequality	26.6	95	6	● 0
2. Policy Pillar		**53**	**48**	▼ -1
2.1 Education and skills		54	48	● 0
2.1.1 Education and skills input		51	62	▲ 3
2.1.1.1 Government education spendings (% of GDP)	2.5	17	127	▼ -2
2.1.1.2 Tertiary public education spendings (% of gov.exp)	16.4	31	92	▲ 19
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	7 666	37	29	▲ 10
2.1.1.4 Years of schooling	10.6	72	51	▼ -4
2.1.1.5 Staff training (1-7 survey)	4.2	50	54	▼ -6
2.1.2 Education and skills output		63	35	▲ 9
2.1.2.1 Tertiary attainment rate (% of pop 25+)	15.7	34	51	▼ -4
2.1.2.2 PISA score	402	31	60	▲ 6
2.1.2.3 Skillset of graduates (1-7 survey)	4.7	66	31	▲ 6
2.1.2.4 Skilled labour supply (1-7 survey)	4.7	72	29	▲ 2
2.1.2.5 Vocational enrollment (% of students)	16.2	35	49	▲ 69
2.1.2.6 Vocational enrollment of 15-24 olds (%)	14.9	51	31	▲ 2
2.1.2.7 Quality of vocational education (1-7 survey)	4.4	50	47	▼ -5
2.1.2.8 STEM graduates (%)	23.5	41	45	▲ 41
2.1.2.9 Digital skills (1-7 survey)	5.2	84	14	▲ 3
2.1.2.10 Critical thinking (1-7 survey)	4.2	62	27	▼ -3
2.2 Employment		72	10	● 0
2.2.1 Employment input		80	6	▼ -1
2.2.1.1 Hiring and firing practices (1-7 survey)	4.7	71	11	▼ -4
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a	
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.7	70	21	▼ -1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		56	24	▲ 13
2.2.2.1 Women in labour force (% female-male)	90.5	84	15	▲ 1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.6	69	21	▲ 24
2.2.2.4 Knowledge insentive employment (%)	23.4	37	64	▲ 8

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	33 307	23	74	▼ -4
2.2.2.6 ALP effectiveness (1-7 survey)	4.2	63	35	▼ -3
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.9	58	31	▲ 14
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.6	61	19	▲ 48
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		15	102	▲ 8
2.3.1 Innovation input		23	94	▲ 9
2.3.1.1 R&D spendings (% of GDP)	0.2	7	94	▼ -3
2.3.1.2 IPR score	5.0	39	76	▲ 20
2.3.2 Innovation output		7	104	▼ -2
2.3.2.1 Trademark applications per th. pop.	0.5	16	94	▼ -14
2.3.2.2 Patent applications per th. pop.	0.02	6	95	▲ 2
2.3.2.3 R&D journals per th. pop.	0.05	3	84	● 0
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.6 Creative goods exports (% of goods exp.)	0.09	5	68	▲ 6
2.4 Technology		51	82	▼ -18
2.4.1 Technology input		72	57	▼ -13
2.4.1.1 ICT affordability	5.3	74	69	▼ -50
2.4.1.2 ICT access index	6.2	64	58	▲ 7
2.4.2 Technology output		29	110	▼ -25
2.4.2.1 ICT goods and services export (% of exp.)	2.1	17	127	▼ -20
2.4.2.2 Mobile broadband per 100 pop.	57.4	36	71	▼ -23
2.5 Entrepreneurship		65	33	▲ 6
2.5.1 Entrepreneurship input		94	5	● 0
2.5.1.1 Time dealing with gov. regulations (%)	0.3	99	2	● 0
2.5.1.2 Time to start a business (days)	3.5	94	7	▲ 18
2.5.1.3 Procedures to register a business	3.0	84	7	▼ -2
2.5.1.4 Cost to start a business (% GNI per cap)	1.8	83	37	▼ -2
2.5.2 Entrepreneurship output		39	81	▲ 2
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a	
2.5.2.2 New corporate registrations per th. pop.	0.7	11	70	▼ -6
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	4.0	62	57	▼ -4
2.6 Statistics		62	79	● 0
2.6.1 Statistical fullness (%)	0.81	62	79	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   ☐ GLRI 2015

Note: the score of the Inequality sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**71**	**52**	▽	-9
1.1 Demographics		95	7	▽	-2
1.1.1 Share of older population (% of total population)	2.4	95	7	▽	-2
1.2 Country Capabilities		54	48	▽	-4
1.2.1 Economic Complexity Index	0.3	54	48	▽	-4
1.3 Economic Development		56	46	△	10
1.3.1 Income per capita (PPP)	41 973	60	21	▽	-3
1.3.2 Dependence on natural resources (% of GDP)	3.5	60	83	△	22
1.3.3 Tertiarisation of economy (% of GDP)	55.3	64	71	△	16
1.4 Economic Diversification		34	107	▽	-16
1.4.1 Concentration of exports	0.4	55	109	▽	-20
1.4.2 Diversity	78	13	107	▽	-13
1.5 Inequality		n/a	n/a		
1.5.1 Income inequality	n/a	n/a	n/a		
2. Policy Pillar		**63**	**33**	△	5
2.1 Education and skills		57	39	△	3
2.1.1 Education and skills input		64	35	△	2
2.1.1.1 Government education spendings (% of GDP)	2.3	15	130	▽	-7
2.1.1.2 Tertiary public education spendings (% of gov.exp)	24.4	48	42	△	9
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	13 089	63	12	▽	-1
2.1.1.4 Years of schooling	10.5	72	54	△	28
2.1.1.5 Staff training (1-7 survey)	4.7	67	27	▽	-2
2.1.2 Education and skills output		55	59	△	1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	21.6	47	30	△	33
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	4.7	67	30	▽	-6
2.1.2.4 Skilled labour supply (1-7 survey)	4.7	71	31	△	2
2.1.2.5 Vocational enrollment (% of students)	6.6	15	91	▽	-10
2.1.2.6 Vocational enrollment of 15-24 olds (%)	3.6	13	74	▽	-2
2.1.2.7 Quality of vocational education (1-7 survey)	4.7	56	29	▽	-3
2.1.2.8 STEM graduates (%)	16.1	26	95	▽	-16
2.1.2.9 Digital skills (1-7 survey)	n/a	n/a	n/a		
2.1.2.10 Critical thinking (1-7 survey)	4.3	64	26	▽	-4
2.2 Employment		55	32	▽	-12
2.2.1 Employment input		56	37	△	7
2.2.1.1 Hiring and firing practices (1-7 survey)	4.4	64	26	△	10
2.2.1.2 Worker's rights (1-7 score)	60.8	16	99	▽	-3
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.9	76	12	▽	-3
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		53	29	▽	-4
2.2.2.1 Women in labour force (% female-male)	51.0	36	126	●	0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.5	66	25	▽	-12
2.2.2.4 Knowledge insentive employment (%)	23.1	37	65	△	5

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	72 501	50	31	▽	-4
2.2.2.6 ALP effectiveness (1-7 survey)	4.4	68	33	▽	-8
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.2	68	17	△	11
2.2.2.8 Impact of taxes on workers (1-7 survey)	5.3	77	6	▽	-4
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		32	51	▽	-6
2.3.1 Innovation input		31	68	▽	-7
2.3.1.1 R&D spendings (% of GDP)	0.1	4	112	▽	-5
2.3.1.2 IPR score	6.2	58	43	▽	-12
2.3.2 Innovation output		33	44	▽	-2
2.3.2.1 Trademark applications per th. pop.	4.4	100	1	●	0
2.3.2.2 Patent applications per th. pop.	0.16	52	28	△	8
2.3.2.3 R&D journals per th. pop.	0.13	8	67	▽	-8
2.3.2.4 Researchers in R&D per mln.pop.	369	6	72	▽	-8
2.3.2.5 Technicians in R&D per mln.pop.	17	2	93	▽	-3
2.3.2.6 Creative goods exports (% of goods exp.)	0.17	9	58	▽	-4
2.4 Technology		92	6	△	26
2.4.1 Technology input		87	22	△	13
2.4.1.1 ICT affordability	5.9	83	38	△	9
2.4.1.2 ICT access index	7.6	82	27	△	16
2.4.2 Technology output		87	6	△	38
2.4.2.1 ICT goods and services export (% of exp.)	10.5	42	50	△	46
2.4.2.2 Mobile broadband per 100 pop.	162.1	100	1	△	14
2.5 Entrepreneurship		73	22	▽	-9
2.5.1 Entrepreneurship input		79	36	▽	-5
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	8.3	85	48	▽	-10
2.5.1.3 Procedures to register a business	6.0	61	56	▽	-1
2.5.1.4 Cost to start a business (% GNI per cap)	1.0	88	22	△	1
2.5.2 Entrepreneurship output		69	18	▽	-4
2.5.2.1 Global Entrepreneurship Index	45.1	49	33	△	7
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.7	78	20	▽	-14
2.6 Statistics		59	95	●	0
2.6.1 Statistical fullness (%)	0.80	59	95	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**58**	**71**	▲	2
1.1 Demographics		85	54	▲	4
1.1.1 Share of older population (% of total population)	5.1	85	54	▲	4
1.2 Country Capabilities		29	102	▲	6
1.2.1 Economic Complexity Index	-0.9	29	102	▲	6
1.3 Economic Development		44	75	▽	-3
1.3.1 Income per capita (PPP)	3 879	6	114	▲	6
1.3.2 Dependence on natural resources (% of GDP)	0.7	87	38	▲	10
1.3.3 Tertiarisation of economy (% of GDP)	53.0	60	83	▽	-11
1.4 Economic Diversification		34	106	▽	-7
1.4.1 Concentration of exports	0.4	53	114	▽	-11
1.4.2 Diversity	92	16	97	▽	-12
1.5 Inequality		78	33	▽	-2
1.5.1 Income inequality	32.4	78	33	▽	-2
2. Policy Pillar		**32**	**107**	▲	12
2.1 Education and skills		26	124	▲	10
2.1.1 Education and skills input		33	113	▲	15
2.1.1.1 Government education spendings (% of GDP)	2.0	11	136	▽	-3
2.1.1.2 Tertiary public education spendings (% of gov.exp)	33.3	68	11	▲	99
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	6.4	40	103	▲	9
2.1.1.5 Staff training (1-7 survey)	3.3	26	123	▽	-8
2.1.2 Education and skills output		28	131	▽	-1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	9.4	21	70	▲	7
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.4	32	120	▽	-4
2.1.2.4 Skilled labour supply (1-7 survey)	3.7	44	102	▲	1
2.1.2.5 Vocational enrollment (% of students)	4.8	11	101	▲	9
2.1.2.6 Vocational enrollment of 15-24 olds (%)	1.3	5	92	▲	8
2.1.2.7 Quality of vocational education (1-7 survey)	3.4	26	119	▲	4
2.1.2.8 STEM graduates (%)	11.2	17	115	▽	-12
2.1.2.9 Digital skills (1-7 survey)	3.3	32	118	▲	8
2.1.2.10 Critical thinking (1-7 survey)	2.9	28	104	▲	6
2.2 Employment		26	127	▲	14
2.2.1 Employment input		42	92	▲	30
2.2.1.1 Hiring and firing practices (1-7 survey)	4.0	53	48	▽	-26
2.2.1.2 Worker's rights (1-7 score)	62.9	21	90	▲	23
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.1	53	66	▲	16
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		20	135	▲	9
2.2.2.1 Women in labour force (% female-male)	44.3	28	132	●	0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.9	33	101	▲	20
2.2.2.4 Knowledge insentive employment (%)	20.0	32	76	▲	33

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	9 217	6	118	▲	4
2.2.2.6 ALP effectiveness (1-7 survey)	2.6	26	105	▲	1
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.2	35	87	▲	8
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.3	54	38	▲	33
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		7	130	▽	-3
2.3.1 Innovation input		12	125	▽	-5
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	3.4	11	123	▽	-1
2.3.2 Innovation output		3	116	▲	1
2.3.2.1 Trademark applications per th. pop.	0.1	3	122	▲	1
2.3.2.2 Patent applications per th. pop.	0.00	2	113	▲	2
2.3.2.3 R&D journals per th. pop.	0.02	2	107	▲	2
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.07	4	76	●	0
2.4 Technology		59	65	▽	-13
2.4.1 Technology input		56	94	▽	-4
2.4.1.1 ICT affordability	6.4	92	13	●	0
2.4.1.2 ICT access index	2.5	17	122	▲	4
2.4.2 Technology output		59	30	▲	11
2.4.2.1 ICT goods and services export (% of exp.)	26.2	87	11	●	0
2.4.2.2 Mobile broadband per 100 pop.	17.8	12	126	▽	-1
2.5 Entrepreneurship		47	87	▲	17
2.5.1 Entrepreneurship input		69	69	▽	-15
2.5.1.1 Time dealing with gov. regulations (%)	3.3	89	27	▲	1
2.5.1.2 Time to start a business (days)	19.5	62	104	▽	-19
2.5.1.3 Procedures to register a business	9.0	37	112	▽	-20
2.5.1.4 Cost to start a business (% GNI per cap)	22.3	47	104	▽	-11
2.5.2 Entrepreneurship output		30	117	▲	12
2.5.2.1 Global Entrepreneurship Index	11.8	5	125	▲	2
2.5.2.2 New corporate registrations per th. pop.	0.1	2	106	▽	-2
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.6	52	85	▲	26
2.6 Statistics		59	95	●	0
2.6.1 Statistical fullness (%)	0.80	59	95	●	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
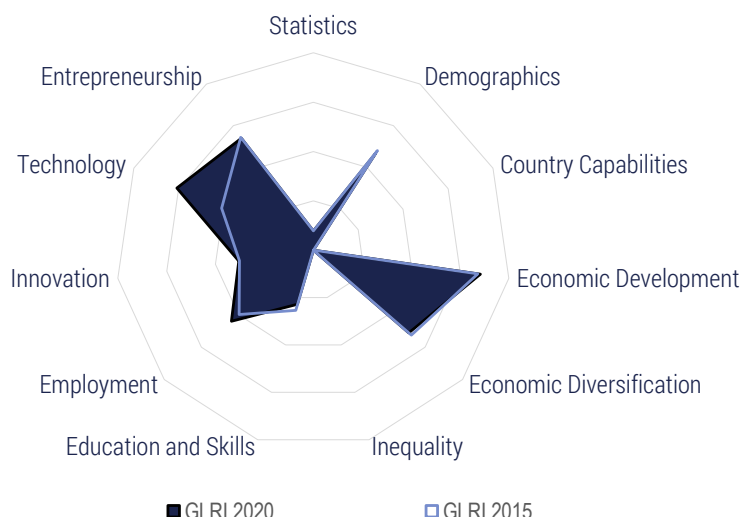
Radar chart with axes: Statistics, Demographics, Country Capabilities, Economic Development, Economic Diversification, Inequality, Education and Skills, Employment, Innovation, Technology, Entrepreneurship. Legend: ■ GLRI 2020, □ GLRI 2015

Note: the scores of the Country capabilities and Inequality sub-pillars for GLRI 2015 and GLRI 2020 are equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**61**	**65**	▼	-4
1.1 Demographics		47	110	▼	-2
1.1.1 Share of older population (% of total population)	15.4	47	110	▼	-2
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		68	25	▲	2
1.3.1 Income per capita (PPP)	16 839	24	63	▼	-1
1.3.2 Dependence on natural resources (% of GDP)	0.1	98	14	▲	13
1.3.3 Tertiarisation of economy (% of GDP)	74.9	93	4	●	0
1.4 Economic Diversification		51	69	▼	-2
1.4.1 Concentration of exports	0.2	86	42	▲	4
1.4.2 Diversity	95	16	96	▼	-9
1.5 Inequality		n/a	n/a		
1.5.1 Income inequality	n/a	n/a	n/a		
2. Policy Pillar		**31**	**109**	●	0
2.1 Education and skills		23	130	▼	-6
2.1.1 Education and skills input		54	51	▼	-13
2.1.1.1 Government education spendings (% of GDP)	4.7	42	63	▼	-15
2.1.1.2 Tertiary public education spendings (% of gov.exp)	28.5	57	22	▼	-16
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	7 159	35	33	▼	-2
2.1.1.4 Years of schooling	9.0	60	76	▼	-7
2.1.1.5 Staff training (1-7 survey)	n/a	n/a	n/a		
2.1.2 Education and skills output		1	145	●	0
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	n/a	n/a	n/a		
2.1.2.4 Skilled labour supply (1-7 survey)	n/a	n/a	n/a		
2.1.2.5 Vocational enrollment (% of students)	0.3	2	135	▲	1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.0	1	122	●	0
2.1.2.7 Quality of vocational education (1-7 survey)	n/a	n/a	n/a		
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	n/a	n/a	n/a		
2.1.2.10 Critical thinking (1-7 survey)	n/a	n/a	n/a		
2.2 Employment		44	67	▲	23
2.2.1 Employment input		43	112	▼	-52
2.2.1.1 Hiring and firing practices (1-7 survey)	3.3	43	112	▼	-52
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	n/a	n/a	n/a		
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		49	35	▼	-15
2.2.2.1 Women in labour force (% female-male)	88.9	82	22	▲	3
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.2	60	33	▼	-11
2.2.2.4 Knowledge insentive employment (%)	30.9	50	43	▼	-42

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	35 691	24	72	●	0
2.2.2.6 ALP effeectiveness (1-7 survey)	n/a	n/a	n/a		
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	38	73	▼	-54
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.8	41	77	▼	-42
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		30	55	▲	1
2.3.1 Innovation input					
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		30	49	▼	-4
2.3.2.1 Trademark applications per th. pop.	3.0	95	11	▼	-10
2.3.2.2 Patent applications per th. pop.	0.15	49	32	▼	-2
2.3.2.3 R&D journals per th. pop.	0.17	9	60	▲	5
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.02	2	91	▲	12
2.4 Technology		61	59	▲	13
2.4.1 Technology input		70	62	▲	15
2.4.1.1 ICT affordability	4.3	56	103	▲	9
2.4.1.2 ICT access index	7.3	79	29	▲	5
2.4.2 Technology output		49	54	▲	21
2.4.2.1 ICT goods and services export (% of exp.)	13.1	49	39	▲	61
2.4.2.2 Mobile broadband per 100 pop.	54.9	34	75	▼	-33
2.5 Entrepreneurship		54	64	▼	-14
2.5.1 Entrepreneurship input		73	53	▼	-11
2.5.1.1 Time dealing with gov. regulations (%)	4.3	85	34	▲	2
2.5.1.2 Time to start a business (days)	16.0	69	88	▼	-12
2.5.1.3 Procedures to register a business	7.0	53	70	▲	5
2.5.1.4 Cost to start a business (% GNI per cap)	n/a	n/a	n/a		
2.5.2 Entrepreneurship output		39	82	▼	-15
2.5.2.1 Global Entrepreneurship Index	33.6	34	52	▲	3
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.0	39	119	▼	-32
2.6 Statistics		8	141	●	0
2.6.1 Statistical fullness (%)	0.54	8	141	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Belgium

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		100	2	▲	2
1.1 Demographics		34	124	▲	5
1.1.1 Share of older population (% of total population)	18.8	34	124	▲	5
1.2 Country Capabilities		75	19	▽	-4
1.2.1 Economic Complexity Index	1.2	75	19	▽	-4
1.3 Economic Development		80	9	▽	-4
1.3.1 Income per capita (PPP)	43 218	62	20	▲	2
1.3.2 Dependence on natural resources (% of GDP)	0.0	100	9	▽	-2
1.3.3 Tertiarisation of economy (% of GDP)	68.8	84	15	⬤	0
1.4 Economic Diversification		87	10	▲	1
1.4.1 Concentration of exports	0.1	94	15	▲	5
1.4.2 Diversity	421	79	10	▽	-1
1.5 Inequality		92	12	▽	-2
1.5.1 Income inequality	27.7	92	12	▽	-2
2. Policy Pillar		81	16	▽	-1
2.1 Education and skills		80	12	▽	-1
2.1.1 Education and skills input		82	12	▽	-1
2.1.1.1 Government education spendings (% of GDP)	6.5	64	15	▲	1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	22.3	44	56	▲	13
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	15 612	76	9	⬤	0
2.1.1.4 Years of schooling	12.4	86	24	▲	4
2.1.1.5 Staff training (1-7 survey)	5.0	75	17	▽	-3
2.1.2 Education and skills output		81	12	⬤	0
2.1.2.1 Tertiary attainment rate (% of pop 25+)	34.7	75	4	▲	1
2.1.2.2 PISA score	500	69	18	▽	-3
2.1.2.3 Skillset of graduates (1-7 survey)	5.0	75	14	▽	-2
2.1.2.4 Skilled labour supply (1-7 survey)	4.7	72	28	▽	-2
2.1.2.5 Vocational enrollment (% of students)	44.2	94	4	⬤	0
2.1.2.6 Vocational enrollment of 15-24 olds (%)	25.1	86	6	▽	-3
2.1.2.7 Quality of vocational education (1-7 survey)	5.1	66	14	▽	-1
2.1.2.8 STEM graduates (%)	16.7	27	88	▽	-7
2.1.2.9 Digital skills (1-7 survey)	4.8	73	33	▽	-2
2.1.2.10 Critical thinking (1-7 survey)	4.0	54	39	▽	-11
2.2 Employment		62	19	▲	11
2.2.1 Employment input		48	69	▲	22
2.2.1.1 Hiring and firing practices (1-7 survey)	3.2	30	105	▲	15
2.2.1.2 Worker's rights (1-7 score)	94.8	89	9	▲	16
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.7	68	23	▲	14
2.2.1.4 Tax wedge (% of labour cost)	52.7	1	36	⬤	0
2.2.1.5 ALP spendings (% of GDP)	2.3	73	5	⬤	0
2.2.2 Employment output		72	13	▲	1
2.2.2.1 Women in labour force (% female-male)	81.3	73	59	▲	5
2.2.2.2 Gender pay gap (% of employees)	3.7	92	3	▲	3
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.2	61	31	▲	1
2.2.2.4 Knowledge insentive employment (%)	46.2	74	10	▲	1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	103 712	71	12	⬤	0
2.2.2.6 ALP effectiveness (1-7 survey)	4.6	72	24	▽	-6
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.6	48	46	▲	32
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.8	15	136	▲	2
2.2.2.9 Earnings quality (PPP)	27.2	92	6	⬤	0
2.2.2.10 Quality of the working environment (%)	25.8	65	15	▲	16
2.3 Innovation		79	15	▽	-1
2.3.1 Innovation input		89	9	▲	2
2.3.1.1 R&D spendings (% of GDP)	2.6	94	11	▲	1
2.3.1.2 IPR score	7.7	83	17	⬤	0
2.3.2 Innovation output		69	15	▽	-1
2.3.2.1 Trademark applications per th. pop.	2.1	68	21	▽	-3
2.3.2.2 Patent applications per th. pop.	0.11	36	39	▲	13
2.3.2.3 R&D journals per th. pop.	1.44	73	15	⬤	0
2.3.2.4 Researchers in R&D per mln.pop.	4 942	63	14	▲	5
2.3.2.5 Technicians in R&D per mln.pop.	1 378	59	12	▲	1
2.3.2.6 Creative goods exports (% of goods exp.)	2.92	69	18	▽	-2
2.4 Technology		65	40	▽	-15
2.4.1 Technology input		85	25	▲	3
2.4.1.1 ICT affordability	5.5	77	60	▲	10
2.4.1.2 ICT access index	7.8	85	23	▽	-2
2.4.2 Technology output		42	73	▽	-42
2.4.2.1 ICT goods and services export (% of exp.)	7.1	32	77	▽	-46
2.4.2.2 Mobile broadband per 100 pop.	66.7	42	59	▽	-13
2.5 Entrepreneurship		69	27	⬤	0
2.5.1 Entrepreneurship input		77	40	▽	-8
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	4.5	92	18	▽	-12
2.5.1.3 Procedures to register a business	5.0	68	38	▽	-19
2.5.1.4 Cost to start a business (% GNI per cap)	5.6	68	60	▽	-6
2.5.2 Entrepreneurship output		63	27	▲	1
2.5.2.1 Global Entrepreneurship Index	63.7	74	16	▽	-1
2.5.2.2 New corporate registrations per th. pop.	2.4	34	32	▲	10
2.5.2.3 Venture capital investments (% of GDP)	0.03	34	16	▽	-1
2.5.2.4 SME outstanding loans (% of loans)	67.1	77	7	⬤	0
2.5.2.5 Access to loans (1-7 survey)	4.7	77	23	▲	4
2.6 Statistics		97	10	⬤	0
2.6.1 Statistical fullness (%)	0.98	97	10	⬤	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics, Demographics, Entrepreneurship, Country Capabilities, Technology, Economic Development, Innovation, Economic Diversification, Employment, Inequality, Education and Skills

■ GLRI 2020   □ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**49**	**95**	▼ -4
1.1 Demographics		90	38	▲ 2
1.1.1 Share of older population (% of total population)	3.9	90	38	▲ 2
1.2 Country Capabilities		n/a	n/a	
1.2.1 Economic Complexity Index	n/a	n/a	n/a	
1.3 Economic Development		50	55	▲ 15
1.3.1 Income per capita (PPP)	7 810	11	96	▼ -3
1.3.2 Dependence on natural resources (% of GDP)	1.0	82	46	▲ 31
1.3.3 Tertiarisation of economy (% of GDP)	62.9	75	30	▲ 10
1.4 Economic Diversification		43	88	▼ -7
1.4.1 Concentration of exports	0.3	71	80	▼ -9
1.4.2 Diversity	85	14	103	▼ -5
1.5 Inequality		17	126	▲ 1
1.5.1 Income inequality	53.3	17	126	▲ 1
2. Policy Pillar		**15**	**141**	▼ -3
2.1 Education and skills		39	90	▲ 11
2.1.1 Education and skills input		61	39	▲ 6
2.1.1.1 Government education spendings (% of GDP)	7.4	74	7	▲ 13
2.1.1.2 Tertiary public education spendings (% of gov.exp)	9.5	15	129	▼ -12
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	10.5	72	53	▼ -5
2.1.1.5 Staff training (1-7 survey)	n/a	n/a	n/a	
2.1.2 Education and skills output		24	137	▲ 1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a	
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	n/a	n/a	n/a	
2.1.2.4 Skilled labour supply (1-7 survey)	n/a	n/a	n/a	
2.1.2.5 Vocational enrollment (% of students)	8.2	18	82	▲ 27
2.1.2.6 Vocational enrollment of 15-24 olds (%)	2.9	11	78	▲ 10
2.1.2.7 Quality of vocational education (1-7 survey)	n/a	n/a	n/a	
2.1.2.8 STEM graduates (%)	18.0	30	82	▼ -4
2.1.2.9 Digital skills (1-7 survey)	n/a	n/a	n/a	
2.1.2.10 Critical thinking (1-7 survey)	n/a	n/a	n/a	
2.2 Employment		22	133	▼ -2
2.2.1 Employment input				
2.2.1.1 Hiring and firing practices (1-7 survey)	n/a	n/a	n/a	
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a	
2.2.1.3 Hiring of foreign labour (1-7 survey)	n/a	n/a	n/a	
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		27	117	▼ -18
2.2.2.1 Women in labour force (% female-male)	65.5	54	105	▼ -3
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	n/a	n/a	n/a	
2.2.2.4 Knowledge insentive employment (%)	20.4	33	73	▼ -2

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	18 643	13	98	▼ -7
2.2.2.6 ALP effectiveness (1-7 survey)	n/a	n/a	n/a	
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.1	32	95	▼ -10
2.2.2.8 Impact of taxes on workers (1-7 survey)	n/a	n/a	n/a	
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		20	84	▼ -11
2.3.1 Innovation input				
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a	
2.3.1.2 IPR score	n/a	n/a	n/a	
2.3.2 Innovation output		20	71	▼ -9
2.3.2.1 Trademark applications per th. pop.	2.2	71	19	▼ -8
2.3.2.2 Patent applications per th. pop.	0.10	33	43	▲ 3
2.3.2.3 R&D journals per th. pop.	0.01	2	111	▼ -18
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	115	▲ 7
2.4 Technology		24	134	▼ -12
2.4.1 Technology input		32	122	▼ -8
2.4.1.1 ICT affordability	2.8	32	134	▼ -8
2.4.1.2 ICT access index	3.7	32	103	▼ -12
2.4.2 Technology output		21	128	▼ -12
2.4.2.1 ICT goods and services export (% of exp.)	3.3	21	107	▲ 15
2.4.2.2 Mobile broadband per 100 pop.	n/a			
2.5 Entrepreneurship		38	120	▼ -39
2.5.1 Entrepreneurship input		54	113	▼ -33
2.5.1.1 Time dealing with gov. regulations (%)	3.9	87	29	▲ 3
2.5.1.2 Time to start a business (days)	48.0	6	134	▼ -9
2.5.1.3 Procedures to register a business	9.0	37	112	▼ -20
2.5.1.4 Cost to start a business (% GNI per cap)	n/a	n/a	n/a	
2.5.2 Entrepreneurship output		28	122	▼ -28
2.5.2.1 Global Entrepreneurship Index	30.0	29	59	▲ 17
2.5.2.2 New corporate registrations per th. pop.	2.4	33	33	▲ 6
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	2.3	23	138	▼ -26
2.6 Statistics		1	143	● 0
2.6.1 Statistical fullness (%)	0.51	1	143	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Benin

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		41	118	▼	-43
1.1 Demographics		92	31	▲	1
1.1.1 Share of older population (% of total population)	3.3	92	31	▲	1
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		26	113	▼	-10
1.3.1 Income per capita (PPP)	2 152	3	130	●	0
1.3.2 Dependence on natural resources (% of GDP)	5.8	49	95	▼	-11
1.3.3 Tertiarisation of economy (% of GDP)	46.2	50	115	▼	-12
1.4 Economic Diversification		34	110	▼	-17
1.4.1 Concentration of exports	0.4	57	104	▼	-24
1.4.2 Diversity	63	10	114	▼	-2
1.5 Inequality		33	119	▼	-17
1.5.1 Income inequality	47.8	33	119	▼	-17
2. Policy Pillar		23	132	▲	2
2.1 Education and skills		27	122	▲	7
2.1.1 Education and skills input		17	137	▲	1
2.1.1.1 Government education spendings (% of GDP)	4.0	35	80	▼	-13
2.1.1.2 Tertiary public education spendings (% of gov.exp)	22.1	43	58	▲	17
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	3 570	18	58	●	0
2.1.1.4 Years of schooling	2.5	9	125	▼	-2
2.1.1.5 Staff training (1-7 survey)	3.2	24	125	▲	8
2.1.2 Education and skills output		47	75	▲	21
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.9	46	77	▼	-3
2.1.2.4 Skilled labour supply (1-7 survey)	4.8	75	23	●	0
2.1.2.5 Vocational enrollment (% of students)	2.8	7	109	▲	5
2.1.2.6 Vocational enrollment of 15-24 olds (%)	1.2	5	98	▼	-2
2.1.2.7 Quality of vocational education (1-7 survey)	4.3	48	50	▲	1
2.1.2.8 STEM graduates (%)	20.7	35	70	▲	35
2.1.2.9 Digital skills (1-7 survey)	3.4	33	115	▲	15
2.1.2.10 Critical thinking (1-7 survey)	3.5	43	62	▲	14
2.2 Employment		40	75	▲	24
2.2.1 Employment input		53	44	▲	25
2.2.1.1 Hiring and firing practices (1-7 survey)	4.3	60	33	▲	41
2.2.1.2 Worker's rights (1-7 score)	62.9	21	90	▲	11
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.7	70	20	▼	-7
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		32	96	▲	23
2.2.2.1 Women in labour force (% female-male)	94.4	89	9	▲	1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.4	22	125	▼	-7
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	5 307	4	128	▲	1
2.2.2.6 ALP effectiveness (1-7 survey)	1.9	11	127	▲	3
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.6	46	52	▲	72
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.1	48	58	▲	47
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		16	100	▼	-16
2.3.1 Innovation input		31	71	▼	-24
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	4.5	31	104	▼	-32
2.3.2 Innovation output		1	138	▼	-2
2.3.2.1 Trademark applications per th. pop.	n/a	n/a	n/a		
2.3.2.2 Patent applications per th. pop.	n/a	n/a	n/a		
2.3.2.3 R&D journals per th. pop.	0.01	2	110	▼	-8
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	127	●	0
2.4 Technology		11	143	▼	-9
2.4.1 Technology input		20	137	▲	1
2.4.1.1 ICT affordability	2.9	33	132	▲	4
2.4.1.2 ICT access index	1.9	10	130	▼	-6
2.4.2 Technology output		9	144	▼	-38
2.4.2.1 ICT goods and services export (% of exp.)	2.6	19	120	▼	-45
2.4.2.2 Mobile broadband per 100 pop.	5.6	4	142	▼	-20
2.5 Entrepreneurship		43	103	▲	31
2.5.1 Entrepreneurship input		77	42	▲	89
2.5.1.1 Time dealing with gov. regulations (%)	5.7	80	48	▲	62
2.5.1.2 Time to start a business (days)	8.5	84	50	▲	31
2.5.1.3 Procedures to register a business	6.0	61	56	▲	19
2.5.1.4 Cost to start a business (% GNI per cap)	3.6	74	50	▼	-3
2.5.2 Entrepreneurship output		15	138	▼	-20
2.5.2.1 Global Entrepreneurship Index	13.3	7	119	▼	-20
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	2.3	23	137	▼	-22
2.6 Statistics		42	130	●	0
2.6.1 Statistical fullness (%)	0.71	42	130	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Bhutan

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
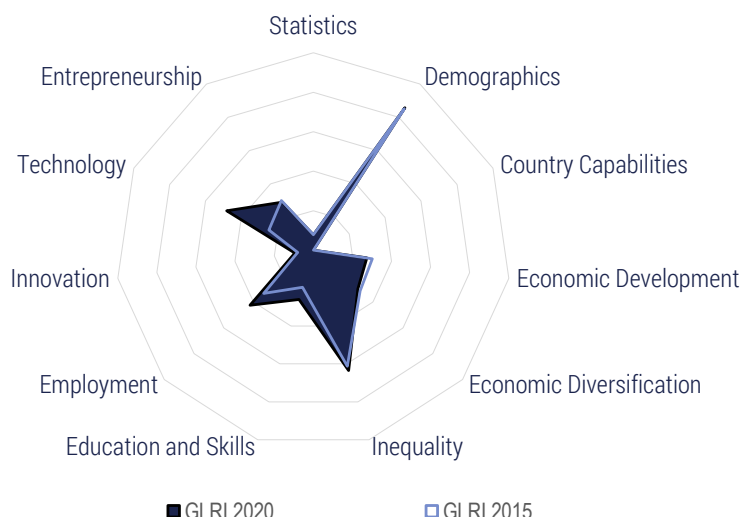
■ GLRI 2020   ☐ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**53**	**86**	▼	-5
1.1 Demographics		86	53	▼	-3
1.1.1 Share of older population (% of total population)	5.0	86	53	▼	-3
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		27	110	▼	-3
1.3.1 Income per capita (PPP)	9 348	13	90	▲	5
1.3.2 Dependence on natural resources (% of GDP)	3.9	58	86	▼	-12
1.3.3 Tertiarisation of economy (% of GDP)	37.2	37	138	▼	-4
1.4 Economic Diversification		30	116	▼	-5
1.4.1 Concentration of exports	0.4	55	110	▼	-11
1.4.2 Diversity	39	5	132	▲	3
1.5 Inequality		63	68	▲	6
1.5.1 Income inequality	37.4	63	68	▲	6
2. Policy Pillar		**19**	**136**	▲	5
2.1 Education and skills		26	125	▲	8
2.1.1 Education and skills input		29	121	▲	8
2.1.1.1 Government education spendings (% of GDP)	6.6	65	13	▲	18
2.1.1.2 Tertiary public education spendings (% of gov.exp)	10.3	17	124	▼	-31
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	4.1	22	117	▲	7
2.1.1.5 Staff training (1-7 survey)	n/a	n/a	n/a		
2.1.2 Education and skills output		33	117	▲	7
2.1.2.1 Tertiary attainment rate (% of pop 25+)	10.2	23	67	▲	13
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	4.2	52	57	▲	2
2.1.2.4 Skilled labour supply (1-7 survey)	n/a	n/a	n/a		
2.1.2.5 Vocational enrollment (% of students)	2.1	5	118	▲	10
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	n/a	n/a	n/a		
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	n/a	n/a	n/a		
2.1.2.10 Critical thinking (1-7 survey)	n/a	n/a	n/a		
2.2 Employment		42	71	▲	40
2.2.1 Employment input					
2.2.1.1 Hiring and firing practices (1-7 survey)	n/a	n/a	n/a		
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	n/a	n/a	n/a		
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		44	52	▲	14
2.2.2.1 Women in labour force (% female-male)	78.1	69	70	▼	-8
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.9	53	42	▼	-3
2.2.2.4 Knowledge insentive employment (%)	14.8	24	95	▼	-5

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	19 524	13	94	▲	8
2.2.2.6 ALP effectiveness (1-7 survey)	n/a	n/a	n/a		
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.1	63	28	▲	45
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.6	60	22	▲	22
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		9	124	▲	5
2.3.1 Innovation input					
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		9	94	▲	7
2.3.2.1 Trademark applications per th. pop.	1.2	39	48	▲	1
2.3.2.2 Patent applications per th. pop.	0.01	4	101	▼	-1
2.3.2.3 R&D journals per th. pop.	0.05	4	83	▲	5
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	132	▲	1
2.4 Technology		48	91	▲	20
2.4.1 Technology input		59	89	▲	4
2.4.1.1 ICT affordability	5.9	82	43	▼	-6
2.4.1.2 ICT access index	3.7	32	104	▲	5
2.4.2 Technology output		37	91	▲	40
2.4.2.1 ICT goods and services export (% of exp.)	8.4	35	65	▲	50
2.4.2.2 Mobile broadband per 100 pop.	47.9	30	84	▲	23
2.5 Entrepreneurship		29	138	▼	-9
2.5.1 Entrepreneurship input		30	142	▼	-27
2.5.1.1 Time dealing with gov. regulations (%)	28.8	1	113	▼	-20
2.5.1.2 Time to start a business (days)	12.0	77	72	▲	31
2.5.1.3 Procedures to register a business	8.0	45	92	▼	-17
2.5.1.4 Cost to start a business (% GNI per cap)	n/a	n/a	n/a		
2.5.2 Entrepreneurship output		34	102	▲	23
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a		
2.5.2.2 New corporate registrations per th. pop.	0.1	2	105	▲	4
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.0	61	60	▲	33
2.6 Statistics		8	141	●	0
2.6.1 Statistical fullness (%)	0.54	8	141	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

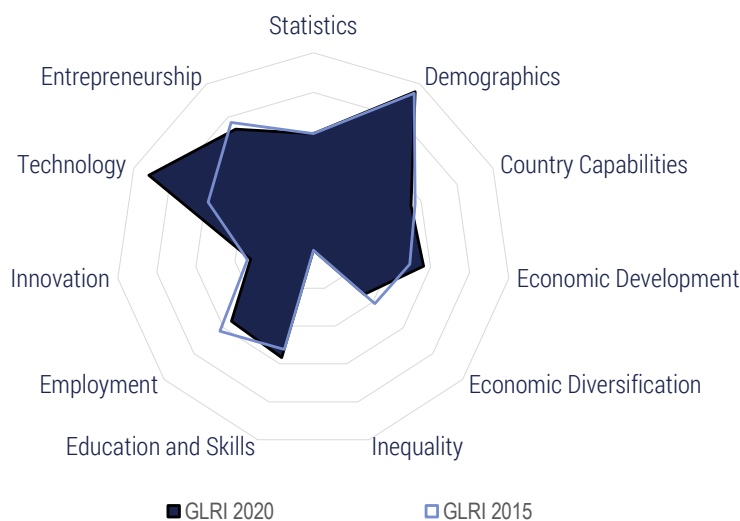## Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- GLRI 2020
- GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**31**	**133**	▲	6
1.1 Demographics		79	69	▲	2
1.1.1 Share of older population (% of total population)	6.8	79	69	▲	2
1.2 Country Capabilities		23	114	▽	-7
1.2.1 Economic Complexity Index	-1.2	23	114	▽	-7
1.3 Economic Development		28	109	△	19
1.3.1 Income per capita (PPP)	6 986	10	101	▲	2
1.3.2 Dependence on natural resources (% of GDP)	6.9	45	103	▲	8
1.3.3 Tertiarisation of economy (% of GDP)	49.1	55	104	▲	19
1.4 Economic Diversification		35	104	△	11
1.4.1 Concentration of exports	0.4	56	108	▲	12
1.4.2 Diversity	79	13	106	▽	-3
1.5 Inequality		44	107	△	12
1.5.1 Income inequality	44.0	44	107	▲	12
2. Policy Pillar		**29**	**116**	▲	1
2.1 Education and skills		46	67	△	4
2.1.1 Education and skills input		49	70	▲	19
2.1.1.1 Government education spendings (% of GDP)	7.3	73	8	▲	11
2.1.1.2 Tertiary public education spendings (% of gov.exp)	26.2	52	32	▲	1
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	8.7	58	82	▽	-1
2.1.1.5 Staff training (1-7 survey)	3.1	20	127	▲	1
2.1.2 Education and skills output		50	70	▽	-5
2.1.2.1 Tertiary attainment rate (% of pop 25+)	19.6	43	39	▽	-6
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.6	37	104	▽	-8
2.1.2.4 Skilled labour supply (1-7 survey)	3.5	39	112	▲	3
2.1.2.5 Vocational enrollment (% of students)	64.6	100	1	●	0
2.1.2.6 Vocational enrollment of 15-24 olds (%)	29.8	100	1	▲	3
2.1.2.7 Quality of vocational education (1-7 survey)	3.6	31	101	▽	-4
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	3.3	30	120	▲	2
2.1.2.10 Critical thinking (1-7 survey)	2.5	18	123	▲	5
2.2 Employment		14	141	▽	-15
2.2.1 Employment input		22	134	▽	-24
2.2.1.1 Hiring and firing practices (1-7 survey)	2.2	1	128	▽	-45
2.2.1.2 Worker's rights (1-7 score)	71.1	38	59	▲	27
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.7	41	103	▽	-4
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		21	134	▽	-19
2.2.2.1 Women in labour force (% female-male)	71.3	61	93	▽	-11
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.6	26	115	▽	-56
2.2.2.4 Knowledge insentive employment (%)	15.3	24	92	▲	3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	15 585	11	102	▲	5
2.2.2.6 ALP effectiveness (1-7 survey)	1.8	8	131	▲	2
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.5	11	135	▽	-23
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.4	31	110	▽	-28
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		11	119	▽	-12
2.3.1 Innovation input		14	120	▽	-18
2.3.1.1 R&D spendings (% of GDP)	0.2	6	96	▲	1
2.3.1.2 IPR score	4.0	22	116	▽	-30
2.3.2 Innovation output		8	96	△	3
2.3.2.1 Trademark applications per th. pop.	0.7	23	77	▽	-7
2.3.2.2 Patent applications per th. pop.	0.03	11	82	▲	4
2.3.2.3 R&D journals per th. pop.	0.01	1	122	▽	-4
2.3.2.4 Researchers in R&D per mln.pop.	166	3	83	▽	-3
2.3.2.5 Technicians in R&D per mln.pop.	26	2	87	▽	-1
2.3.2.6 Creative goods exports (% of goods exp.)	0.05	4	79	▲	4
2.4 Technology		33	119	△	6
2.4.1 Technology input		49	106	▲	9
2.4.1.1 ICT affordability	4.3	56	102	▲	23
2.4.1.2 ICT access index	4.3	40	96	▲	2
2.4.2 Technology output		21	129	▽	-9
2.4.2.1 ICT goods and services export (% of exp.)	2.7	19	117	▽	-11
2.4.2.2 Mobile broadband per 100 pop.	33.8	22	101	▽	-13
2.5 Entrepreneurship		37	122	△	13
2.5.1 Entrepreneurship input		34	138	▲	5
2.5.1.1 Time dealing with gov. regulations (%)	15.1	48	91	▲	22
2.5.1.2 Time to start a business (days)	39.5	23	130	▽	-1
2.5.1.3 Procedures to register a business	12.0	13	138	▽	-2
2.5.1.4 Cost to start a business (% GNI per cap)	54.0	32	127	▽	-2
2.5.2 Entrepreneurship output		45	58	▽	-9
2.5.2.1 Global Entrepreneurship Index	20.4	16	91	▽	-1
2.5.2.2 New corporate registrations per th. pop.	0.3	5	86	▽	-3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.5	72	32	▽	-15
2.6 Statistics		66	71	●	0
2.6.1 Statistical fullness (%)	0.83	66	71	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
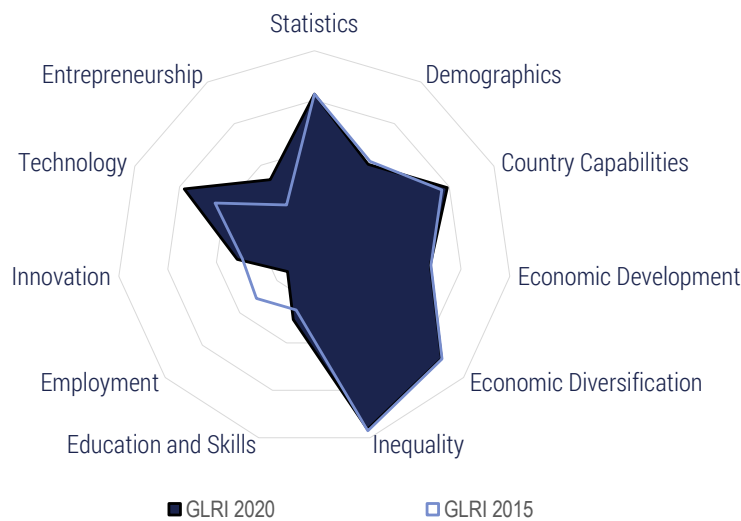
■ GLRI 2020   □ GLRI 2015

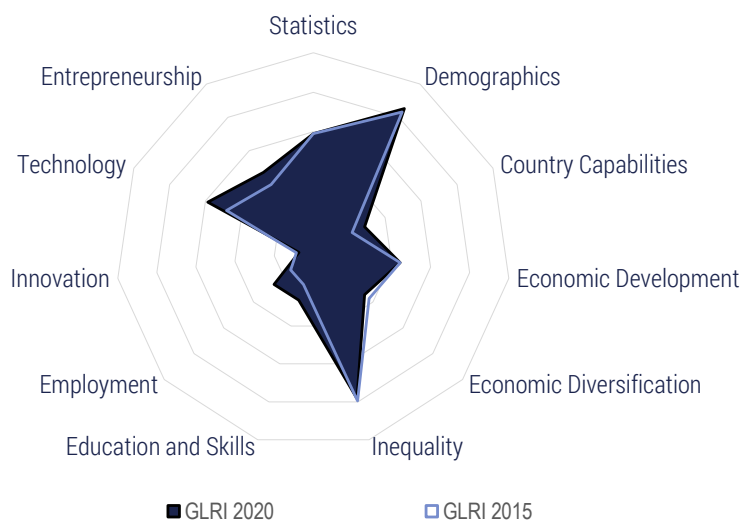## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**67**	**58**	▽	-7
1.1 Demographics		40	116	●	0
1.1.1 Share of older population (% of total population)	17.0	40	116	●	0
1.2 Country Capabilities		59	42	△	1
1.2.1 Economic Complexity Index	0.5	59	42	△	1
1.3 Economic Development		47	65	▽	-7
1.3.1 Income per capita (PPP)	12 756	18	77	△	7
1.3.2 Dependence on natural resources (% of GDP)	1.3	78	58	△	3
1.3.3 Tertiarisation of economy (% of GDP)	55.6	64	67	▽	-3
1.4 Economic Diversification		68	33	▽	-1
1.4.1 Concentration of exports	0.1	94	20	▽	-3
1.4.2 Diversity	232	43	39	△	1
1.5 Inequality		76	39	▽	-1
1.5.1 Income inequality	33.0	76	39	▽	-1
2. Policy Pillar		**33**	**99**	△	2
2.1 Education and skills		30	116	△	6
2.1.1 Education and skills input		32	116	△	10
2.1.1.1 Government education spendings (% of GDP)	n/a	n/a	n/a		
2.1.1.2 Tertiary public education spendings (% of gov.exp)	n/a	n/a	n/a		
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	4 112	20	50	▽	-1
2.1.1.4 Years of schooling	9.8	66	66	△	28
2.1.1.5 Staff training (1-7 survey)	3.0	18	130	▽	-1
2.1.2 Education and skills output		37	110	▽	-7
2.1.2.1 Tertiary attainment rate (% of pop 25+)	7.7	17	75	▽	-6
2.1.2.2 PISA score	402	31	60	▽	-1
2.1.2.3 Skillset of graduates (1-7 survey)	3.2	26	132	▽	-14
2.1.2.4 Skilled labour supply (1-7 survey)	3.3	33	127	▽	-8
2.1.2.5 Vocational enrollment (% of students)	38.2	81	8	△	3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	3.1	20	126	▽	-6
2.1.2.8 STEM graduates (%)	21.2	36	63	△	20
2.1.2.9 Digital skills (1-7 survey)	3.8	45	86	△	4
2.1.2.10 Critical thinking (1-7 survey)	2.5	16	127	▽	-7
2.2 Employment		14	140	▽	-23
2.2.1 Employment input		26	129	▽	-49
2.2.1.1 Hiring and firing practices (1-7 survey)	3.0	25	112	▽	-81
2.2.1.2 Worker's rights (1-7 score)	72.2	41	57	△	8
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.1	25	129	▽	-7
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		16	141	▽	-10
2.2.2.1 Women in labour force (% female-male)	60.8	48	118	▽	-5
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	1.7	7	143	▽	-5
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	37 965	26	68	△	1
2.2.2.6 ALP effectiveness (1-7 survey)	2.7	28	100	△	9
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.5	12	132	▽	-89
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.0	20	130	▽	-18
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		31	53	△	5
2.3.1 Innovation input		18	111	▽	-12
2.3.1.1 R&D spendings (% of GDP)	0.2	8	93	▽	-15
2.3.1.2 IPR score	4.4	29	107	▽	-6
2.3.2 Innovation output		44	34	△	3
2.3.2.1 Trademark applications per th. pop.	1.1	35	53	▽	-10
2.3.2.2 Patent applications per th. pop.	0.03	11	81	△	21
2.3.2.3 R&D journals per th. pop.	0.15	9	65	△	1
2.3.2.4 Researchers in R&D per mln.pop.	464	7	70	△	2
2.3.2.5 Technicians in R&D per mln.pop.	64	4	68	△	10
2.3.2.6 Creative goods exports (% of goods exp.)	5.23	92	12	△	3
2.4 Technology		58	68	▽	-1
2.4.1 Technology input		73	54	▽	-6
2.4.1.1 ICT affordability	6.1	86	30	●	0
2.4.1.2 ICT access index	5.4	54	72	▽	-9
2.4.2 Technology output		41	83	△	5
2.4.2.1 ICT goods and services export (% of exp.)	12.5	47	42	△	28
2.4.2.2 Mobile broadband per 100 pop.	37.4	24	98	▽	-21
2.5 Entrepreneurship		33	130	△	10
2.5.1 Entrepreneurship input		36	136	●	0
2.5.1.1 Time dealing with gov. regulations (%)	14.5	50	89	△	1
2.5.1.2 Time to start a business (days)	80.0	1	137	●	0
2.5.1.3 Procedures to register a business	13.0	5	142	▽	-13
2.5.1.4 Cost to start a business (% GNI per cap)	7.7	63	72	△	13
2.5.2 Entrepreneurship output		36	87	△	39
2.5.2.1 Global Entrepreneurship Index	20.7	17	89	▽	-9
2.5.2.2 New corporate registrations per th. pop.	0.8	13	67	△	6
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.6	53	83	△	40
2.6 Statistics		62	79	●	0
2.6.1 Statistical fullness (%)	0.81	62	79	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
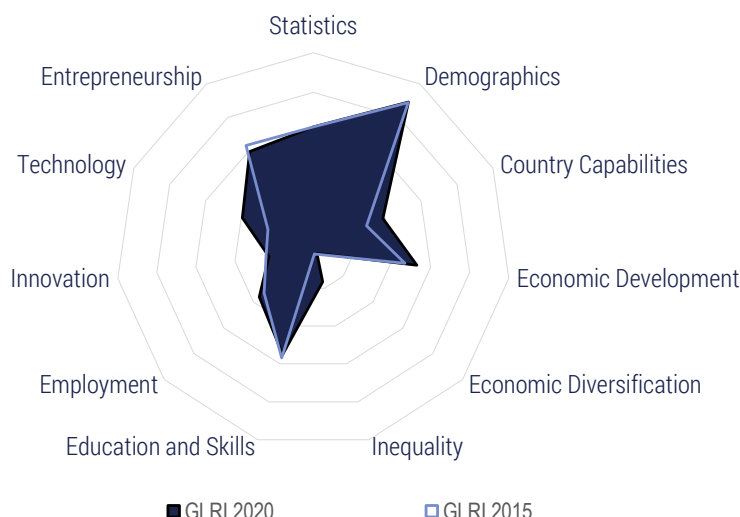
■ GLRI 2020   □ GLRI 2015

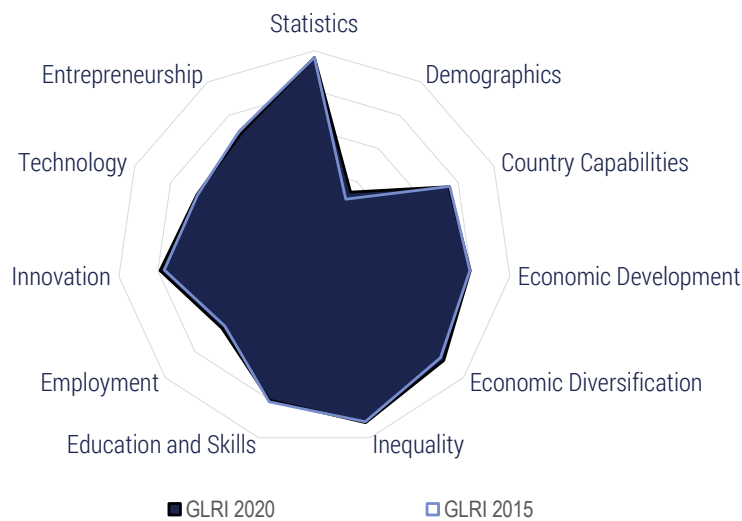## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**27**	**136**	▲	**8**
1.1 Demographics		89	39	▽	-2
1.1.1 Share of older population (% of total population)	4.1	89	39	▽	-2
1.2 Country Capabilities		39	85	▲	10
1.2.1 Economic Complexity Index	-0.4	39	85	▲	10
1.3 Economic Development		53	50	▲	13
1.3.1 Income per capita (PPP)	16 518	24	64	●	0
1.3.2 Dependence on natural resources (% of GDP)	1.0	81	47	▲	29
1.3.3 Tertiarisation of economy (% of GDP)	59.5	70	45	▲	17
1.4 Economic Diversification		2	144	▽	-2
1.4.1 Concentration of exports	0.9	1	143	▽	-1
1.4.2 Diversity	32	4	137	▽	-3
1.5 Inequality		17	126	▲	6
1.5.1 Income inequality	53.3	17	126	▲	6
2. Policy Pillar		**43**	**75**	▽	**-6**
2.1 Education and skills		55	43	▽	-8
2.1.1 Education and skills input		79	15	●	0
2.1.1.1 Government education spendings (% of GDP)	9.6	100	1	▲	1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	41.5	86	5	▽	-1
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	3.9	43	64	▽	-6
2.1.2 Education and skills output		37	113	▽	-15
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.4	33	118	▽	-32
2.1.2.4 Skilled labour supply (1-7 survey)	3.9	49	89	▽	-10
2.1.2.5 Vocational enrollment (% of students)	5.7	13	94	▽	-1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	2.3	9	84	▽	-4
2.1.2.7 Quality of vocational education (1-7 survey)	3.8	37	82	▽	-12
2.1.2.8 STEM graduates (%)	13.6	21	108	▽	-7
2.1.2.9 Digital skills (1-7 survey)	3.7	41	98	●	0
2.1.2.10 Critical thinking (1-7 survey)	3.2	34	86	▽	-19
2.2 Employment		36	91	▲	21
2.2.1 Employment input		34	116	▲	15
2.2.1.1 Hiring and firing practices (1-7 survey)	3.9	48	62	▲	27
2.2.1.2 Worker's rights (1-7 score)	70.1	36	70	▲	17
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.0	22	131	▽	-4
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		44	50	▲	5
2.2.2.1 Women in labour force (% female-male)	84.2	76	48	▽	-2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.8	51	44	▲	27
2.2.2.4 Knowledge insentive employment (%)	17.9	29	84	▲	3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	39 657	27	64	▲	2
2.2.2.6 ALP effectiveness (1-7 survey)	2.9	32	87	▽	-10
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	36	80	▲	26
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.6	61	20	▽	-4
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		23	80	▽	-13
2.3.1 Innovation input		38	50	▽	-4
2.3.1.1 R&D spendings (% of GDP)	0.5	20	58	●	0
2.3.1.2 IPR score	6.0	55	47	▽	-11
2.3.2 Innovation output		8	100	▲	4
2.3.2.1 Trademark applications per th. pop.	0.9	27	65	●	0
2.3.2.2 Patent applications per th. pop.	0.00	2	109	▽	-1
2.3.2.3 R&D journals per th. pop.	0.10	6	76	●	0
2.3.2.4 Researchers in R&D per mln.pop.	179	3	82	▽	-6
2.3.2.5 Technicians in R&D per mln.pop.	121	6	59	▲	1
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	104	●	0
2.4 Technology		39	108	▲	2
2.4.1 Technology input		39	117	▽	-5
2.4.1.1 ICT affordability	2.9	33	131	▽	-21
2.4.1.2 ICT access index	4.6	44	91	▲	11
2.4.2 Technology output		42	76	▲	17
2.4.2.1 ICT goods and services export (% of exp.)	6.6	30	80	▲	3
2.4.2.2 Mobile broadband per 100 pop.	67.9	42	52	▲	18
2.5 Entrepreneurship		59	46	▽	-9
2.5.1 Entrepreneurship input		54	111	▽	-20
2.5.1.1 Time dealing with gov. regulations (%)	10.2	65	72	▲	2
2.5.1.2 Time to start a business (days)	48.0	6	134	▽	-11
2.5.1.3 Procedures to register a business	9.0	37	112	▽	-20
2.5.1.4 Cost to start a business (% GNI per cap)	0.7	91	15	▲	2
2.5.2 Entrepreneurship output		68	19	▲	6
2.5.2.1 Global Entrepreneurship Index	34.9	35	49	▲	14
2.5.2.2 New corporate registrations per th. pop.	11.8	100	1	●	0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.8	58	75	▽	-34
2.6 Statistics		62	79	●	0
2.6.1 Statistical fullness (%)	0.81	62	79	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

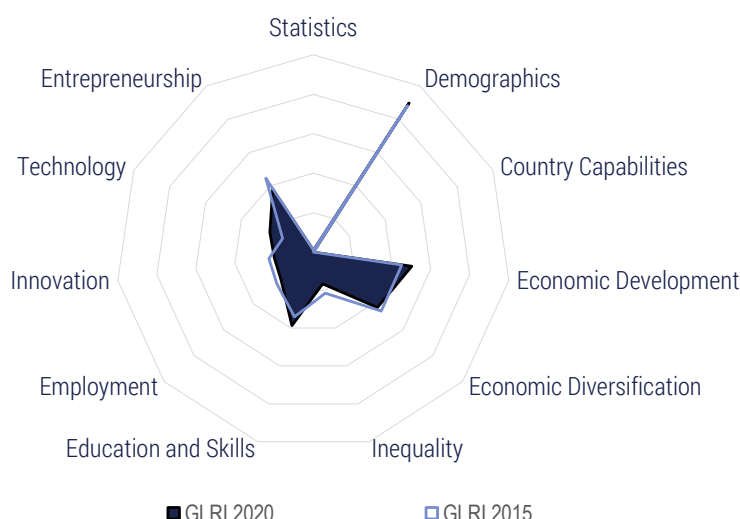## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**48**	**96**	▼	-11
1.1 Demographics		71	84	▼	-4
1.1.1 Share of older population (% of total population)	8.9	71	84	▼	-4
1.2 Country Capabilities		54	49	▲	8
1.2.1 Economic Complexity Index	0.3	54	49	▲	8
1.3 Economic Development		46	72	▼	-10
1.3.1 Income per capita (PPP)	14 283	21	71	▼	-6
1.3.2 Dependence on natural resources (% of GDP)	3.5	60	84	▼	-2
1.3.3 Tertiarisation of economy (% of GDP)	62.6	75	33	▲	9
1.4 Economic Diversification		61	45	▲	6
1.4.1 Concentration of exports	0.2	85	43	▼	-5
1.4.2 Diversity	197	36	52	▲	10
1.5 Inequality		17	126	▼	-1
1.5.1 Income inequality	53.3	17	126	▼	-1
2. Policy Pillar		**41**	**77**	▼	-6
2.1 Education and skills		36	96	▲	11
2.1.1 Education and skills input		50	65	▲	8
2.1.1.1 Government education spendings (% of GDP)	6.2	61	21	▲	7
2.1.1.2 Tertiary public education spendings (% of gov.exp)	21.5	42	66	▲	25
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	8.0	52	92	▲	1
2.1.1.5 Staff training (1-7 survey)	3.8	40	72	▼	-13
2.1.2 Education and skills output		30	125	▲	9
2.1.2.1 Tertiary attainment rate (% of pop 25+)	16.5	36	46	▲	32
2.1.2.2 PISA score	400	30	64	▼	-4
2.1.2.3 Skillset of graduates (1-7 survey)	3.4	32	123	▼	-3
2.1.2.4 Skilled labour supply (1-7 survey)	3.3	34	124	▼	-25
2.1.2.5 Vocational enrollment (% of students)	4.1	10	102	▲	4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	3.5	13	76	▼	-3
2.1.2.7 Quality of vocational education (1-7 survey)	3.4	26	118	▼	-10
2.1.2.8 STEM graduates (%)	17.7	29	85	▲	21
2.1.2.9 Digital skills (1-7 survey)	3.2	29	123	▼	-13
2.1.2.10 Critical thinking (1-7 survey)	2.5	18	122	▼	-1
2.2 Employment		15	139	▼	-12
2.2.1 Employment input		14	139	▼	-12
2.2.1.1 Hiring and firing practices (1-7 survey)	2.2	2	127	▼	-18
2.2.1.2 Worker's rights (1-7 score)	66.0	27	87	▼	-13
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.4	34	119	▲	5
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		29	112	▼	-22
2.2.2.1 Women in labour force (% female-male)	72.6	62	89	▲	5
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.3	40	80	▼	-42
2.2.2.4 Knowledge insentive employment (%)	21.6	35	67	▲	11

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	32 578	22	77	▼	-4
2.2.2.6 ALP effectiveness (1-7 survey)	2.7	27	103	●	0
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.8	20	121	▼	-35
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.2	1	144	▼	-10
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		38	40	▲	3
2.3.1 Innovation input		49	34	▲	3
2.3.1.1 R&D spendings (% of GDP)	1.3	46	28	▲	2
2.3.1.2 IPR score	5.7	51	53	▼	-1
2.3.2 Innovation output		27	56	▼	-3
2.3.2.1 Trademark applications per th. pop.	0.9	29	61	▲	6
2.3.2.2 Patent applications per th. pop.	0.12	41	37	▼	-10
2.3.2.3 R&D journals per th. pop.	0.26	14	52	▼	-1
2.3.2.4 Researchers in R&D per mln.pop.	881	12	52	▼	-1
2.3.2.5 Technicians in R&D per mln.pop.	963	42	21	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	0.33	15	46	▲	3
2.4 Technology		63	46	▼	-9
2.4.1 Technology input		79	42	▲	28
2.4.1.1 ICT affordability	6.2	87	24	▲	53
2.4.1.2 ICT access index	6.1	63	59	▲	3
2.4.2 Technology output		45	66	▼	-39
2.4.2.1 ICT goods and services export (% of exp.)	3.7	22	101	▼	-71
2.4.2.2 Mobile broadband per 100 pop.	89.5	56	29	▲	12
2.5 Entrepreneurship		37	121	▲	2
2.5.1 Entrepreneurship input		50	119	▲	11
2.5.1.1 Time dealing with gov. regulations (%)	14.2	51	88	▲	1
2.5.1.2 Time to start a business (days)	20.1	61	105	▲	32
2.5.1.3 Procedures to register a business	11.0	21	131	▼	-12
2.5.1.4 Cost to start a business (% GNI per cap)	5.0	70	56	●	0
2.5.2 Entrepreneurship output		30	115	▼	-35
2.5.2.1 Global Entrepreneurship Index	20.3	16	92	▲	6
2.5.2.2 New corporate registrations per th. pop.	0.1	2	101	▼	-6
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	36.4	42	24	▼	-9
2.5.2.5 Access to loans (1-7 survey)	3.6	52	87	▼	-24
2.6 Statistics		76	43	●	0
2.6.1 Statistical fullness (%)	0.88	76	43	●	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
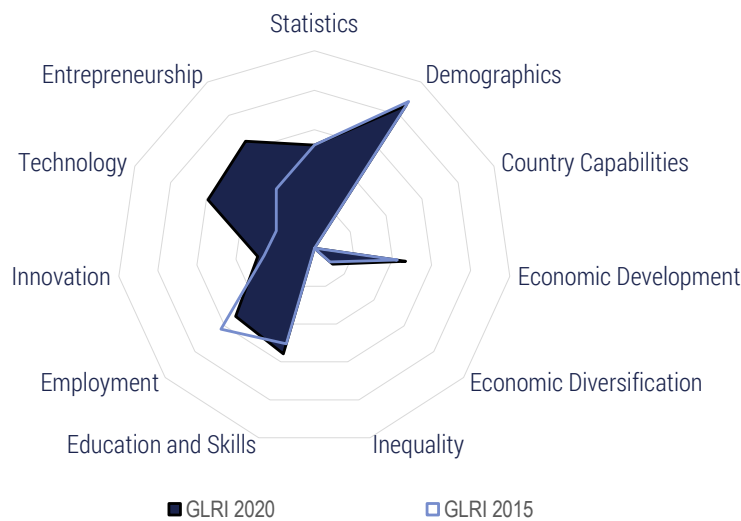
■ GLRI 2020   □ GLRI 2015

Note: the scores of the Country capabilities and Inequality sub-pillars for GLRI 2015 and GLRI 2020 are equal to 0 due to the lack of data for the corresponding indicators.
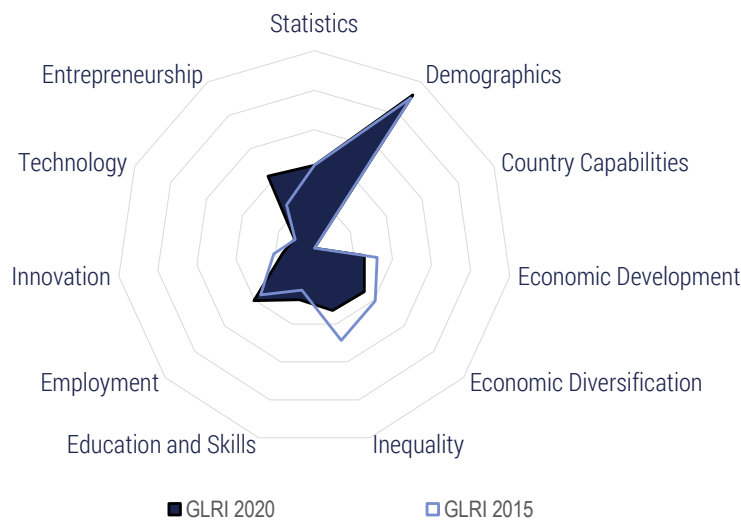
Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**46**	**106**	▲	4
1.1 Demographics		86	50	▽	-11
1.1.1 Share of older population (% of total population)	4.9	86	50	▽	-11
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		47	67	△	8
1.3.1 Income per capita (PPP)	71 802	100	1	●	0
1.3.2 Dependence on natural resources (% of GDP)	17.9	22	128	●	0
1.3.3 Tertiarisation of economy (% of GDP)	37.3	37	137	△	5
1.4 Economic Diversification		12	138	▽	-1
1.4.1 Concentration of exports	0.6	24	134	●	0
1.4.2 Diversity	17	1	143	△	2
1.5 Inequality		n/a	n/a		
1.5.1 Income inequality	n/a	n/a	n/a		
2. Policy Pillar		**51**	**52**	▲	24
2.1 Education and skills		56	41	△	6
2.1.1 Education and skills input		57	44	●	0
2.1.1.1 Government education spendings (% of GDP)	4.4	40	68	△	46
2.1.1.2 Tertiary public education spendings (% of gov.exp)	18.9	36	84	▽	-32
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	11.6	80	32	▽	-2
2.1.1.5 Staff training (1-7 survey)	4.0	46	59	▽	-7
2.1.2 Education and skills output		60	44	△	20
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	423	39	51	▽	-1
2.1.2.3 Skillset of graduates (1-7 survey)	4.3	57	48	▽	-5
2.1.2.4 Skilled labour supply (1-7 survey)	3.6	43	105	▽	-12
2.1.2.5 Vocational enrollment (% of students)	11.9	26	63	▽	-1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	7.5	26	55	▽	-11
2.1.2.7 Quality of vocational education (1-7 survey)	4.3	48	52	▽	-3
2.1.2.8 STEM graduates (%)	39.2	71	8	△	69
2.1.2.9 Digital skills (1-7 survey)	4.7	68	44	△	2
2.1.2.10 Critical thinking (1-7 survey)	3.7	47	51	△	2
2.2 Employment		53	39	▽	-18
2.2.1 Employment input		31	124	▽	-23
2.2.1.1 Hiring and firing practices (1-7 survey)	3.8	46	64	▽	-14
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.0	22	132	▽	-3
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		74	11	▽	-2
2.2.2.1 Women in labour force (% female-male)	81.2	73	60	△	9
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.8	51	45	▽	-25
2.2.2.4 Knowledge insentive employment (%)	28.4	45	47	▽	-1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	167 588	100	1	●	0
2.2.2.6 ALP effectiveness (1-7 survey)	3.8	55	48	▽	-1
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.9	57	32	▽	-9
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.9	68	14	▽	-8
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		29	61	△	3
2.3.1 Innovation input		18	112	▽	-27
2.3.1.1 R&D spendings (% of GDP)	0.0	2	121	△	3
2.3.1.2 IPR score	4.8	35	87	▽	-38
2.3.2 Innovation output		39	38	△	20
2.3.2.1 Trademark applications per th. pop.	3.9	100	1	△	12
2.3.2.2 Patent applications per th. pop.	0.25	83	18	△	32
2.3.2.3 R&D journals per th. pop.	0.51	26	41	△	6
2.3.2.4 Researchers in R&D per mln.pop.	283	4	75	▽	-5
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	112	△	8
2.4 Technology		59	63	△	56
2.4.1 Technology input		55	99	△	8
2.4.1.1 ICT affordability	3.1	36	125	△	13
2.4.1.2 ICT access index	6.8	71	47	●	0
2.4.2 Technology output		60	27	△	95
2.4.2.1 ICT goods and services export (% of exp.)	6.0	29	85	△	23
2.4.2.2 Mobile broadband per 100 pop.	116.6	72	13	△	72
2.5 Entrepreneurship		64	35	△	80
2.5.1 Entrepreneurship input		88	11	△	131
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	5.5	90	24	△	113
2.5.1.3 Procedures to register a business	3.0	84	7	△	137
2.5.1.4 Cost to start a business (% GNI per cap)	1.1	87	26	△	3
2.5.2 Entrepreneurship output		44	63	▽	-24
2.5.2.1 Global Entrepreneurship Index	34.3	35	50	△	7
2.5.2.2 New corporate registrations per th. pop.	1.8	25	42	△	10
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.5	51	89	▽	-73
2.6 Statistics		52	112	●	0
2.6.1 Statistical fullness (%)	0.76	52	112	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
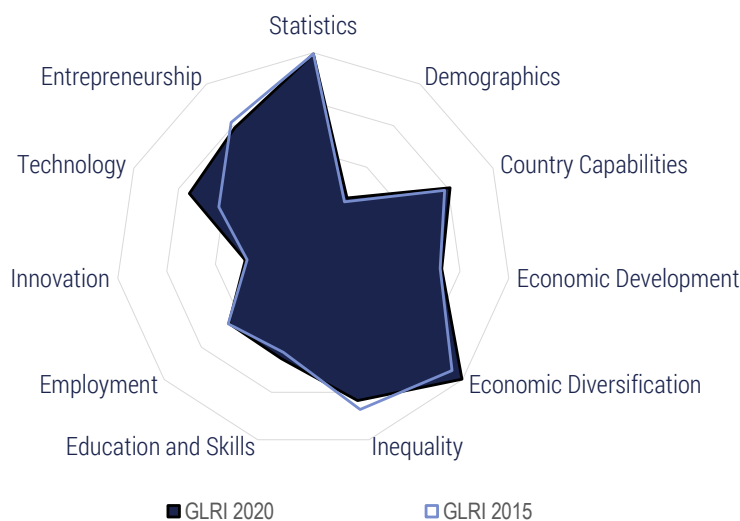
■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**63**	**62**	▲	2
1.1 Demographics		25	140	▲	1
1.1.1 Share of older population (% of total population)	21.1	25	140	▲	1
1.2 Country Capabilities		61	40	▽	-1
1.2.1 Economic Complexity Index	0.6	61	40	▽	-1
1.3 Economic Development		53	51	⬤	0
1.3.1 Income per capita (PPP)	19 321	28	56	▲	7
1.3.2 Dependence on natural resources (% of GDP)	1.4	76	61	▽	-3
1.3.3 Tertiarisation of economy (% of GDP)	59.2	70	46	▲	6
1.4 Economic Diversification		80	17	▲	4
1.4.1 Concentration of exports	0.1	95	12	▲	17
1.4.2 Diversity	345	65	18	▲	4
1.5 Inequality		63	68	▽	-3
1.5.1 Income inequality	37.4	63	68	▽	-3
2. Policy Pillar		**51**	**53**	▽	-2
2.1 Education and skills		46	69	▲	3
2.1.1 Education and skills input		46	83	▲	11
2.1.1.1 Government education spendings (% of GDP)	4.1	36	77	▲	5
2.1.1.2 Tertiary public education spendings (% of gov.exp)	15.9	29	96	▲	7
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	5 123	25	46	▽	-1
2.1.1.4 Years of schooling	11.4	78	36	▲	1
2.1.1.5 Staff training (1-7 survey)	3.4	29	115	▽	-1
2.1.2 Education and skills output		53	60	▲	3
2.1.2.1 Tertiary attainment rate (% of pop 25+)	24.7	54	23	▽	-1
2.1.2.2 PISA score	427	41	47	▽	-2
2.1.2.3 Skillset of graduates (1-7 survey)	3.6	38	100	▲	12
2.1.2.4 Skilled labour supply (1-7 survey)	3.3	35	119	▲	14
2.1.2.5 Vocational enrollment (% of students)	29.4	63	21	▽	-2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	15.4	53	30	▲	4
2.1.2.7 Quality of vocational education (1-7 survey)	3.6	32	97	▲	12
2.1.2.8 STEM graduates (%)	19.7	33	76	▽	-17
2.1.2.9 Digital skills (1-7 survey)	4.2	56	64	▲	23
2.1.2.10 Critical thinking (1-7 survey)	3.2	35	78	▲	17
2.2 Employment		45	60	▲	12
2.2.1 Employment input		51	51	▲	8
2.2.1.1 Hiring and firing practices (1-7 survey)	3.8	47	63	▽	-2
2.2.1.2 Worker's rights (1-7 score)	79.4	56	38	▲	16
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.8	44	98	▽	-18
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		42	62	▲	6
2.2.2.1 Women in labour force (% female-male)	80.4	72	63	▽	-8
2.2.2.2 Gender pay gap (% of employees)	4.1	91	5	▲	4
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.4	22	123	▲	18
2.2.2.4 Knowledge insentive employment (%)	31.9	51	41	▲	4

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	42 994	29	60	▲	5
2.2.2.6 ALP effectiveness (1-7 survey)	3.4	46	63	▽	-2
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.8	19	122	▽	-24
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.5	33	102	▲	2
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		28	65	▽	-4
2.3.1 Innovation input		37	52	▲	7
2.3.1.1 R&D spendings (% of GDP)	0.8	28	46	▲	4
2.3.1.2 IPR score	5.4	45	61	▽	-6
2.3.2 Innovation output		19	73	▽	-2
2.3.2.1 Trademark applications per th. pop.	0.9	27	66	▲	2
2.3.2.2 Patent applications per th. pop.	0.03	11	76	▽	-3
2.3.2.3 R&D journals per th. pop.	0.36	19	48	▽	-4
2.3.2.4 Researchers in R&D per mln.pop.	2 131	28	37	▲	5
2.3.2.5 Technicians in R&D per mln.pop.	444	20	35	▲	1
2.3.2.6 Creative goods exports (% of goods exp.)	0.19	10	55	▲	5
2.4 Technology		55	72	▽	-2
2.4.1 Technology input		62	80	▲	3
2.4.1.1 ICT affordability	3.8	48	112	▽	-5
2.4.1.2 ICT access index	6.9	73	44	▽	-2
2.4.2 Technology output		46	64	▲	2
2.4.2.1 ICT goods and services export (% of exp.)	4.6	25	95	▽	-4
2.4.2.2 Mobile broadband per 100 pop.	88.4	55	30	▲	8
2.5 Entrepreneurship		59	50	▽	-12
2.5.1 Entrepreneurship input		54	110	▽	-6
2.5.1.1 Time dealing with gov. regulations (%)	16.1	44	95	▽	-1
2.5.1.2 Time to start a business (days)	23.0	55	109	▽	-14
2.5.1.3 Procedures to register a business	7.0	53	70	▽	-15
2.5.1.4 Cost to start a business (% GNI per cap)	1.2	87	30	▽	-2
2.5.2 Entrepreneurship output		67	21	⬤	0
2.5.2.1 Global Entrepreneurship Index	27.8	26	65	▽	-24
2.5.2.2 New corporate registrations per th. pop.	7.2	100	10	▲	2
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.9	60	63	▽	-26
2.6 Statistics		80	37	⬤	0
2.6.1 Statistical fullness (%)	0.90	80	37	⬤	0

Burkina Faso

Global Labour Resilience Index 2020

135

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- ■ GLRI 2020
- □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**27**	**137**	▽	-4
1.1 Demographics		95	6	▲	3
1.1.1 Share of older population (% of total population)	2.4	95	6	▲	3
1.2 Country Capabilities		8	123	▽	-10
1.2.1 Economic Complexity Index	-1.8	8	123	▽	-10
1.3 Economic Development		12	139	▽	-5
1.3.1 Income per capita (PPP)	1 756	3	135	▲	2
1.3.2 Dependence on natural resources (% of GDP)	19.9	19	132	▽	-12
1.3.3 Tertiarisation of economy (% of GDP)	43.2	46	120	▲	4
1.4 Economic Diversification		13	136	▽	-6
1.4.1 Concentration of exports	0.7	19	136	▽	-6
1.4.2 Diversity	43	6	130	▽	-14
1.5 Inequality		70	52	△	26
1.5.1 Income inequality	35.3	70	52	▲	26
2. Policy Pillar		**22**	**133**	▲	3
2.1 Education and skills		15	140	▽	-2
2.1.1 Education and skills input		12	140	▽	-1
2.1.1.1 Government education spendings (% of GDP)	4.2	37	74	▽	-9
2.1.1.2 Tertiary public education spendings (% of gov.exp)	13.7	24	114	▽	-44
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	6 852	34	35	▲	13
2.1.1.4 Years of schooling	1.4	1	130	●	0
2.1.1.5 Staff training (1-7 survey)	3.1	21	126	●	0
2.1.2 Education and skills output		29	129	▽	-4
2.1.2.1 Tertiary attainment rate (% of pop 25+)	0.0	1	97	●	0
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.8	43	86	▽	-3
2.1.2.4 Skilled labour supply (1-7 survey)	4.1	56	66	▲	1
2.1.2.5 Vocational enrollment (% of students)	2.2	6	116	▽	-11
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.7	3	104	▽	-1
2.1.2.7 Quality of vocational education (1-7 survey)	4.0	41	69	▽	-2
2.1.2.8 STEM graduates (%)	19.7	33	75	▽	-10
2.1.2.9 Digital skills (1-7 survey)	3.2	28	124	▽	-1
2.1.2.10 Critical thinking (1-7 survey)	2.8	25	112	▲	1
2.2 Employment		38	80	▲	12
2.2.1 Employment input		57	33	▲	13
2.2.1.1 Hiring and firing practices (1-7 survey)	3.7	43	77	▽	-6
2.2.1.2 Worker's rights (1-7 score)	76.3	49	46	▲	11
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.6	67	27	▽	-1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		25	121	▲	12
2.2.2.1 Women in labour force (% female-male)	77.8	69	74	●	0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.7	29	112	▲	12
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	5 134	3	129	▲	2
2.2.2.6 ALP effectiveness (1-7 survey)	1.9	9	128	▲	4
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.0	28	108	●	0
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.7	39	85	●	0
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		13	112	▲	24
2.3.1 Innovation input		25	90	▲	37
2.3.1.1 R&D spendings (% of GDP)	0.7	25	50	▲	42
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		1	140	●	0
2.3.2.1 Trademark applications per th. pop.	0.0	1	135	▽	-1
2.3.2.2 Patent applications per th. pop.	0.00	1	131	●	0
2.3.2.3 R&D journals per th. pop.	0.01	2	115	▽	-2
2.3.2.4 Researchers in R&D per mln.pop.	48	1	98	▲	1
2.3.2.5 Technicians in R&D per mln.pop.	37	3	80	▽	-1
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	120	▽	-5
2.4 Technology		24	135	▽	-3
2.4.1 Technology input		22	132	▲	8
2.4.1.1 ICT affordability	3.1	37	124	▲	8
2.4.1.2 ICT access index	1.9	9	132	▲	8
2.4.2 Technology output		30	108	▽	-12
2.4.2.1 ICT goods and services export (% of exp.)	13.0	49	40	▲	24
2.4.2.2 Mobile broadband per 100 pop.	9.0	6	138	▽	-5
2.5 Entrepreneurship		21	143	▽	-1
2.5.1 Entrepreneurship input		44	128	▽	-1
2.5.1.1 Time dealing with gov. regulations (%)	22.2	23	109	▽	-1
2.5.1.2 Time to start a business (days)	13.0	75	78	▽	-19
2.5.1.3 Procedures to register a business	3.0	84	7	▽	-2
2.5.1.4 Cost to start a business (% GNI per cap)	42.6	36	122	●	0
2.5.2 Entrepreneurship output		4	143	▲	1
2.5.2.1 Global Entrepreneurship Index	13.2	7	120	▽	-8
2.5.2.2 New corporate registrations per th. pop.	0.1	2	104	▽	-3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	1.6	7	143	▽	-2
2.6 Statistics		66	71	●	0
2.6.1 Statistical fullness (%)	0.83	66	71	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
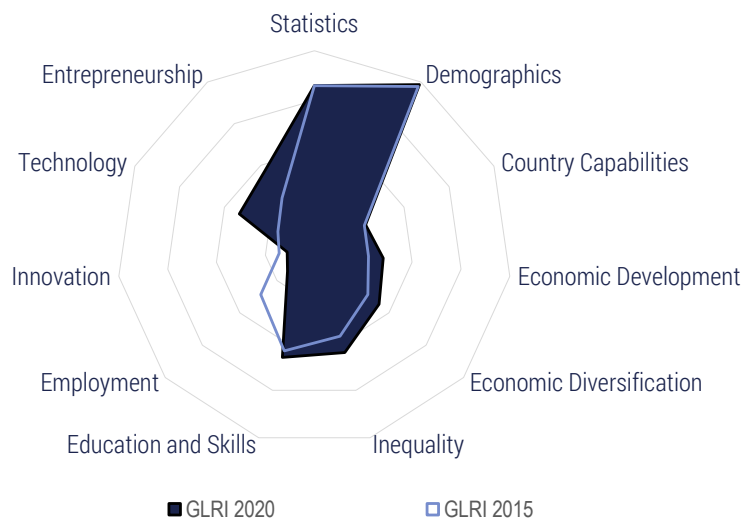

■ GLRI 2020   ☐ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**48**	**97**	▲	21
1.1 Demographics		95	14	●	0
1.1.1 Share of older population (% of total population)	2.6	95	14	●	0
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		17	130	▲	10
1.3.1 Income per capita (PPP)	660	1	145	▼	-1
1.3.2 Dependence on natural resources (% of GDP)	16.2	24	125	▼	-2
1.3.3 Tertiarisation of economy (% of GDP)	49.1	55	103	▲	32
1.4 Economic Diversification		27	124	▲	9
1.4.1 Concentration of exports	0.4	49	116	▲	16
1.4.2 Diversity	36	5	135	▼	-14
1.5 Inequality		60	78	▼	-6
1.5.1 Income inequality	38.6	60	78	▼	-6
2. Policy Pillar		**25**	**126**	▼	-5
2.1 Education and skills		17	137	●	0
2.1.1 Education and skills input		20	133	▼	-3
2.1.1.1 Government education spendings (% of GDP)	4.8	43	58	▼	-33
2.1.1.2 Tertiary public education spendings (% of gov.exp)	24.2	48	43	▲	10
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	2 972	15	65	▼	-3
2.1.1.4 Years of schooling	2.8	12	123	▲	4
2.1.1.5 Staff training (1-7 survey)	3.3	26	122	▼	-2
2.1.2 Education and skills output		25	135	▲	1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	0.8	3	96	●	
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.9	44	81	▼	-1
2.1.2.4 Skilled labour supply (1-7 survey)	3.6	43	104	●	0
2.1.2.5 Vocational enrollment (% of students)	10.2	22	69	▲	26
2.1.2.6 Vocational enrollment of 15-24 olds (%)	2.8	10	80	▲	17
2.1.2.7 Quality of vocational education (1-7 survey)	2.9	15	135	▼	-1
2.1.2.8 STEM graduates (%)	16.2	26	94	▲	19
2.1.2.9 Digital skills (1-7 survey)	2.8	18	132	▲	1
2.1.2.10 Critical thinking (1-7 survey)	2.8	24	114	▲	2
2.2 Employment		27	124	▲	11
2.2.1 Employment input		30	126	▼	-3
2.2.1.1 Hiring and firing practices (1-7 survey)	3.2	29	107	▼	-14
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.5	36	108	▲	1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		33	93	▲	36
2.2.2.1 Women in labour force (% female-male)	103.5	100	1	●	0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.4	21	130	▲	9
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	1 593	1	144	●	0
2.2.2.6 ALP effectiveness (1-7 survey)	2.4	21	110	▲	8
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.1	29	102	▲	38
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.8	40	79	▲	46
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		6	132	▲	3
2.3.1 Innovation input		12	124	▲	2
2.3.1.1 R&D spendings (% of GDP)	0.1	5	104	▼	-1
2.3.1.2 IPR score	3.8	18	119	▲	4
2.3.2 Innovation output		1	141	▲	3
2.3.2.1 Trademark applications per th. pop.	0.0	2	128	▲	1
2.3.2.2 Patent applications per th. pop.	0.00	1	124	▲	1
2.3.2.3 R&D journals per th. pop.	0.00	1	143	▼	-4
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	137	▲	1
2.4 Technology		40	106	▼	-49
2.4.1 Technology input		17	139	▼	-36
2.4.1.1 ICT affordability	2.9	33	130	▼	-86
2.4.1.2 ICT access index	1.5	4	141	▼	-7
2.4.2 Technology output		64	24	●	0
2.4.2.1 ICT goods and services export (% of exp.)	44.9	100	1	●	0
2.4.2.2 Mobile broadband per 100 pop.	8.3	6	139	▼	-6
2.5 Entrepreneurship		48	78	▲	29
2.5.1 Entrepreneurship input		81	28	▲	6
2.5.1.1 Time dealing with gov. regulations (%)	2.3	92	18	▲	29
2.5.1.2 Time to start a business (days)	5.0	91	21	▼	-13
2.5.1.3 Procedures to register a business	4.0	76	18	▼	-13
2.5.1.4 Cost to start a business (% GNI per cap)	33.9	40	114	▼	-27
2.5.2 Entrepreneurship output		20	132	▲	11
2.5.2.1 Global Entrepreneurship Index	11.8	5	125	▼	-4
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	2.8	35	126	▲	12
2.6 Statistics		52	112	●	0
2.6.1 Statistical fullness (%)	0.76	52	112	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
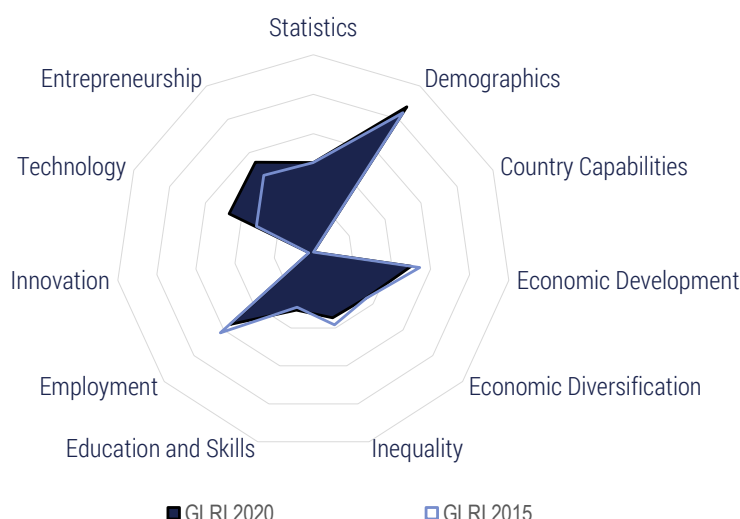
■ GLRI 2020　　□ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**53**	**83**	▼	-7
1.1 Demographics		88	44	▲	9
1.1.1 Share of older population (% of total population)	4.5	88	44	▲	9
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		50	56	▼	-7
1.3.1 Income per capita (PPP)	6 662	10	103	▼	-1
1.3.2 Dependence on natural resources (% of GDP)	0.7	85	41	▼	-9
1.3.3 Tertiarisation of economy (% of GDP)	61.1	73	36	▼	-1
1.4 Economic Diversification		35	102	▼	-1
1.4.1 Concentration of exports	0.3	63	96	▼	-5
1.4.2 Diversity	53	8	124	▲	1
1.5 Inequality		35	118	▼	-1
1.5.1 Income inequality	47.2	35	118	▼	-1
2. Policy Pillar		**34**	**95**	▲	4
2.1 Education and skills		30	113	▲	1
2.1.1 Education and skills input		30	119	▲	1
2.1.1.1 Government education spendings (% of GDP)	5.2	48	42	▲	9
2.1.1.2 Tertiary public education spendings (% of gov.exp)	17.2	32	89	▲	15
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	3 275	16	63	▲	2
2.1.1.4 Years of schooling	5.9	36	106	▼	-3
2.1.1.5 Staff training (1-7 survey)	3.5	31	107	▲	3
2.1.2 Education and skills output		39	104	▼	-7
2.1.2.1 Tertiary attainment rate (% of pop 25+)	6.9	16	77	▼	-5
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.8	43	87	▼	-10
2.1.2.4 Skilled labour supply (1-7 survey)	4.1	55	69	▼	-7
2.1.2.5 Vocational enrollment (% of students)	2.3	6	115	▼	-3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	1.3	5	95	▼	-3
2.1.2.7 Quality of vocational education (1-7 survey)	4.0	41	71	▼	-11
2.1.2.8 STEM graduates (%)	16.4	27	91	▲	23
2.1.2.9 Digital skills (1-7 survey)	4.1	51	75	▼	-1
2.1.2.10 Critical thinking (1-7 survey)	3.7	47	52	▼	-11
2.2 Employment		56	29	▼	-6
2.2.1 Employment input		72	13	▼	-5
2.2.1.1 Hiring and firing practices (1-7 survey)	3.8	54	73	▲	28
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.5	65	33	▼	-12
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		38	73	▲	6
2.2.2.1 Women in labour force (% female-male)	89.0	82	21	▲	17
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.2	38	86	▼	-21
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	15 037	10	104	▼	-1
2.2.2.6 ALP effectiveness (1-7 survey)	2.8	31	96	▲	11
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.2	33	92	▲	23
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.8	41	78	▲	14
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		2	142	●	0
2.3.1 Innovation input		3	133	●	0
2.3.1.1 R&D spendings (% of GDP)	0.1	3	116	▼	-2
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		1	143	▼	-2
2.3.2.1 Trademark applications per th. pop.	0.0	1	134	▲	1
2.3.2.2 Patent applications per th. pop.	n/a	n/a	n/a		
2.3.2.3 R&D journals per th. pop.	0.01	2	108	▼	-4
2.3.2.4 Researchers in R&D per mln.pop.	49	1	96	▲	1
2.3.2.5 Technicians in R&D per mln.pop.	8	1	101	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	135	▲	1
2.4 Technology		47	94	▲	3
2.4.1 Technology input		58	92	▼	-14
2.4.1.1 ICT affordability	4.8	65	84	▼	-42
2.4.1.2 ICT access index	4.9	48	81		
2.4.2 Technology output		35	98	▲	20
2.4.2.1 ICT goods and services export (% of exp.)	2.8	19	115	▲	18
2.4.2.2 Mobile broadband per 100 pop.	70.0	44	50	▲	12
2.5 Entrepreneurship		54	62	▲	11
2.5.1 Entrepreneurship input		69	67	▼	-12
2.5.1.1 Time dealing with gov. regulations (%)	3.9	87	29	▲	3
2.5.1.2 Time to start a business (days)	18.0	65	99	▼	-23
2.5.1.3 Procedures to register a business	9.0	37	112	▼	-20
2.5.1.4 Cost to start a business (% GNI per cap)	15.4	53	93	▼	-2
2.5.2 Entrepreneurship output		43	64	▲	39
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a		
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.0	39	117	▼	-4
2.6 Statistics		45	124	●	0
2.6.1 Statistical fullness (%)	0.73	45	124	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
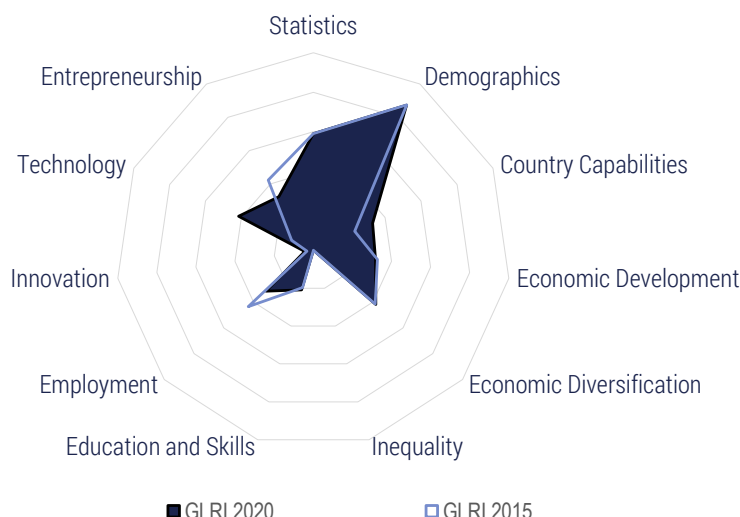
■ GLRI 2020   ☐ GLRI 2015

Note: the score of the Inequality sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.
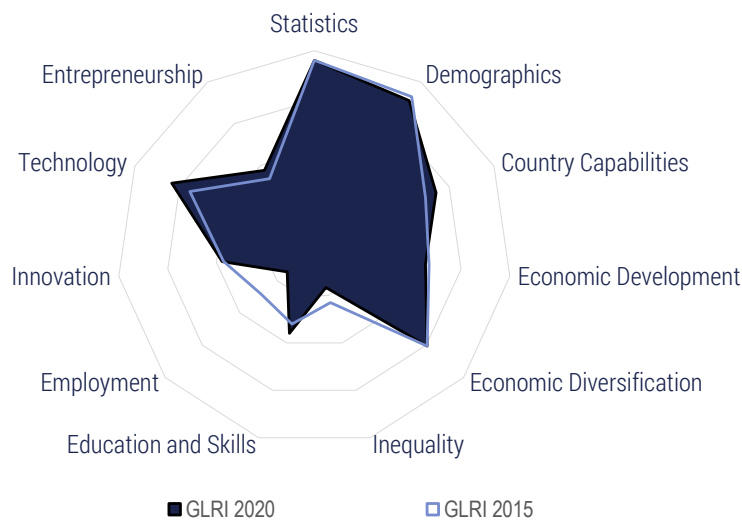
Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		46	105	▲ 15
1.1 Demographics		87	46	▽ -3
1.1.1 Share of older population (% of total population)	4.6	87	46	▽ -3
1.2 Country Capabilities		33	97	▲ 8
1.2.1 Economic Complexity Index	-0.7	33	97	▲ 8
1.3 Economic Development		32	100	▲ 2
1.3.1 Income per capita (PPP)	3 870	6	115	▲ 4
1.3.2 Dependence on natural resources (% of GDP)	1.7	73	69	▽ -9
1.3.3 Tertiarisation of economy (% of GDP)	39.5	40	132	▽ -4
1.4 Economic Diversification		42	92	▽ -4
1.4.1 Concentration of exports	0.3	67	90	● 0
1.4.2 Diversity	97	17	94	▽ -4
1.5 Inequality		n/a	n/a	
1.5.1 Income inequality	n/a	n/a	n/a	
2. Policy Pillar		25	129	▽ -5
2.1 Education and skills		21	134	▽ -2
2.1.1 Education and skills input		17	136	▽ -3
2.1.1.1 Government education spendings (% of GDP)	1.9	10	137	▽ -7
2.1.1.2 Tertiary public education spendings (% of gov.exp)	6.1	8	137	▽ -1
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	2 432	12	71	▽ -2
2.1.1.4 Years of schooling	3.7	19	119	▽ -2
2.1.1.5 Staff training (1-7 survey)	3.8	41	69	▲ 10
2.1.2 Education and skills output		35	116	▽ -1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a	
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	3.5	35	110	▲ 2
2.1.2.4 Skilled labour supply (1-7 survey)	3.4	36	118	● 0
2.1.2.5 Vocational enrollment (% of students)	2.3	6	114	▲ 2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.4	2	112	▽ -3
2.1.2.7 Quality of vocational education (1-7 survey)	3.4	27	115	▲ 4
2.1.2.8 STEM graduates (%)	15.4	25	101	▲ 8
2.1.2.9 Digital skills (1-7 survey)	3.6	39	105	▲ 6
2.1.2.10 Critical thinking (1-7 survey)	3.5	43	61	▽ -1
2.2 Employment		32	105	▽ -27
2.2.1 Employment input		38	103	▽ -45
2.2.1.1 Hiring and firing practices (1-7 survey)	4.1	55	44	▽ -31
2.2.1.2 Worker's rights (1-7 score)	56.7	8	110	▽ -7
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.1	53	65	▽ -8
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		33	91	▽ -8
2.2.2.1 Women in labour force (% female-male)	85.8	78	33	▽ -12
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.7	50	48	▽ -8
2.2.2.4 Knowledge insentive employment (%)	4.1	6	114	▲ 4

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	6 963	5	123	▲ 3
2.2.2.6 ALP effectiveness (1-7 survey)	2.9	32	88	▽ -6
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.4	41	59	▲ 7
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.9	43	70	▽ -40
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		4	136	▲ 2
2.3.1 Innovation input		5	130	▲ 4
2.3.1.1 R&D spendings (% of GDP)	0.1	5	107	▲ 13
2.3.1.2 IPR score	n/a	n/a	n/a	
2.3.2 Innovation output		4	112	▽ -3
2.3.2.1 Trademark applications per th. pop.	0.3	10	100	▽ -3
2.3.2.2 Patent applications per th. pop.	0.00	2	106	● 0
2.3.2.3 R&D journals per th. pop.	0.01	1	123	▲ 2
2.3.2.4 Researchers in R&D per mln.pop.	30	1	109	▲ 4
2.3.2.5 Technicians in R&D per mln.pop.	61	4	72	▲ 22
2.3.2.6 Creative goods exports (% of goods exp.)	0.03	3	86	▲ 1
2.4 Technology		42	103	▲ 28
2.4.1 Technology input		56	93	▲ 25
2.4.1.1 ICT affordability	5.9	83	41	▲ 72
2.4.1.2 ICT access index	3.3	27	107	▲ 4
2.4.2 Technology output		28	116	▲ 16
2.4.2.1 ICT goods and services export (% of exp.)	3.0	20	113	▲ 13
2.4.2.2 Mobile broadband per 100 pop.	50.2	32	81	▲ 6
2.5 Entrepreneurship		32	133	▽ -38
2.5.1 Entrepreneurship input		33	140	▽ -33
2.5.1.1 Time dealing with gov. regulations (%)	16.4	43	96	▽ -87
2.5.1.2 Time to start a business (days)	99.0	1	137	● 0
2.5.1.3 Procedures to register a business	9.0	37	112	▲ 12
2.5.1.4 Cost to start a business (% GNI per cap)	51.3	33	126	● 0
2.5.2 Entrepreneurship output		38	84	▽ -9
2.5.2.1 Global Entrepreneurship Index	17.6	12	104	▽ -8
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a	
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	3.8	58	74	▽ -20
2.6 Statistics		59	95	● 0
2.6.1 Statistical fullness (%)	0.80	59	95	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Cameroon

Global Labour Resilience Index 2020

GLRI 2015 Rank 119

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
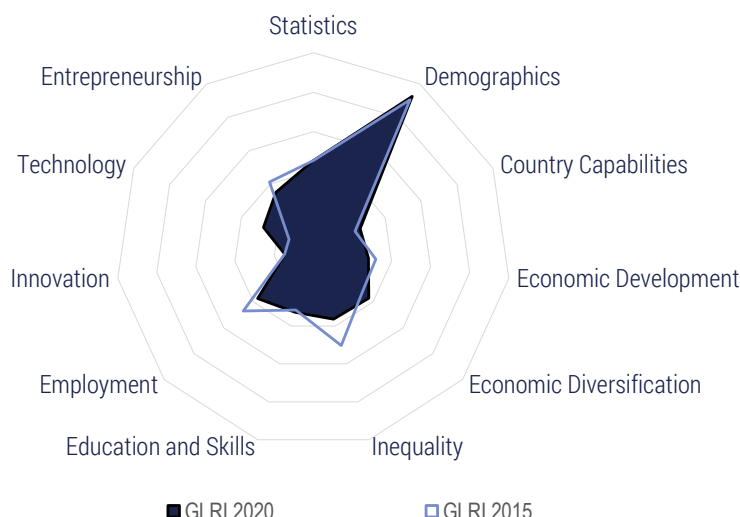
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**36**	**126**	▼ -5
1.1 Demographics		93	28	▲ 3
1.1.1 Share of older population (% of total population)	3.2	93	28	▲ 3
1.2 Country Capabilities		26	107	▼ -3
1.2.1 Economic Complexity Index	-1.0	26	107	▼ -3
1.3 Economic Development		28	108	▼ -4
1.3.1 Income per capita (PPP)	3 352	5	121	▼ -3
1.3.2 Dependence on natural resources (% of GDP)	6.6	46	101	▼ -2
1.3.3 Tertiarisation of economy (% of GDP)	51.8	59	91	▼ -11
1.4 Economic Diversification		37	100	▲ 8
1.4.1 Concentration of exports	0.3	62	98	▲ 6
1.4.2 Diversity	75	12	111	▲ 2
1.5 Inequality		36	114	▼ -17
1.5.1 Income inequality	46.6	36	114	▼ -17
2. Policy Pillar		**25**	**124**	▼ -8
2.1 Education and skills		33	107	▲ 2
2.1.1 Education and skills input		22	131	▼ -4
2.1.1.1 Government education spendings (% of GDP)	3.1	24	110	▲ 7
2.1.1.2 Tertiary public education spendings (% of gov.exp)	10.2	17	125	▲ 5
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	1 556	8	73	▲ 1
2.1.1.4 Years of schooling	5.2	31	112	▼ -2
2.1.1.5 Staff training (1-7 survey)	3.6	33	99	▼ -22
2.1.2 Education and skills output		52	62	▲ 4
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a	
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	3.9	46	76	▲ 8
2.1.2.4 Skilled labour supply (1-7 survey)	4.4	63	53	▼ -8
2.1.2.5 Vocational enrollment (% of students)	21.6	47	33	▲ 3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	7.2	25	58	▼ -2
2.1.2.7 Quality of vocational education (1-7 survey)	4.0	41	70	▼ -13
2.1.2.8 STEM graduates (%)	24.2	42	43	▲ 14
2.1.2.9 Digital skills (1-7 survey)	3.8	44	90	▲ 3
2.1.2.10 Critical thinking (1-7 survey)	3.3	38	69	▲ 12
2.2 Employment		37	84	▼ -18
2.2.1 Employment input		49	67	▼ -33
2.2.1.1 Hiring and firing practices (1-7 survey)	4.0	51	51	▼ -35
2.2.1.2 Worker's rights (1-7 score)	67.0	30	83	▼ -3
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.3	59	46	▼ -5
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		31	100	▲ 8
2.2.2.1 Women in labour force (% female-male)	87.5	81	29	▲ 2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.6	25	116	▼ -13
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a	

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	8 049	5	122	▲ 1
2.2.2.6 ALP effectiveness (1-7 survey)	2.6	25	106	▼ -2
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.9	25	112	▲ 11
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.4	55	32	▲ 66
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		15	104	▲ 1
2.3.1 Innovation input		27	81	▼ -1
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a	
2.3.1.2 IPR score	4.3	27	109	▼ -4
2.3.2 Innovation output		2	132	▲ 1
2.3.2.1 Trademark applications per th. pop.	n/a	n/a	n/a	
2.3.2.2 Patent applications per th. pop.	n/a	n/a	n/a	
2.3.2.3 R&D journals per th. pop.	0.03	2	98	▼ -4
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	125	▼ -1
2.4 Technology		28	128	▲ 1
2.4.1 Technology input		22	131	▲ 1
2.4.1.1 ICT affordability	2.8	31	135	▼ -7
2.4.1.2 ICT access index	2.4	15	124	▲ 3
2.4.2 Technology output		37	90	▲ 11
2.4.2.1 ICT goods and services export (% of exp.)	16.5	59	28	▲ 44
2.4.2.2 Mobile broadband per 100 pop.	9.6	7	135	▼ -2
2.5 Entrepreneurship		35	127	▼ -28
2.5.1 Entrepreneurship input		48	123	▼ -44
2.5.1.1 Time dealing with gov. regulations (%)	17.9	38	98	▼ -39
2.5.1.2 Time to start a business (days)	13.5	74	79	▼ -8
2.5.1.3 Procedures to register a business	6.0	61	56	▼ -1
2.5.1.4 Cost to start a business (% GNI per cap)	35.8	39	116	▼ -2
2.5.2 Entrepreneurship output		28	123	▼ -9
2.5.2.1 Global Entrepreneurship Index	15.4	9	112	▲ 1
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a	
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	3.2	43	109	▼ -10
2.6 Statistics		45	124	● 0
2.6.1 Statistical fullness (%)	0.73	45	124	● 0

Whiteshield Partners
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Radar chart with axes: Statistics, Demographics, Country Capabilities, Economic Development, Economic Diversification, Inequality, Education and Skills, Employment, Innovation, Technology, Entrepreneurship.
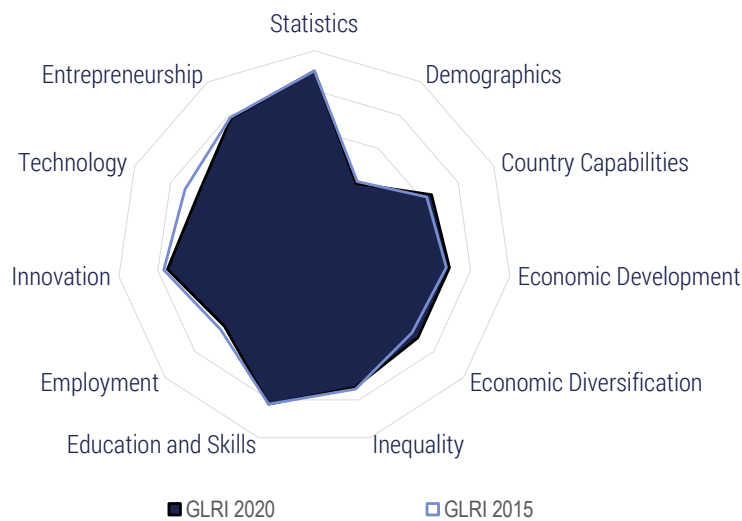
■ GLRI 2020   □ GLRI 2015

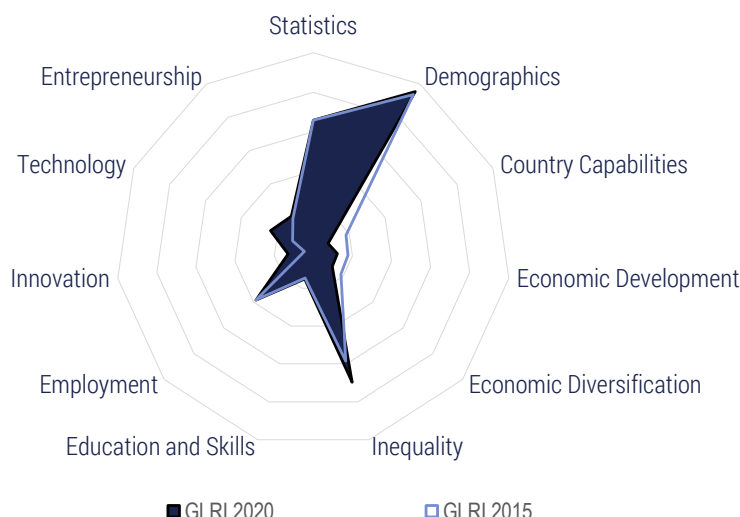## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**78**	**36**	▼	-1
1.1 Demographics		39	119	▼	-2
1.1.1 Share of older population (% of total population)	17.4	39	119	▼	-2
1.2 Country Capabilities		65	33	●	0
1.2.1 Economic Complexity Index	0.8	65	33	●	0
1.3 Economic Development		69	22	▲	4
1.3.1 Income per capita (PPP)	44 070	63	19	▲	1
1.3.2 Dependence on natural resources (% of GDP)	1.7	73	68	▼	-1
1.3.3 Tertiarisation of economy (% of GDP)	66.7	81	19	▲	6
1.4 Economic Diversification		69	30	▲	10
1.4.1 Concentration of exports	0.1	88	40	▲	8
1.4.2 Diversity	276	51	29	▲	7
1.5 Inequality		73	47	▼	-1
1.5.1 Income inequality	34.0	73	47	▼	-1
2. Policy Pillar		**81**	**17**	▼	-6
2.1 Education and skills		82	10	▼	-1
2.1.1 Education and skills input		89	4	●	0
2.1.1.1 Government education spendings (% of GDP)	5.3	49	38	▲	5
2.1.1.2 Tertiary public education spendings (% of gov.exp)	35.6	73	9	●	0
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	16 121	78	7	▲	1
2.1.1.4 Years of schooling	14.0	99	3	▼	-1
2.1.1.5 Staff training (1-7 survey)	4.9	72	19	▲	1
2.1.2 Education and skills output		78	15	▲	1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	517	76	6	●	0
2.1.2.3 Skillset of graduates (1-7 survey)	5.0	74	19	●	0
2.1.2.4 Skilled labour supply (1-7 survey)	5.0	79	14	▼	-5
2.1.2.5 Vocational enrollment (% of students)	4.8	11	100	▲	1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	5.2	68	11	▲	1
2.1.2.8 STEM graduates (%)	21.3	36	61	▲	2
2.1.2.9 Digital skills (1-7 survey)	5.2	83	17	▼	-3
2.1.2.10 Critical thinking (1-7 survey)	4.9	80	12	●	0
2.2 Employment		60	23	▼	-4
2.2.1 Employment input		51	53	▲	20
2.2.1.1 Hiring and firing practices (1-7 survey)	4.5	67	17	▼	-3
2.2.1.2 Worker's rights (1-7 score)	90.7	80	14	▲	6
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.0	49	80	▼	-10
2.2.1.4 Tax wedge (% of labour cost)	30.7	53	9	▼	-1
2.2.1.5 ALP spendings (% of GDP)	0.8	25	18	▲	2
2.2.2 Employment output		67	18	▼	-1
2.2.2.1 Women in labour force (% female-male)	87.2	80	30	▼	-1
2.2.2.2 Gender pay gap (% of employees)	18.2	41	38	▼	-2
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	5.1	79	9	▲	1
2.2.2.4 Knowledge insentive employment (%)	43.7	70	16	▼	-1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	86 437	59	24	▲	1
2.2.2.6 ALP effectiveness (1-7 survey)	4.7	76	21	▼	-6
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.2	68	16	▲	13
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.5	59	24	▲	4
2.2.2.9 Earnings quality (PPP)	19.7	63	14	●	0
2.2.2.10 Quality of the working environment (%)	30.1	53	26	▼	-7
2.3 Innovation		75	17	▼	-4
2.3.1 Innovation input		76	19	▼	-3
2.3.1.1 R&D spendings (% of GDP)	1.6	57	22	▼	-1
2.3.1.2 IPR score	8.3	93	10	▼	-1
2.3.2 Innovation output		74	10	▼	-1
2.3.2.1 Trademark applications per th. pop.	1.6	51	31	▼	-2
2.3.2.2 Patent applications per th. pop.	0.95	100	1	●	0
2.3.2.3 R&D journals per th. pop.	1.55	78	11	●	0
2.3.2.4 Researchers in R&D per mln.pop.	4 275	55	21	▼	-9
2.3.2.5 Technicians in R&D per mln.pop.	1 214	52	15	▼	-3
2.3.2.6 Creative goods exports (% of goods exp.)	2.56	64	21	▼	-2
2.4 Technology		65	43	▼	-27
2.4.1 Technology input		85	26	▼	-12
2.4.1.1 ICT affordability	5.6	77	59	▼	-16
2.4.1.2 ICT access index	7.8	84	25	▼	-6
2.4.2 Technology output		42	78	▼	-60
2.4.2.1 ICT goods and services export (% of exp.)	6.9	31	78	▼	-41
2.4.2.2 Mobile broadband per 100 pop.	66.1	41	61	▼	-31
2.5 Entrepreneurship		78	10	●	0
2.5.1 Entrepreneurship input		96	2	●	0
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	1.5	98	2	▲	9
2.5.1.3 Procedures to register a business	2.0	92	3	▼	-1
2.5.1.4 Cost to start a business (% GNI per cap)	0.4	94	9	●	0
2.5.2 Entrepreneurship output		62	30	▼	-1
2.5.2.1 Global Entrepreneurship Index	79.2	94	3	▼	-1
2.5.2.2 New corporate registrations per th. pop.	0.0	1	107	▼	-1
2.5.2.3 Venture capital investments (% of GDP)	0.18	100	1	●	0
2.5.2.4 SME outstanding loans (% of loans)	12.5	15	41	▼	-1
2.5.2.5 Access to loans (1-7 survey)	4.9	83	17	▲	7
2.6 Statistics		90	26	●	0
2.6.1 Statistical fullness (%)	0.95	90	26	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Chad

Global Labour Resilience Index 2020

GLRI 2015 Rank 140 ⬇

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- Statistics
- Demographics
- Country Capabilities
- Economic Development
- Economic Diversification
- Inequality
- Education and Skills
- Employment
- Innovation
- Technology
- Entrepreneurship
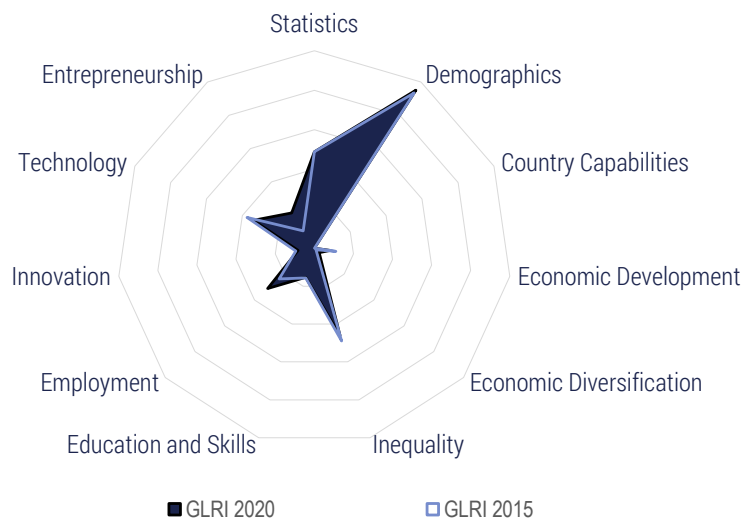
■ GLRI 2020   ☐ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

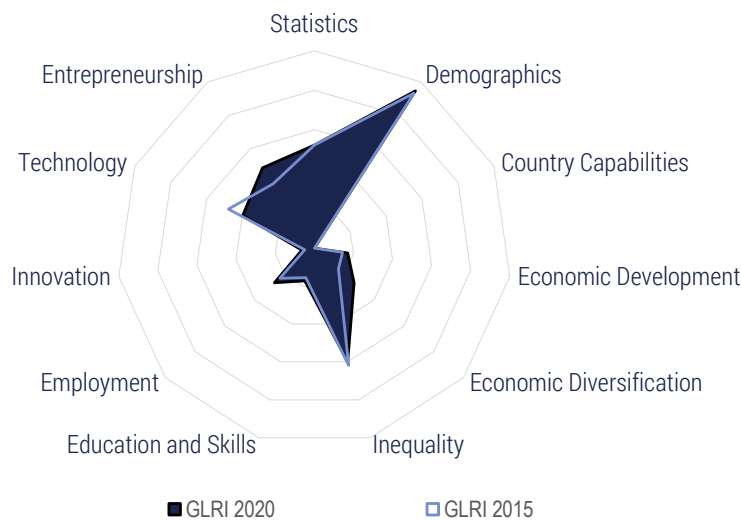## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		24	138	▽	-2
1.1 Demographics		95	10	⬤	0
1.1.1 Share of older population (% of total population)	2.5	95	10	⬤	0
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		8	143	▽	-2
1.3.1 Income per capita (PPP)	1 746	3	136	▽	-7
1.3.2 Dependence on natural resources (% of GDP)	22.0	17	135	▽	-8
1.3.3 Tertiarisation of economy (% of GDP)	37.6	37	135	△	2
1.4 Economic Diversification		3	143	△	1
1.4.1 Concentration of exports	0.8	6	141	△	2
1.4.2 Diversity	16	1	145	▽	-2
1.5 Inequality		46	102	▽	-1
1.5.1 Income inequality	43.3	46	102	▽	-1
2. Policy Pillar		18	137	⬤	0
2.1 Education and skills		15	139	▽	-3
2.1.1 Education and skills input		14	139	▽	-2
2.1.1.1 Government education spendings (% of GDP)	2.9	21	116	▽	-1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	31.7	64	16	△	3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	3 783	19	56	▽	-3
2.1.1.4 Years of schooling	1.8	4	129	▽	-1
2.1.1.5 Staff training (1-7 survey)	3.1	19	129	△	1
2.1.2 Education and skills output		28	132	▽	-5
2.1.2.1 Tertiary attainment rate (% of pop 25+)	0.9	3	95	⬤	0
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	4.0	47	72	△	33
2.1.2.4 Skilled labour supply (1-7 survey)	3.9	50	86	△	5
2.1.2.5 Vocational enrollment (% of students)	1.5	4	123	▽	-1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.2	2	116	⬤	0
2.1.2.7 Quality of vocational education (1-7 survey)	3.5	29	109	△	8
2.1.2.8 STEM graduates (%)	13.7	22	107	▽	-7
2.1.2.9 Digital skills (1-7 survey)	3.0	23	130	▽	-5
2.1.2.10 Critical thinking (1-7 survey)	3.2	36	77	▽	-20
2.2 Employment		31	107	△	25
2.2.1 Employment input		44	85	△	20
2.2.1.1 Hiring and firing practices (1-7 survey)	n/a				
2.2.1.2 Worker's rights (1-7 score)	71.1	38	59	▽	-2
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.0	49	81	△	37
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		26	120	△	15
2.2.2.1 Women in labour force (% female-male)	83.2	75	52	▽	-1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.8	31	104	△	18
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	4 843	3	130	▽	-6
2.2.2.6 ALP effectiveness (1-7 survey)	2.2	16	115	△	4
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.5	10	136	△	2
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.4	31	111	△	29
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		8	128	▽	-6
2.3.1 Innovation input		15	118	▽	-6
2.3.1.1 R&D spendings (% of GDP)	0.3	12	79	▽	-2
2.3.1.2 IPR score	3.8	18	120	▽	-4
2.3.2 Innovation output		1	139	⬤	0
2.3.2.1 Trademark applications per th. pop.	n/a	n/a	n/a		
2.3.2.2 Patent applications per th. pop.	n/a	n/a	n/a		
2.3.2.3 R&D journals per th. pop.	0.00	1	144	⬤	0
2.3.2.4 Researchers in R&D per mln.pop.	58	2	95	▽	-1
2.3.2.5 Technicians in R&D per mln.pop.	8	1	100	⬤	0
2.3.2.6 Creative goods exports (% of goods exp.)	n/a	n/a	n/a		
2.4 Technology		34	117	▽	-34
2.4.1 Technology input		6	143	▽	-23
2.4.1.1 ICT affordability	1.9	15	143	▽	-44
2.4.1.2 ICT access index	1.3	1	142	⬤	0
2.4.2 Technology output		64	23	△	1
2.4.2.1 ICT goods and services export (% of exp.)	76.1	100	1	⬤	0
2.4.2.2 Mobile broadband per 100 pop.	9.5	7	136	▽	-3
2.5 Entrepreneurship		21	142	△	1
2.5.1 Entrepreneurship input		36	135	△	6
2.5.1.1 Time dealing with gov. regulations (%)	13.3	54	85	△	19
2.5.1.2 Time to start a business (days)	58.0	1	137	▽	-6
2.5.1.3 Procedures to register a business	8.0	45	92	⬤	0
2.5.1.4 Cost to start a business (% GNI per cap)	171.3	13	135	△	1
2.5.2 Entrepreneurship output		13	139	△	2
2.5.2.1 Global Entrepreneurship Index	9.0	1	127	▽	-4
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	2.5	26	134	▽	-6
2.6 Statistics		49	121	⬤	0
2.6.1 Statistical fullness (%)	0.75	49	121	⬤	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Chile

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
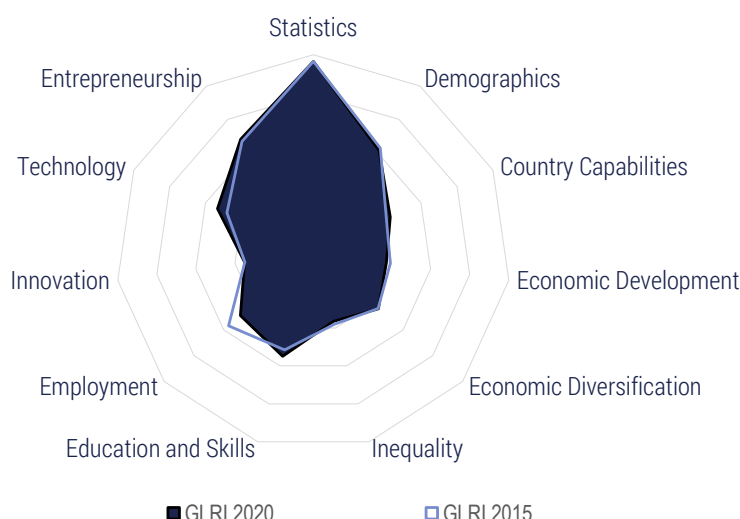
- ■ GLRI 2020
- ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**37**	**125**	▽	-1
1.1 Demographics		61	93	⬤	0
1.1.1 Share of older population (% of total population)	11.5	61	93	⬤	0
1.2 Country Capabilities		43	74	▽	-1
1.2.1 Economic Complexity Index	-0.3	43	74	▽	-1
1.3 Economic Development		37	89	▽	-4
1.3.1 Income per capita (PPP)	22 874	33	52	▽	-4
1.3.2 Dependence on natural resources (% of GDP)	11.5	33	117	▲	1
1.3.3 Tertiarisation of economy (% of GDP)	57.9	68	54	▲	6
1.4 Economic Diversification		44	87	▽	-2
1.4.1 Concentration of exports	0.3	64	94	⬤	0
1.4.2 Diversity	133	24	80	▽	-3
1.5 Inequality		36	114	△	4
1.5.1 Income inequality	46.6	36	114	▲	4
2. Policy Pillar		**61**	**38**	▽	-3
2.1 Education and skills		55	44	⬤	0
2.1.1 Education and skills input		61	40	▲	3
2.1.1.1 Government education spendings (% of GDP)	5.4	51	33	▲	36
2.1.1.2 Tertiary public education spendings (% of gov.exp)	25.2	50	39	▲	7
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	7 970	39	27	▲	2
2.1.1.4 Years of schooling	10.6	72	50	▽	-1
2.1.1.5 Staff training (1-7 survey)	4.2	52	49	▲	1
2.1.2 Education and skills output		55	58	▽	-3
2.1.2.1 Tertiary attainment rate (% of pop 25+)	14.6	32	54	⬤	0
2.1.2.2 PISA score	438	45	43	▲	5
2.1.2.3 Skillset of graduates (1-7 survey)	4.5	62	37	▽	-5
2.1.2.4 Skilled labour supply (1-7 survey)	4.8	75	22	▽	-2
2.1.2.5 Vocational enrollment (% of students)	19.3	41	39	▽	-4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	16.9	58	25	▲	1
2.1.2.7 Quality of vocational education (1-7 survey)	4.8	59	23	▲	2
2.1.2.8 STEM graduates (%)	20.5	35	72	▽	-3
2.1.2.9 Digital skills (1-7 survey)	4.2	56	63	▲	1
2.1.2.10 Critical thinking (1-7 survey)	3.2	35	79	▲	22
2.2 Employment		49	48	▽	-11
2.2.1 Employment input		56	35	▲	13
2.2.1.1 Hiring and firing practices (1-7 survey)	3.0	24	113	▽	-49
2.2.1.2 Worker's rights (1-7 score)	76.3	49	46	▲	4
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.7	70	18	▽	-6
2.2.1.4 Tax wedge (% of labour cost)	7.0	100	1	⬤	0
2.2.1.5 ALP spendings (% of GDP)	0.5	17	31	▲	1
2.2.2 Employment output		43	58	▽	-19
2.2.2.1 Women in labour force (% female-male)	68.8	58	98	▲	1
2.2.2.2 Gender pay gap (% of employees)	12.5	61	25	▽	-6
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.6	69	17	▽	-2
2.2.2.4 Knowledge insentive employment (%)	24.8	40	57	▽	-16

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	50 669	35	52	▽	-2
2.2.2.6 ALP effectiveness (1-7 survey)	3.0	34	80	▽	-5
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.4	40	64	▽	-24
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.7	64	18	▽	-3
2.2.2.9 Earnings quality (PPP)	6.5	11	32	⬤	0
2.2.2.10 Quality of the working environment (%)	28.2	58	19	▽	-6
2.3 Innovation		35	45	▽	-1
2.3.1 Innovation input		42	44	▽	-1
2.3.1.1 R&D spendings (% of GDP)	0.4	13	74	▽	-4
2.3.1.2 IPR score	6.9	70	27	▽	-3
2.3.2 Innovation output		28	51	△	1
2.3.2.1 Trademark applications per th. pop.	2.1	68	20	▲	1
2.3.2.2 Patent applications per th. pop.	0.15	52	29	▽	-5
2.3.2.3 R&D journals per th. pop.	0.36	19	49	▽	-1
2.3.2.4 Researchers in R&D per mln.pop.	502	7	67	▲	2
2.3.2.5 Technicians in R&D per mln.pop.	302	14	46	▽	-3
2.3.2.6 Creative goods exports (% of goods exp.)	0.08	5	74	▽	-9
2.4 Technology		53	77	▽	-23
2.4.1 Technology input		71	60	▽	-23
2.4.1.1 ICT affordability	4.9	67	82	▽	-50
2.4.1.2 ICT access index	6.6	69	50	▲	2
2.4.2 Technology output		35	101	▽	-23
2.4.2.1 ICT goods and services export (% of exp.)	2.7	19	118	▽	-28
2.4.2.2 Mobile broadband per 100 pop.	69.0	43	51	▲	3
2.5 Entrepreneurship		68	30	▲	1
2.5.1 Entrepreneurship input		69	66	▲	2
2.5.1.1 Time dealing with gov. regulations (%)	9.9	66	70	⬤	2
2.5.1.2 Time to start a business (days)	6.0	89	29	⬤	0
2.5.1.3 Procedures to register a business	7.0	53	70	▲	5
2.5.1.4 Cost to start a business (% GNI per cap)	3.0	77	47	▽	-2
2.5.2 Entrepreneurship output		70	17	▲	7
2.5.2.1 Global Entrepreneurship Index	58.5	67	17	▲	1
2.5.2.2 New corporate registrations per th. pop.	5.9	81	15	⬤	0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	20.7	24	35	▲	3
2.5.2.5 Access to loans (1-7 survey)	5.0	85	14	▲	5
2.6 Statistics		97	10	⬤	0
2.6.1 Statistical fullness (%)	0.98	97	10	⬤	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**88**	**19**	▲	4
1.1 Demographics		62	90	▲	1
1.1.1 Share of older population (% of total population)	11.2	62	90	▲	1
1.2 Country Capabilities		73	22	●	0
1.2.1 Economic Complexity Index	1.1	73	22	●	0
1.3 Economic Development		47	70	▲	12
1.3.1 Income per capita (PPP)	16 187	23	65	▲	11
1.3.2 Dependence on natural resources (% of GDP)	1.5	76	62	▲	10
1.3.3 Tertiarisation of economy (% of GDP)	52.2	59	88	▲	17
1.4 Economic Diversification		97	2	▲	1
1.4.1 Concentration of exports	0.1	95	14	▲	2
1.4.2 Diversity	546	100	1	●	0
1.5 Inequality		60	78	▼	-1
1.5.1 Income inequality	38.6	60	78	▼	-1
2. Policy Pillar		**67**	**29**	▲	4
2.1 Education and skills		50	54	▼	-2
2.1.1 Education and skills input		43	92	▼	-5
2.1.1.1 Government education spendings (% of GDP)	1.9	10	138	▼	-4
2.1.1.2 Tertiary public education spendings (% of gov.exp)	24.0	47	45	▲	9
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	6.7	42	101	▼	-4
2.1.1.5 Staff training (1-7 survey)	4.5	60	33	▲	1
2.1.2 Education and skills output		63	36	▲	1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	3.6	9	85	▼	-2
2.1.2.2 PISA score	579	100	1	▲	12
2.1.2.3 Skillset of graduates (1-7 survey)	4.5	62	36	▼	-9
2.1.2.4 Skilled labour supply (1-7 survey)	4.6	68	42	▼	-3
2.1.2.5 Vocational enrollment (% of students)	18.9	41	42	▼	-11
2.1.2.6 Vocational enrollment of 15-24 olds (%)	6.2	22	61	▼	-4
2.1.2.7 Quality of vocational education (1-7 survey)	4.5	53	38	▼	-4
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	4.7	68	43	▼	-5
2.1.2.10 Critical thinking (1-7 survey)	4.4	65	24	▼	-3
2.2 Employment		47	53	▼	-5
2.2.1 Employment input		49	61	▼	-1
2.2.1.1 Hiring and firing practices (1-7 survey)	4.5	65	21	▲	4
2.2.1.2 Worker's rights (1-7 score)	59.8	14	103	●	0
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.5	63	36	▼	-2
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		47	45	▼	-7
2.2.2.1 Women in labour force (% female-male)	80.7	72	62	▼	-10
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.4	64	26	▲	2
2.2.2.4 Knowledge insentive employment (%)	7.4	12	108	●	0

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	29 499	20	82	▲	5
2.2.2.6 ALP effectiveness (1-7 survey)	4.5	70	27	▼	-5
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.6	47	51	▲	6
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.3	53	44	▼	-2
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	28.9	56.2	23	▼	6
2.3 Innovation		68	21	▲	1
2.3.1 Innovation input		65	23	▲	3
2.3.1.1 R&D spendings (% of GDP)	2.1	77	15	●	0
2.3.1.2 IPR score	5.9	54	50	▲	5
2.3.2 Innovation output		70	14	▲	1
2.3.2.1 Trademark applications per th. pop.	1.5	48	34	▼	-1
2.3.2.2 Patent applications per th. pop.	0.99	100	1	●	0
2.3.2.3 R&D journals per th. pop.	0.31	16	50	●	0
2.3.2.4 Researchers in R&D per mln.pop.	1 235	16	45	▲	2
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	63.57	100	1	●	0
2.4 Technology		74	21	▲	9
2.4.1 Technology input		69	65	●	0
2.4.1.1 ICT affordability	5.5	77	61	▼	-21
2.4.1.2 ICT access index	5.6	57	70	▲	5
2.4.2 Technology output		74	14	▲	1
2.4.2.1 ICT goods and services export (% of exp.)	23.5	79	15	▼	-6
2.4.2.2 Mobile broadband per 100 pop.	66.8	42	57	▲	12
2.5 Entrepreneurship		77	13	▲	17
2.5.1 Entrepreneurship input		91	7	▲	23
2.5.1.1 Time dealing with gov. regulations (%)	0.9	97	6	▼	-1
2.5.1.2 Time to start a business (days)	8.5	84	50	▲	59
2.5.1.3 Procedures to register a business	4.0	76	18	▲	101
2.5.1.4 Cost to start a business (% GNI per cap)	0.6	92	13	▲	1
2.5.2 Entrepreneurship output		64	26	▲	10
2.5.2.1 Global Entrepreneurship Index	41.1	44	40	▲	18
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	64.8	75	9	▲	1
2.5.2.5 Access to loans (1-7 survey)	4.5	72	33	▼	-3
2.6 Statistics		69	59	●	0
2.6.1 Statistical fullness (%)	0.85	69	59	●	0

Colombia

Global Labour Resilience Index 2020

99

GLRI 2015 Rank 99 ⬤

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**43**	**111**	▲ 16
1.1 Demographics		74	78	▽ -3
1.1.1 Share of older population (% of total population)	8.0	74	78	▽ -3
1.2 Country Capabilities		52	57	▽ -3
1.2.1 Economic Complexity Index	0.1	52	57	▽ -3
1.3 Economic Development		41	82	△ 6
1.3.1 Income per capita (PPP)	13 333	19	75	▽ -2
1.3.2 Dependence on natural resources (% of GDP)	4.3	56	88	▲ 9
1.3.3 Tertiarisation of economy (% of GDP)	57.8	68	55	▲ 18
1.4 Economic Diversification		43	89	△ 15
1.4.1 Concentration of exports	0.3	62	99	▲ 16
1.4.2 Diversity	135	24	79	▲ 7
1.5 Inequality		27	123	△ 2
1.5.1 Income inequality	49.7	27	123	▲ 2
2. Policy Pillar		**38**	**86**	▽ -9
2.1 Education and skills		41	87	△ 5
2.1.1 Education and skills input		43	94	△ 6
2.1.1.1 Government education spendings (% of GDP)	4.5	40	67	▽ -8
2.1.1.2 Tertiary public education spendings (% of gov.exp)	23.3	46	50	▲ 44
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	4 798	24	47	▽ -4
2.1.1.4 Years of schooling	8.5	56	84	▲ 2
2.1.1.5 Staff training (1-7 survey)	3.7	36	87	▲ 2
2.1.2 Education and skills output		46	80	△ 8
2.1.2.1 Tertiary attainment rate (% of pop 25+)	11.8	26	62	⬤ 0
2.1.2.2 PISA score	405	32	59	▲ 6
2.1.2.3 Skillset of graduates (1-7 survey)	4.3	55	52	▽ -14
2.1.2.4 Skilled labour supply (1-7 survey)	4.3	60	57	▲ 4
2.1.2.5 Vocational enrollment (% of students)	7.5	17	85	▲ 2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	8.7	30	51	▲ 18
2.1.2.7 Quality of vocational education (1-7 survey)	4.4	50	46	▽ -6
2.1.2.8 STEM graduates (%)	23.1	40	52	▲ 2
2.1.2.9 Digital skills (1-7 survey)	3.9	46	84	▽ -3
2.1.2.10 Critical thinking (1-7 survey)	3.6	44	57	▽ -5
2.2 Employment		26	128	▽ -20
2.2.1 Employment input		28	128	▽ -16
2.2.1.1 Hiring and firing practices (1-7 survey)	3.3	33	99	▽ -26
2.2.1.2 Worker's rights (1-7 score)	57.7	10	108	▽ -2
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.1	52	70	▽ -6
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		33	89	▽ -11
2.2.2.1 Women in labour force (% female-male)	71.4	61	92	⬤ 0
2.2.2.2 Gender pay gap (% of employees)	5.8	85	11	▲ 1
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.3	41	76	▲ 5
2.2.2.4 Knowledge insentive employment (%)	11.7	19	102	▽ -35

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	27 492	19	85	▽ -1
2.2.2.6 ALP effectiveness (1-7 survey)	2.8	31	90	▽ -9
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.4	39	68	▽ -15
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.1	23	125	▽ -6
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		19	86	△ 3
2.3.1 Innovation input		28	77	▲ 7
2.3.1.1 R&D spendings (% of GDP)	0.2	9	86	⬤ 0
2.3.1.2 IPR score	5.5	47	59	▲ 6
2.3.2 Innovation output		10	90	▽ -2
2.3.2.1 Trademark applications per th. pop.	0.5	18	84	▲ 3
2.3.2.2 Patent applications per th. pop.	0.05	17	66	▲ 4
2.3.2.3 R&D journals per th. pop.	0.12	7	71	▲ 2
2.3.2.4 Researchers in R&D per mln.pop.	88	2	90	▲ 5
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.6 Creative goods exports (% of goods exp.)	0.11	6	65	▽ -2
2.4 Technology		46	98	▽ -2
2.4.1 Technology input		68	67	▲ 5
2.4.1.1 ICT affordability	5.6	78	56	▲ 11
2.4.1.2 ICT access index	5.4	54	73	▽ -2
2.4.2 Technology output		25	123	⬤ 0
2.4.2.1 ICT goods and services export (% of exp.)	2.4	18	122	▽ -17
2.4.2.2 Mobile broadband per 100 pop.	45.5	29	92	▲ 3
2.5 Entrepreneurship		41	114	▽ -44
2.5.1 Entrepreneurship input		45	126	▽ -24
2.5.1.1 Time dealing with gov. regulations (%)	19.5	32	102	▽ -18
2.5.1.2 Time to start a business (days)	11.0	79	63	▽ -14
2.5.1.3 Procedures to register a business	8.0	45	92	⬤ 0
2.5.1.4 Cost to start a business (% GNI per cap)	14.0	54	89	⬤ 0
2.5.2 Entrepreneurship output		41	78	▽ -22
2.5.2.1 Global Entrepreneurship Index	38.2	40	43	▽ -9
2.5.2.2 New corporate registrations per th. pop.	1.5	22	45	▲ 3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	25.8	30	34	▽ -7
2.5.2.5 Access to loans (1-7 survey)	4.0	61	61	▲ 8
2.6 Statistics		80	37	⬤ 0
2.6.1 Statistical fullness (%)	0.90	80	37	⬤ 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics · Demographics · Entrepreneurship · Country Capabilities · Technology · Economic Development · Innovation · Economic Diversification · Employment · Inequality · Education and Skills

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		17	142	● 0
1.1 Demographics		93	22	△ 2
1.1.1 Share of older population (% of total population)	3.0	93	22	△ 2
1.2 Country Capabilities		16	119	▽ -3
1.2.1 Economic Complexity Index	-1.5	16	119	▽ -3
1.3 Economic Development		1	145	▽ -1
1.3.1 Income per capita (PPP)	827	1	144	△ 1
1.3.2 Dependence on natural resources (% of GDP)	32.7	7	142	▽ -2
1.3.3 Tertiarisation of economy (% of GDP)	32.7	30	141	▽ -3
1.4 Economic Diversification		14	134	△ 2
1.4.1 Concentration of exports	0.6	24	135	△ 1
1.4.2 Diversity	39	5	132	▽ -2
1.5 Inequality		50	96	▽ -5
1.5.1 Income inequality	42.1	50	96	▽ -5
2. Policy Pillar		24	131	▽ -16
2.1 Education and skills		21	133	▽ -7
2.1.1 Education and skills input		24	128	▽ -5
2.1.1.1 Government education spendings (% of GDP)	1.5	5	139	▽ -10
2.1.1.2 Tertiary public education spendings (% of gov.exp)	23.8	47	47	△ 18
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	6.8	43	100	△ 2
2.1.1.5 Staff training (1-7 survey)	3.0	16	132	▽ -8
2.1.2 Education and skills output		29	130	▽ -16
2.1.2.1 Tertiary attainment rate (% of pop 25+)	3.5	8	86	△ 6
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	3.3	29	129	▽ -19
2.1.2.4 Skilled labour supply (1-7 survey)	3.8	49	90	▽ -32
2.1.2.5 Vocational enrollment (% of students)	18.9	41	43	△ 1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a	
2.1.2.7 Quality of vocational education (1-7 survey)	3.1	21	125	▽ -14
2.1.2.8 STEM graduates (%)	15.5	25	99	▽ -8
2.1.2.9 Digital skills (1-7 survey)	3.1	25	128	▽ -14
2.1.2.10 Critical thinking (1-7 survey)	2.6	21	119	▽ -8
2.2 Employment		30	113	▽ -27
2.2.1 Employment input		39	101	▽ -35
2.2.1.1 Hiring and firing practices (1-7 survey)	3.9	57	64	△ 46
2.2.1.2 Worker's rights (1-7 score)	68.0	32	81	▽ -16
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.9	47	84	▽ -19
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		28	113	▽ -21
2.2.2.1 Women in labour force (% female-male)	91.5	85	13	● 0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.8	30	108	▽ -2
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a	

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	2 467	2	141	△ 1
2.2.2.6 ALP effectiveness (1-7 survey)	1.9	8	129	▽ -5
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.5	10	138	▽ -64
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.0	46	64	▽ -47
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		9	126	▽ -3
2.3.1 Innovation input		16	116	▽ -2
2.3.1.1 R&D spendings (% of GDP)	0.4	15	71	▽ -2
2.3.1.2 IPR score	3.7	18	121	▽ -1
2.3.2 Innovation output		1	144	▽ -1
2.3.2.1 Trademark applications per th. pop.	0.0	1	131	● 0
2.3.2.2 Patent applications per th. pop.	0.00	1	118	● 0
2.3.2.3 R&D journals per th. pop.	0.00	1	141	▽ -1
2.3.2.4 Researchers in R&D per mln.pop.	11	1	118	▽ -1
2.3.2.5 Technicians in R&D per mln.pop.	7	1	102	● 0
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	124	△ 2
2.4 Technology		27	131	▽ -23
2.4.1 Technology input		2	144	▽ -2
2.4.1.1 ICT affordability	n/a	n/a	n/a	
2.4.1.2 ICT access index	1.6	5	140	
2.4.2 Technology output		55	38	▽ -24
2.4.2.1 ICT goods and services export (% of exp.)	22.7	77	16	▽ -15
2.4.2.2 Mobile broadband per 100 pop.	25.1	16	113	▽ -29
2.5 Entrepreneurship		45	96	△ 7
2.5.1 Entrepreneurship input		77	44	△ 49
2.5.1.1 Time dealing with gov. regulations (%)	4.7	84	37	△ 3
2.5.1.2 Time to start a business (days)	7.0	87	39	△ 68
2.5.1.3 Procedures to register a business	4.0	76	18	△ 106
2.5.1.4 Cost to start a business (% GNI per cap)	28.6	43	110	△ 1
2.5.2 Entrepreneurship output		18	136	▽ -28
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a	
2.5.2.2 New corporate registrations per th. pop.	0.0	1	112	△ 1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	2.8	34	128	▽ -71
2.6 Statistics		52	112	● 0
2.6.1 Statistical fullness (%)	0.76	52	112	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Costa Rica
Global Labour Resilience Index 2020

54

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**54**	**82**	▲	26
1.1 Demographics		68	86	●	0
1.1.1 Share of older population (% of total population)	9.8	68	86	●	0
1.2 Country Capabilities		56	45	▲	14
1.2.1 Economic Complexity Index	0.3	56	45	▲	14
1.3 Economic Development		57	45	▽	-4
1.3.1 Income per capita (PPP)	15 685	23	70	●	0
1.3.2 Dependence on natural resources (% of GDP)	1.2	79	53	▽	-7
1.3.3 Tertiarisation of economy (% of GDP)	68.3	84	16	▲	7
1.4 Economic Diversification		50	73	▲	40
1.4.1 Concentration of exports	0.3	72	77	▲	39
1.4.2 Diversity	153	27	72	▲	35
1.5 Inequality		31	120	▲	2
1.5.1 Income inequality	48.3	31	120	▲	2
2. Policy Pillar		**56**	**43**	●	0
2.1 Education and skills		59	35	▲	1
2.1.1 Education and skills input		62	38	▲	4
2.1.1.1 Government education spendings (% of GDP)	7.4	74	6	▲	6
2.1.1.2 Tertiary public education spendings (% of gov.exp)	23.1	45	51	▲	26
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	10 003	49	20	▲	4
2.1.1.4 Years of schooling	8.7	58	81	▽	-9
2.1.1.5 Staff training (1-7 survey)	4.4	58	36	▽	-1
2.1.2 Education and skills output		61	42	▽	-11
2.1.2.1 Tertiary attainment rate (% of pop 25+)	21.3	46	31	▽	-7
2.1.2.2 PISA score	415	36	56	▽	-7
2.1.2.3 Skillset of graduates (1-7 survey)	4.9	72	23	▽	-5
2.1.2.4 Skilled labour supply (1-7 survey)	4.9	78	17	▽	-5
2.1.2.5 Vocational enrollment (% of students)	22.8	49	31	▲	7
2.1.2.6 Vocational enrollment of 15-24 olds (%)	7.7	27	54	▲	6
2.1.2.7 Quality of vocational education (1-7 survey)	5.0	64	19	▽	-2
2.1.2.8 STEM graduates (%)	15.5	25	100	▲	10
2.1.2.9 Digital skills (1-7 survey)	5.0	78	26	▽	-1
2.1.2.10 Critical thinking (1-7 survey)	3.6	46	54	▽	-10
2.2 Employment		51	41	▽	-17
2.2.1 Employment input		58	28	▲	5
2.2.1.1 Hiring and firing practices (1-7 survey)	3.8	45	67	▽	-28
2.2.1.2 Worker's rights (1-7 score)	85.6	69	25	▲	2
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.9	47	85	▲	2
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		45	49	▽	-17
2.2.2.1 Women in labour force (% female-male)	61.2	49	115	▽	-11
2.2.2.2 Gender pay gap (% of employees)	4.7	89	7	▽	-6
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.2	61	32	▽	-6
2.2.2.4 Knowledge insentive employment (%)	25.0	40	55	▽	-5

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	36 699	25	71	▲	4
2.2.2.6 ALP effectiveness (1-7 survey)	2.8	31	97	▽	-28
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.1	66	21	▽	-8
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.4	32	106	▽	-46
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		34	49	▲	4
2.3.1 Innovation input		41	45	▲	6
2.3.1.1 R&D spendings (% of GDP)	0.5	17	67	▽	-11
2.3.1.2 IPR score	6.6	65	29	▲	18
2.3.2 Innovation output		26	59	●	0
2.3.2.1 Trademark applications per th. pop.	2.9	91	15	●	0
2.3.2.2 Patent applications per th. pop.	0.10	35	41	▽	-3
2.3.2.3 R&D journals per th. pop.	0.08	5	80	▲	1
2.3.2.4 Researchers in R&D per mln.pop.	530	8	66	●	0
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.03	2	88	▽	-2
2.4 Technology		68	34	▽	-5
2.4.1 Technology input		82	34	▲	6
2.4.1.1 ICT affordability	6.3	90	19	▽	-13
2.4.1.2 ICT access index	6.4	67	53	▲	15
2.4.2 Technology output		50	49	▽	-16
2.4.2.1 ICT goods and services export (% of exp.)	2.0	17	134	▽	-119
2.4.2.2 Mobile broadband per 100 pop.	109.5	68	15	▲	59
2.5 Entrepreneurship		48	81	▲	13
2.5.1 Entrepreneurship input		60	95	▽	-12
2.5.1.1 Time dealing with gov. regulations (%)	8.4	71	62	▲	5
2.5.1.2 Time to start a business (days)	23.0	55	109	▽	-19
2.5.1.3 Procedures to register a business	10.0	29	123	▽	-31
2.5.1.4 Cost to start a business (% GNI per cap)	8.5	62	75	▽	-3
2.5.2 Entrepreneurship output		41	76	▲	25
2.5.2.1 Global Entrepreneurship Index	33.3	33	53	▽	-1
2.5.2.2 New corporate registrations per th. pop.	1.4	20	49	▲	23
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.5	50	91	▲	13
2.6 Statistics		76	43	●	0
2.6.1 Statistical fullness (%)	0.88	76	43	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Cote d'Ivoire

Global Labour Resilience Index 2020

111

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- ■ GLRI 2020
- ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		45	107	●	0
1.1 Demographics		93	20	◑	0
1.1.1 Share of older population (% of total population)	2.9	93	20	●	0
1.2 Country Capabilities		37	90	△	10
1.2.1 Economic Complexity Index	-0.5	37	90	△	10
1.3 Economic Development		23	120	▽	-6
1.3.1 Income per capita (PPP)	3 733	5	117	△	4
1.3.2 Dependence on natural resources (% of GDP)	3.3	61	80	△	16
1.3.3 Tertiarisation of economy (% of GDP)	32.6	30	142	▽	-31
1.4 Economic Diversification		37	101	▽	-11
1.4.1 Concentration of exports	0.4	59	102	▽	-16
1.4.2 Diversity	89	15	99	▽	-2
1.5 Inequality		51	93	△	6
1.5.1 Income inequality	41.5	51	93	△	6
2. Policy Pillar		29	113	▽	-16
2.1 Education and skills		33	108	▽	-6
2.1.1 Education and skills input		35	111	▽	-8
2.1.1.1 Government education spendings (% of GDP)	5.1	48	46	△	15
2.1.1.2 Tertiary public education spendings (% of gov.exp)	14.0	25	109	▽	-60
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	7 251	35	32	△	4
2.1.1.4 Years of schooling	4.5	25	115	●	0
2.1.1.5 Staff training (1-7 survey)	4.1	49	56	▽	-5
2.1.2 Education and skills output		38	106	▽	-2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	2.8	7	88	▽	-2
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.7	40	97	▽	-2
2.1.2.4 Skilled labour supply (1-7 survey)	4.6	70	36	●	0
2.1.2.5 Vocational enrollment (% of students)	5.7	13	93	△	9
2.1.2.6 Vocational enrollment of 15-24 olds (%)	2.0	8	88	▽	-3
2.1.2.7 Quality of vocational education (1-7 survey)	4.1	43	62	▽	-3
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	3.9	48	78	△	6
2.1.2.10 Critical thinking (1-7 survey)	2.9	28	103	△	3
2.2 Employment		45	63	▽	-2
2.2.1 Employment input		56	36	▽	-11
2.2.1.1 Hiring and firing practices (1-7 survey)	4.1	53	46	▽	-25
2.2.1.2 Worker's rights (1-7 score)	71.1	38	59	△	6
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.5	64	34	▽	-4
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		36	80	△	27
2.2.2.1 Women in labour force (% female-male)	73.2	63	86	△	10
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.7	48	52	△	28
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	11 654	8	112	△	4
2.2.2.6 ALP effectiveness (1-7 survey)	2.0	13	126	△	3
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.6	49	45	▽	-12
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.4	57	30	△	53
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		10	123	△	9
2.3.1 Innovation input		18	113	△	8
2.3.1.1 R&D spendings (% of GDP)	0.1	4	113	▽	-4
2.3.1.2 IPR score	4.6	32	101	△	16
2.3.2 Innovation output		1	135	△	2
2.3.2.1 Trademark applications per th. pop.	n/a	n/a	n/a		
2.3.2.2 Patent applications per th. pop.	0.00	1	119	△	2
2.3.2.3 R&D journals per th. pop.	0.01	1	124	▽	-1
2.3.2.4 Researchers in R&D per mln.pop.	69	2	92	▽	-1
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.01	1	98	△	4
2.4 Technology		30	125	▽	-16
2.4.1 Technology input		28	124	△	5
2.4.1.1 ICT affordability	2.9	32	133	▽	-11
2.4.1.2 ICT access index	3.1	25	110		
2.4.2 Technology output		35	97	▽	-41
2.4.2.1 ICT goods and services export (% of exp.)	9.1	37	58	▽	-30
2.4.2.2 Mobile broadband per 100 pop.	40.4	26	96	△	37
2.5 Entrepreneurship		39	118	▽	-58
2.5.1 Entrepreneurship input		60	93	▽	-68
2.5.1.1 Time dealing with gov. regulations (%)	15.2	47	92	▽	-81
2.5.1.2 Time to start a business (days)	6.0	89	29	△	1
2.5.1.3 Procedures to register a business	4.0	76	18	△	20
2.5.1.4 Cost to start a business (% GNI per cap)	16.5	52	96	△	4
2.5.2 Entrepreneurship output		24	129	▽	-17
2.5.2.1 Global Entrepreneurship Index	18.9	14	96	△	9
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	2.7	31	131	▽	-31
2.6 Statistics		56	100	●	0
2.6.1 Statistical fullness (%)	0.78	56	100	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
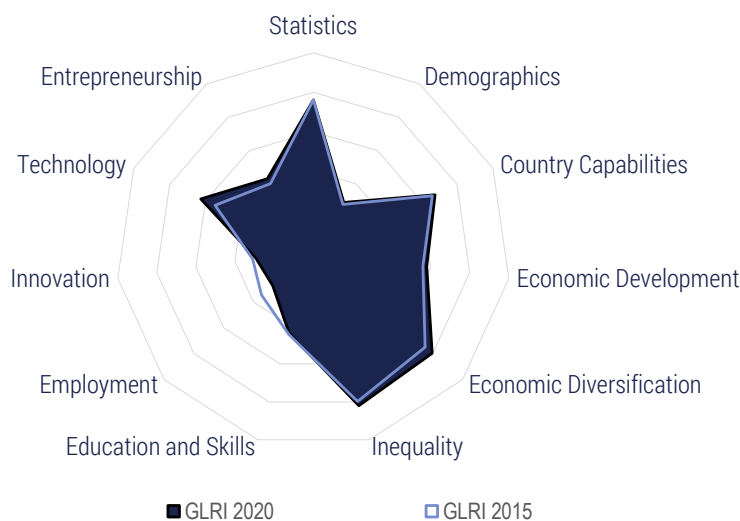
■ GLRI 2020   ☐ GLRI 2015

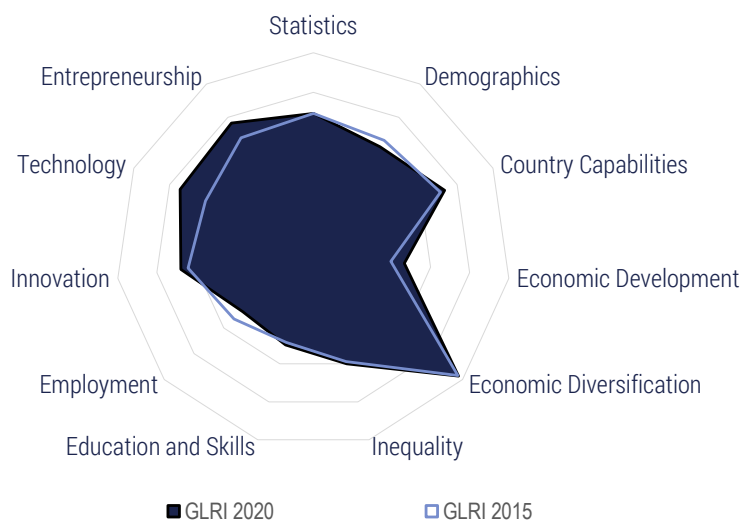## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**78**	**37**	▲ 2
1.1 Demographics		29	138	▼ -4
1.1.1 Share of older population (% of total population)	20.1	29	138	▼ -4
1.2 Country Capabilities		68	30	▼ -2
1.2.1 Economic Complexity Index	0.9	68	30	▼ -2
1.3 Economic Development		58	43	▲ 1
1.3.1 Income per capita (PPP)	23 637	34	51	● 0
1.3.2 Dependence on natural resources (% of GDP)	0.7	86	39	▲ 6
1.3.3 Tertiarisation of economy (% of GDP)	58.0	68	53	● 0
1.4 Economic Diversification		80	18	▲ 1
1.4.1 Concentration of exports	0.1	98	4	▲ 2
1.4.2 Diversity	330	62	21	▲ 3
1.5 Inequality		82	23	▲ 6
1.5.1 Income inequality	31.1	82	23	▲ 6
2. Policy Pillar		**45**	**73**	▼ -12
2.1 Education and skills		44	79	▼ -15
2.1.1 Education and skills input		45	84	▼ -6
2.1.1.1 Government education spendings (% of GDP)	4.6	41	66	● 0
2.1.1.2 Tertiary public education spendings (% of gov.exp)	21.9	43	61	▲ 7
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	6 619	32	36	▼ -3
2.1.1.4 Years of schooling	11.2	77	42	▼ -7
2.1.1.5 Staff training (1-7 survey)	3.1	19	128	▼ -1
2.1.2 Education and skills output		49	72	▼ -10
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a	
2.1.2.2 PISA score	472	58	34	▼ -1
2.1.2.3 Skillset of graduates (1-7 survey)	3.5	34	115	▼ -9
2.1.2.4 Skilled labour supply (1-7 survey)	3.3	34	121	▼ -13
2.1.2.5 Vocational enrollment (% of students)	39.8	85	6	▲ 4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	23.2	79	9	▼ -1
2.1.2.7 Quality of vocational education (1-7 survey)	3.5	28	110	▼ -3
2.1.2.8 STEM graduates (%)	25.3	44	37	▲ 5
2.1.2.9 Digital skills (1-7 survey)	3.6	39	106	▲ 1
2.1.2.10 Critical thinking (1-7 survey)	2.3	11	133	▼ -4
2.2 Employment		27	119	▼ -13
2.2.1 Employment input		25	131	▼ -15
2.2.1.1 Hiring and firing practices (1-7 survey)	2.6	11	124	▼ -11
2.2.1.2 Worker's rights (1-7 score)	82.5	63	31	▼ -11
2.2.1.3 Hiring of foreign labour (1-7 survey)	2.8	15	136	▼ -1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		38	71	▼ -2
2.2.2.1 Women in labour force (% female-male)	78.5	70	68	▲ 2
2.2.2.2 Gender pay gap (% of employees)	3.8	92	4	● 0
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	1.9	12	139	▼ -6
2.2.2.4 Knowledge insentive employment (%)	35.7	57	33	▲ 10

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	57 463	39	47	▼ -3
2.2.2.6 ALP effectiveness (1-7 survey)	3.1	37	73	▲ 13
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.2	1	144	▼ -14
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.6	12	140	▼ -1
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		29	59	▼ -7
2.3.1 Innovation input		37	53	▲ 2
2.3.1.1 R&D spendings (% of GDP)	0.9	32	41	● 0
2.3.1.2 IPR score	5.2	42	71	▼ -6
2.3.2 Innovation output		22	66	▼ -10
2.3.2.1 Trademark applications per th. pop.	0.7	22	80	▼ -40
2.3.2.2 Patent applications per th. pop.	0.04	14	69	▼ -8
2.3.2.3 R&D journals per th. pop.	0.99	50	29	▼ -1
2.3.2.4 Researchers in R&D per mln.pop.	1 865	24	41	▲ 2
2.3.2.5 Technicians in R&D per mln.pop.	638	28	28	● 0
2.3.2.6 Creative goods exports (% of goods exp.)	0.11	6	64	▲ 2
2.4 Technology		63	51	▼ -12
2.4.1 Technology input		80	39	▼ -15
2.4.1.1 ICT affordability	5.5	76	64	▼ -39
2.4.1.2 ICT access index	7.2	78	31	▲ 7
2.4.2 Technology output		42	74	▼ -2
2.4.2.1 ICT goods and services export (% of exp.)	4.1	23	98	▲ 14
2.4.2.2 Mobile broadband per 100 pop.	79.7	50	39	▼ -14
2.5 Entrepreneurship		43	105	▼ -3
2.5.1 Entrepreneurship input		43	129	▼ -7
2.5.1.1 Time dealing with gov. regulations (%)	19.6	32	103	▼ -5
2.5.1.2 Time to start a business (days)	22.5	56	108	▼ -19
2.5.1.3 Procedures to register a business	8.0	45	92	▼ -17
2.5.1.4 Cost to start a business (% GNI per cap)	7.2	64	67	● 0
2.5.2 Entrepreneurship output		48	52	▲ 9
2.5.2.1 Global Entrepreneurship Index	34.0	34	51	▼ -3
2.5.2.2 New corporate registrations per th. pop.	3.3	46	25	▼ -1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	3.4	49	96	▲ 7
2.6 Statistics		76	43	● 0
2.6.1 Statistical fullness (%)	0.88	76	43	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Cyprus

Global Labour Resilience Index 2020

GLRI 2015 Rank 37 ●

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

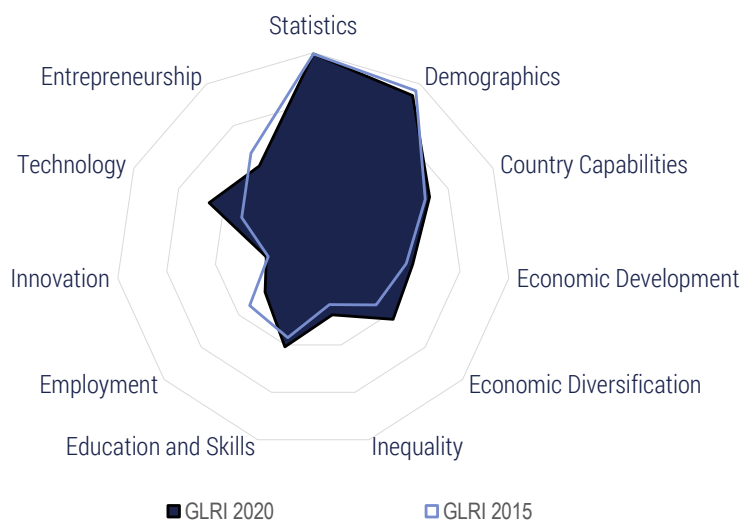## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**75**	**41**	▼	-8
1.1 Demographics		53	101	▲	1
1.1.1 Share of older population (% of total population)	13.7	53	101	▲	1
1.2 Country Capabilities		63	37	▲	4
1.2.1 Economic Complexity Index	0.6	63	37	▲	4
1.3 Economic Development		76	14	▼	-6
1.3.1 Income per capita (PPP)	33 048	48	34	●	0
1.3.2 Dependence on natural resources (% of GDP)	0.0	100	8	▲	6
1.3.3 Tertiarisation of economy (% of GDP)	72.6	90	6	▼	-4
1.4 Economic Diversification		45	84	▼	-25
1.4.1 Concentration of exports	0.4	57	105	▼	-51
1.4.2 Diversity	181	33	57	▲	9
1.5 Inequality		73	47	▲	20
1.5.1 Income inequality	34.0	73	47	▲	20
2. Policy Pillar		**60**	**39**	▲	1
2.1 Education and skills		62	28	▼	-1
2.1.1 Education and skills input		68	29	▼	-2
2.1.1.1 Government education spendings (% of GDP)	6.4	62	19	▼	-1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	20.7	40	74	▼	-13
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	10 003	49	19	▼	-6
2.1.1.4 Years of schooling	12.4	86	23	▲	1
2.1.1.5 Staff training (1-7 survey)	4.2	53	48	▼	-1
2.1.2 Education and skills output		61	41	▼	-6
2.1.2.1 Tertiary attainment rate (% of pop 25+)	28.6	62	16	▲	1
2.1.2.2 PISA score	438	45	42	▲	1
2.1.2.3 Skillset of graduates (1-7 survey)	4.9	72	22	▲	36
2.1.2.4 Skilled labour supply (1-7 survey)	4.8	74	27	▲	2
2.1.2.5 Vocational enrollment (% of students)	8.2	18	81	▲	5
2.1.2.6 Vocational enrollment of 15-24 olds (%)	6.3	22	60	▲	2
2.1.2.7 Quality of vocational education (1-7 survey)	4.3	48	49	▲	16
2.1.2.8 STEM graduates (%)	15.9	26	96	▼	-24
2.1.2.9 Digital skills (1-7 survey)	4.9	76	29	▼	-3
2.1.2.10 Critical thinking (1-7 survey)	3.8	49	43	▼	-10
2.2 Employment		54	34	▲	6
2.2.1 Employment input		54	42	▼	-1
2.2.1.1 Hiring and firing practices (1-7 survey)	4.0	52	50	▲	7
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.0	50	77	▼	-16
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		53	30	▲	16
2.2.2.1 Women in labour force (% female-male)	85.2	78	38	▲	19
2.2.2.2 Gender pay gap (% of employees)	13.4	58	26	▲	14
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.5	44	62	▼	-15
2.2.2.4 Knowledge insentive employment (%)	35.8	57	32	▲	8

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	50 618	35	54	▼	-7
2.2.2.6 ALP effectiveness (1-7 survey)	4.0	59	43	▼	-4
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.8	54	35	▲	3
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.5	59	23	▲	9
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		30	56	▼	-1
2.3.1 Innovation input		40	46	▼	-2
2.3.1.1 R&D spendings (% of GDP)	0.6	21	56	▲	6
2.3.1.2 IPR score	6.2	59	39	▼	-10
2.3.2 Innovation output		20	70	▲	2
2.3.2.1 Trademark applications per th. pop.	1.8	56	26	▼	-1
2.3.2.2 Patent applications per th. pop.	0.01	4	100	▲	10
2.3.2.3 R&D journals per th. pop.	0.82	42	32	●	0
2.3.2.4 Researchers in R&D per mln.pop.	1 174	16	48	●	0
2.3.2.5 Technicians in R&D per mln.pop.	271	12	48	▼	-2
2.3.2.6 Creative goods exports (% of goods exp.)	0.01	1	97	▼	-5
2.4 Technology		72	26	▲	22
2.4.1 Technology input		92	11	▲	15
2.4.1.1 ICT affordability	6.3	90	20	▲	7
2.4.1.2 ICT access index	7.8	84	25	▲	14
2.4.2 Technology output		48	60	▲	29
2.4.2.1 ICT goods and services export (% of exp.)	3.4	21	105	▲	4
2.4.2.2 Mobile broadband per 100 pop.	97.5	60	22	▲	23
2.5 Entrepreneurship		64	34	▲	1
2.5.1 Entrepreneurship input		72	56	▲	6
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	6.0	89	29	▲	1
2.5.1.3 Procedures to register a business	5.0	68	38	●	0
2.5.1.4 Cost to start a business (% GNI per cap)	12.4	56	84	▼	-6
2.5.2 Entrepreneurship output		60	31	▲	1
2.5.2.1 Global Entrepreneurship Index	48.0	53	30	▲	13
2.5.2.2 New corporate registrations per th. pop.	11.5	100	1	●	0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	2.9	36	125	▼	-47
2.6 Statistics		73	51	●	0
2.6.1 Statistical fullness (%)	0.86	73	51	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics · Demographics · Country Capabilities · Economic Development · Economic Diversification · Inequality · Education and Skills · Employment · Innovation · Technology · Entrepreneurship
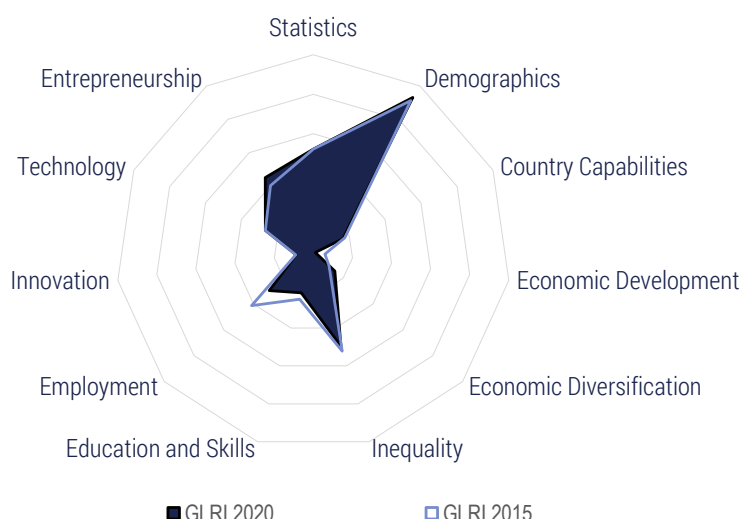
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**97**	**7**	●	0
1.1 Demographics		31	129	▽	-5
1.1.1 Share of older population (% of total population)	19.5	31	129	▽	-5
1.2 Country Capabilities		87	6	△	1
1.2.1 Economic Complexity Index	1.7	87	6	△	1
1.3 Economic Development		64	35	●	0
1.3.1 Income per capita (PPP)	33 436	48	33	△	2
1.3.2 Dependence on natural resources (% of GDP)	0.3	93	28	▽	-2
1.3.3 Tertiarisation of economy (% of GDP)	55.8	65	66	△	3
1.4 Economic Diversification		80	14	▽	-1
1.4.1 Concentration of exports	0.1	90	28	▽	-9
1.4.2 Diversity	377	71	14	▽	-1
1.5 Inequality		97	3	△	2
1.5.1 Income inequality	25.9	97	3	△	2
2. Policy Pillar		**68**	**26**	△	4
2.1 Education and skills		66	26	▽	-1
2.1.1 Education and skills input		69	28	△	1
2.1.1.1 Government education spendings (% of GDP)	5.6	53	27	△	52
2.1.1.2 Tertiary public education spendings (% of gov.exp)	12.6	22	119	▽	-47
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	8 227	40	25	△	2
2.1.1.4 Years of schooling	13.3	94	7	△	11
2.1.1.5 Staff training (1-7 survey)	4.5	61	32	▽	-5
2.1.2 Education and skills output		67	27	▽	-3
2.1.2.1 Tertiary attainment rate (% of pop 25+)	20.9	45	32	△	4
2.1.2.2 PISA score	495	67	21	▽	-2
2.1.2.3 Skillset of graduates (1-7 survey)	4.5	60	40	▽	-6
2.1.2.4 Skilled labour supply (1-7 survey)	3.3	34	122	▽	-13
2.1.2.5 Vocational enrollment (% of students)	36.7	78	11	▽	-2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	25.7	87	5	△	2
2.1.2.7 Quality of vocational education (1-7 survey)	4.7	56	30	▽	-8
2.1.2.8 STEM graduates (%)	23.9	41	44	△	1
2.1.2.9 Digital skills (1-7 survey)	5.0	78	25	▽	-12
2.1.2.10 Critical thinking (1-7 survey)	3.4	40	64	△	1
2.2 Employment		37	87	△	10
2.2.1 Employment input		30	125	△	4
2.2.1.1 Hiring and firing practices (1-7 survey)	3.4	34	96	△	8
2.2.1.2 Worker's rights (1-7 score)	89.7	78	18	▽	-3
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.3	31	123	▽	-10
2.2.1.4 Tax wedge (% of labour cost)	43.7	22	30	▽	-3
2.2.1.5 ALP spendings (% of GDP)	0.5	18	28	●	0
2.2.2 Employment output		49	37	△	12
2.2.2.1 Women in labour force (% female-male)	76.6	67	75	△	3
2.2.2.2 Gender pay gap (% of employees)	15.1	52	32	▽	-5
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.5	44	61	△	29
2.2.2.4 Knowledge insentive employment (%)	37.9	61	27	▽	-7

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	67 719	46	35	△	5
2.2.2.6 ALP effectiveness (1-7 survey)	4.8	77	17	△	6
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.8	53	36	△	36
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.1	24	120	△	9
2.2.2.9 Earnings quality (PPP)	8.5	19	27	●	0
2.2.2.10 Quality of the working environment (%)	25.4	66	13	△	11
2.3 Innovation		64	23	●	0
2.3.1 Innovation input		68	22	△	1
2.3.1.1 R&D spendings (% of GDP)	1.8	65	20	▽	-2
2.3.1.2 IPR score	7.0	72	25	△	6
2.3.2 Innovation output		60	23	●	0
2.3.2.1 Trademark applications per th. pop.	0.9	30	60	▽	-7
2.3.2.2 Patent applications per th. pop.	0.08	27	49	▽	-4
2.3.2.3 R&D journals per th. pop.	1.50	76	13	△	7
2.3.2.4 Researchers in R&D per mln.pop.	3 690	47	25	△	1
2.3.2.5 Technicians in R&D per mln.pop.	1 961	84	9	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	2.60	65	20	△	1
2.4 Technology		73	22	△	9
2.4.1 Technology input		83	32	△	31
2.4.1.1 ICT affordability	5.8	82	44	△	56
2.4.1.2 ICT access index	7.2	77	36	▽	-7
2.4.2 Technology output		59	31	▽	-9
2.4.2.1 ICT goods and services export (% of exp.)	13.7	51	36	▽	-1
2.4.2.2 Mobile broadband per 100 pop.	76.0	47	44	▽	-11
2.5 Entrepreneurship		51	71	▽	-12
2.5.1 Entrepreneurship input		55	105	△	3
2.5.1.1 Time dealing with gov. regulations (%)	13.9	52	87	●	0
2.5.1.2 Time to start a business (days)	24.5	52	113	▽	-8
2.5.1.3 Procedures to register a business	9.0	37	112	▽	-37
2.5.1.4 Cost to start a business (% GNI per cap)	1.0	88	22	△	36
2.5.2 Entrepreneurship output		51	47	▽	-3
2.5.2.1 Global Entrepreneurship Index	43.4	47	36	▽	-3
2.5.2.2 New corporate registrations per th. pop.	2.6	37	30	△	5
2.5.2.3 Venture capital investments (% of GDP)	0.00	3	34	▽	-1
2.5.2.4 SME outstanding loans (% of loans)	70.0	81	6	●	0
2.5.2.5 Access to loans (1-7 survey)	4.5	73	30	△	26
2.6 Statistics		100	1	●	0
2.6.1 Statistical fullness (%)	1.00	100	1	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Denmark

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
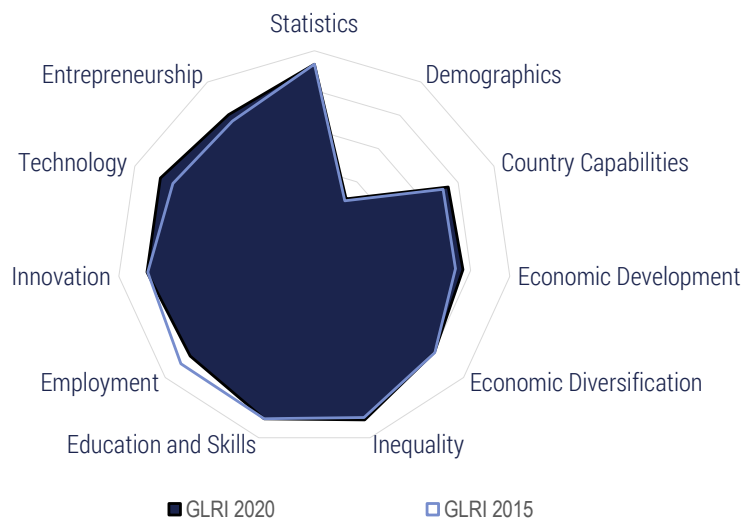
■ GLRI 2020   □ GLRI 2015

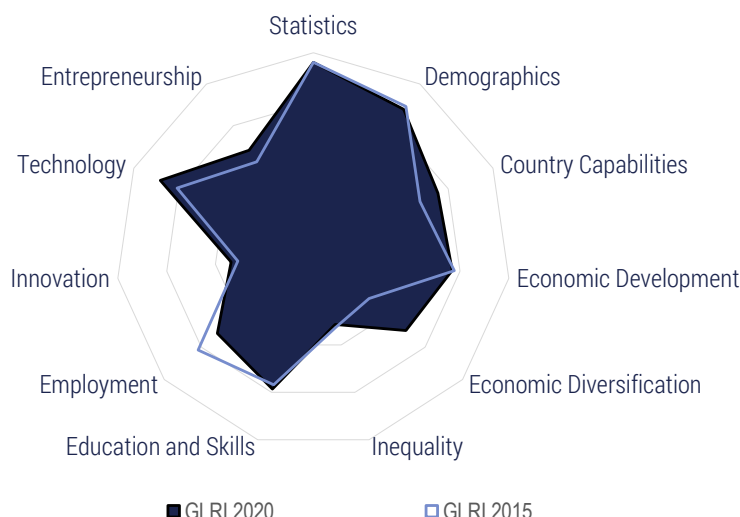## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		93	12	▲	2
1.1 Demographics		30	133	▽	-2
1.1.1 Share of older population (% of total population)	19.8	30	133	▽	-2
1.2 Country Capabilities		75	21	●	0
1.2.1 Economic Complexity Index	1.2	75	21	●	0
1.3 Economic Development		76	15	△	4
1.3.1 Income per capita (PPP)	47 705	69	14	▽	-1
1.3.2 Dependence on natural resources (% of GDP)	0.5	89	35	▲	12
1.3.3 Tertiarisation of economy (% of GDP)	65.0	79	25	▽	-1
1.4 Economic Diversification		80	15	▽	-1
1.4.1 Concentration of exports	0.1	94	21	▽	-8
1.4.2 Diversity	358	67	16	▽	-2
1.5 Inequality		91	14	▽	-1
1.5.1 Income inequality	28.2	91	14	▽	-1
2. Policy Pillar		95	3	▲	1
2.1 Education and skills		90	3	▽	-1
2.1.1 Education and skills input		96	3	▽	-1
2.1.1.1 Government education spendings (% of GDP)	7.6	77	4	▽	-1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	30.7	62	18	▲	17
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	21 355	100	1	●	0
2.1.1.4 Years of schooling	12.9	90	17	▽	-5
2.1.1.5 Staff training (1-7 survey)	5.3	83	9	▲	3
2.1.2 Education and skills output		85	8	▽	-2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	32.4	70	9	▽	-2
2.1.2.2 PISA score	501	70	16	▲	6
2.1.2.3 Skillset of graduates (1-7 survey)	5.1	78	11	▲	1
2.1.2.4 Skilled labour supply (1-7 survey)	4.9	76	20	▲	1
2.1.2.5 Vocational enrollment (% of students)	21.5	46	34	▽	-4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	12.4	43	40	▽	-8
2.1.2.7 Quality of vocational education (1-7 survey)	5.5	75	5	▲	1
2.1.2.8 STEM graduates (%)	21.0	36	67	▽	-3
2.1.2.9 Digital skills (1-7 survey)	5.3	87	11	▲	5
2.1.2.10 Critical thinking (1-7 survey)	5.5	94	2	▽	-1
2.2 Employment		83	5	▽	-1
2.2.1 Employment input		74	9	●	0
2.2.1.1 Hiring and firing practices (1-7 survey)	5.0	81	7	▽	-2
2.2.1.2 Worker's rights (1-7 score)	94.8	89	9	▽	-8
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.8	45	93	▽	-26
2.2.1.4 Tax wedge (% of labour cost)	35.7	41	14	▲	1
2.2.1.5 ALP spendings (% of GDP)	3.2	100	1	●	0
2.2.2 Employment output		81	6	▲	1
2.2.2.1 Women in labour force (% female-male)	88.0	81	28	▽	-6
2.2.2.2 Gender pay gap (% of employees)	5.3	87	9	▽	-1
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.4	63	30	▲	11
2.2.2.4 Knowledge insentive employment (%)	45.3	73	11	▽	-4

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	97 049	66	16	▽	-2
2.2.2.6 ALP effectiveness (1-7 survey)	5.3	89	7	▲	1
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.8	89	4	▽	-1
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.0	20	129	▽	-5
2.2.2.9 Earnings quality (PPP)	27.3	93	5	●	0
2.2.2.10 Quality of the working environment (%)	18.2	87	3	▽	-1
2.3 Innovation		86	5	▲	1
2.3.1 Innovation input		96	5	▽	-1
2.3.1.1 R&D spendings (% of GDP)	3.1	100	1	●	0
2.3.1.2 IPR score	8.2	91	12	▽	-3
2.3.2 Innovation output		75	9	▲	3
2.3.2.1 Trademark applications per th. pop.	0.7	24	75	▽	-11
2.3.2.2 Patent applications per th. pop.	0.31	100	1	▲	16
2.3.2.3 R&D journals per th. pop.	2.32	100	1	●	0
2.3.2.4 Researchers in R&D per mln.pop.	7 897	100	1	▲	2
2.3.2.5 Technicians in R&D per mln.pop.	2 124	91	5	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	1.33	43	32	▽	-1
2.4 Technology		86	8	▲	3
2.4.1 Technology input		96	3	●	0
2.4.1.1 ICT affordability	6.1	86	29	▽	-8
2.4.1.2 ICT access index	8.7	97	4	●	0
2.4.2 Technology output		68	19	▽	-2
2.4.2.1 ICT goods and services export (% of exp.)	8.2	35	68	▲	18
2.4.2.2 Mobile broadband per 100 pop.	124.2	77	10	▽	-3
2.5 Entrepreneurship		80	8	▲	7
2.5.1 Entrepreneurship input		88	12	▽	-3
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	3.5	94	7	▲	5
2.5.1.3 Procedures to register a business	5.0	68	38	▽	-19
2.5.1.4 Cost to start a business (% GNI per cap)	0.2	97	4	●	0
2.5.2 Entrepreneurship output		75	12	▲	14
2.5.2.1 Global Entrepreneurship Index	74.3	88	6	●	0
2.5.2.2 New corporate registrations per th. pop.	6.3	87	13	▲	10
2.5.2.3 Venture capital investments (% of GDP)	0.03	33	17	▽	-6
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.3	68	40	▲	24
2.6 Statistics		93	22	●	0
2.6.1 Statistical fullness (%)	0.97	93	22	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Dominican Republic

Global Labour Resilience Index 2020

87

GLRI 2015 Rank 88 ▲

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
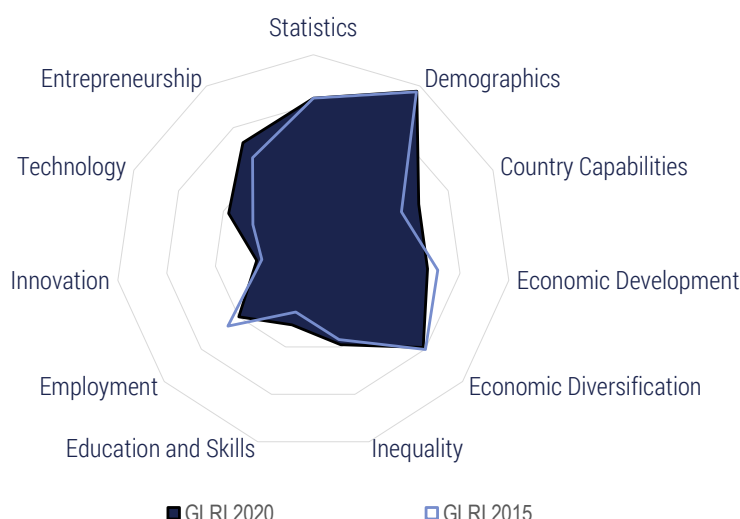
■ GLRI 2020   ☐ GLRI 2015

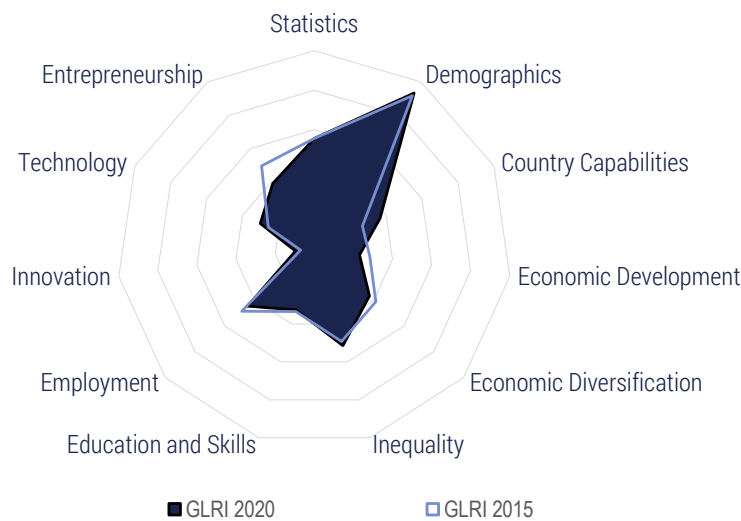## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**57**	**74**	▲	4
1.1 Demographics		78	73	▽	-1
1.1.1 Share of older population (% of total population)	7.2	78	73	▽	-1
1.2 Country Capabilities		47	66	▲	8
1.2.1 Economic Complexity Index	-0.1	47	66	▲	8
1.3 Economic Development		47	68	▽	-15
1.3.1 Income per capita (PPP)	15 821	23	69	▲	6
1.3.2 Dependence on natural resources (% of GDP)	2.5	67	77	▽	-21
1.3.3 Tertiarisation of economy (% of GDP)	58.9	69	51	▽	-3
1.4 Economic Diversification		59	48	▲	4
1.4.1 Concentration of exports	0.2	82	50	▽	-3
1.4.2 Diversity	197	36	52	▲	3
1.5 Inequality		39	112	▲	8
1.5.1 Income inequality	45.7	39	112	▲	8
2. Policy Pillar		**37**	**88**	▲	2
2.1 Education and skills		31	111	▲	14
2.1.1 Education and skills input		38	102	▲	12
2.1.1.1 Government education spendings (% of GDP)	2.0	12	135	▽	-4
2.1.1.2 Tertiary public education spendings (% of gov.exp)	14.5	26	108	▲	4
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	9.1	61	74	▲	14
2.1.1.5 Staff training (1-7 survey)	3.8	40	70	▲	36
2.1.2 Education and skills output		32	121	▽	-1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	18.1	40	44	▽	-4
2.1.2.2 PISA score	334	5	77	●	0
2.1.2.3 Skillset of graduates (1-7 survey)	3.7	39	99	▽	-21
2.1.2.4 Skilled labour supply (1-7 survey)	4.0	53	77	▲	12
2.1.2.5 Vocational enrollment (% of students)	5.3	12	98	▲	2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	2.6	10	81	●	0
2.1.2.7 Quality of vocational education (1-7 survey)	3.8	36	85	▲	20
2.1.2.8 STEM graduates (%)	11.6	17	113	▽	-20
2.1.2.9 Digital skills (1-7 survey)	3.6	39	108	▲	8
2.1.2.10 Critical thinking (1-7 survey)	2.7	21	117	▲	13
2.2 Employment		40	76	▽	-7
2.2.1 Employment input		55	39	▽	-7
2.2.1.1 Hiring and firing practices (1-7 survey)	3.4	34	97	▽	-37
2.2.1.2 Worker's rights (1-7 score)	84.5	67	28	●	0
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.2	55	59	▲	4
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		29	110	▲	4
2.2.2.1 Women in labour force (% female-male)	65.6	54	104	▲	13
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.1	37	90	▽	-13
2.2.2.4 Knowledge insentive employment (%)	17.2	27	88	▲	3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	35 298	24	73	▲	4
2.2.2.6 ALP effectiveness (1-7 survey)	2.1	15	117	▽	-3
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.4	41	62	▽	-15
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.3	28	117	▲	14
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		23	77	▲	6
2.3.1 Innovation input		36	57	▲	8
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	4.8	36	84	▲	6
2.3.2 Innovation output		10	89	▲	5
2.3.2.1 Trademark applications per th. pop.	1.0	34	55	▲	2
2.3.2.2 Patent applications per th. pop.	0.03	10	84	▲	4
2.3.2.3 R&D journals per th. pop.	0.00	1	138	▽	-6
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.09	5	66	▲	5
2.4 Technology		38	109	▽	-2
2.4.1 Technology input		49	105	▽	-14
2.4.1.1 ICT affordability	4.2	54	106	▽	-26
2.4.1.2 ICT access index	4.5	43	92	▽	-3
2.4.2 Technology output		28	115	▲	12
2.4.2.1 ICT goods and services export (% of exp.)	3.3	21	106	▲	25
2.4.2.2 Mobile broadband per 100 pop.	49.2	31	83	▽	-11
2.5 Entrepreneurship		53	68	▲	9
2.5.1 Entrepreneurship input		67	75	▲	20
2.5.1.1 Time dealing with gov. regulations (%)	7.1	76	58	▲	22
2.5.1.2 Time to start a business (days)	16.5	68	90	▽	-26
2.5.1.3 Procedures to register a business	7.0	53	70	▽	-15
2.5.1.4 Cost to start a business (% GNI per cap)	14.5	54	90	▲	2
2.5.2 Entrepreneurship output		43	70	▲	2
2.5.2.1 Global Entrepreneurship Index	24.3	21	78	▽	-6
2.5.2.2 New corporate registrations per th. pop.	0.9	14	61	▽	-2
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.0	61	59	▽	-4
2.6 Statistics		62	79	●	0
2.6.1 Statistical fullness (%)	0.81	62	79	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Ecuador
Global Labour Resilience Index 2020

117

GLRI 2015 Rank 121 ▲

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
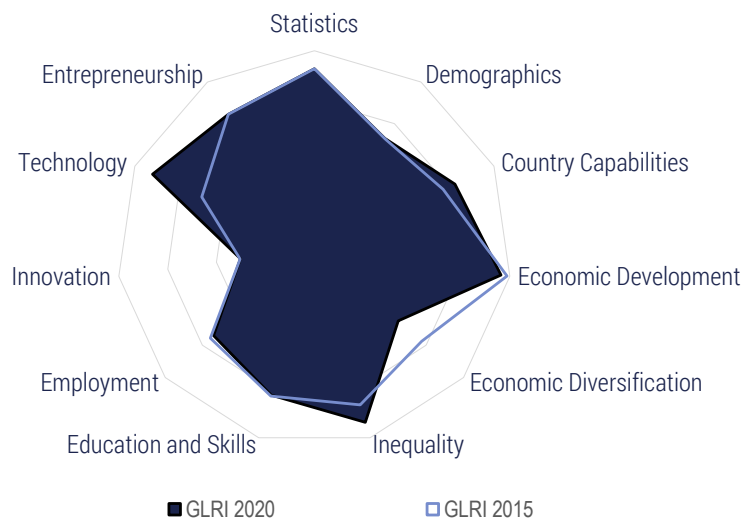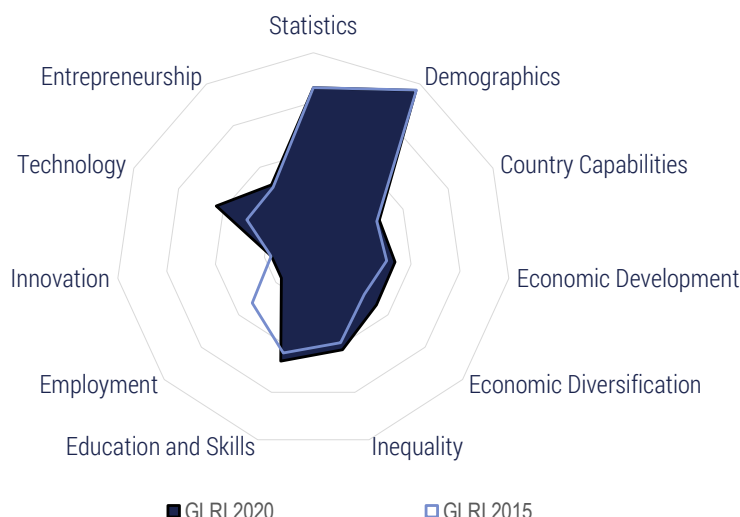

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**34**	**128**	▲	6
1.1 Demographics		77	76	▽	-3
1.1.1 Share of older population (% of total population)	7.3	77	76	▽	-3
1.2 Country Capabilities		29	100	▽	-2
1.2.1 Economic Complexity Index	-0.9	29	100	▽	-2
1.3 Economic Development		34	93	▲	16
1.3.1 Income per capita (PPP)	10 412	15	87	▽	-6
1.3.2 Dependence on natural resources (% of GDP)	5.5	50	92	▲	21
1.3.3 Tertiarisation of economy (% of GDP)	51.6	58	93	▲	4
1.4 Economic Diversification		34	109	▲	10
1.4.1 Concentration of exports	0.4	55	111	▲	14
1.4.2 Diversity	80	13	105	▽	-9
1.5 Inequality		42	109	▲	6
1.5.1 Income inequality	44.7	42	109	▲	6
2. Policy Pillar		**32**	**108**	▽	-10
2.1 Education and skills		47	63	▲	7
2.1.1 Education and skills input		57	46	▲	16
2.1.1.1 Government education spendings (% of GDP)	5.0	46	49	▲	1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	43.5	90	3	▲	12
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	8.8	58	80	▽	-2
2.1.1.5 Staff training (1-7 survey)	3.5	31	108	▽	-11
2.1.2 Education and skills output		44	90	▽	-4
2.1.2.1 Tertiary attainment rate (% of pop 25+)	12.2	27	60	▽	-2
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	4.1	50	66	▽	-6
2.1.2.4 Skilled labour supply (1-7 survey)	4.0	53	73	▲	7
2.1.2.5 Vocational enrollment (% of students)	14.7	32	53	▲	4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	7.9	28	52	▽	-2
2.1.2.7 Quality of vocational education (1-7 survey)	4.1	43	60	▲	9
2.1.2.8 STEM graduates (%)	15.8	26	97	▲	7
2.1.2.9 Digital skills (1-7 survey)	3.7	43	93	▽	-8
2.1.2.10 Critical thinking (1-7 survey)	3.3	38	74	▽	-8
2.2 Employment		17	137	▽	-23
2.2.1 Employment input		21	136	▽	-33
2.2.1.1 Hiring and firing practices (1-7 survey)	2.5	10	125	▽	-45
2.2.1.2 Worker's rights (1-7 score)	61.9	19	95	▽	-4
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.0	50	78	●	0
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		26	119	▽	-23
2.2.2.1 Women in labour force (% female-male)	69.2	58	97	▲	14
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.0	35	96	▽	-63
2.2.2.4 Knowledge insentive employment (%)	12.3	20	100	▽	-16

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	22 306	15	90	▽	-5
2.2.2.6 ALP effectiveness (1-7 survey)	2.1	15	120	▽	-4
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	37	76	▽	-8
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.3	29	116	▽	-59
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		17	95	▽	-1
2.3.1 Innovation input		25	86	▲	8
2.3.1.1 R&D spendings (% of GDP)	0.4	16	69	▲	3
2.3.1.2 IPR score	4.7	34	93	▽	-3
2.3.2 Innovation output		9	95	▽	-11
2.3.2.1 Trademark applications per th. pop.	0.9	28	64	▽	-26
2.3.2.2 Patent applications per th. pop.	0.02	9	87	▽	-4
2.3.2.3 R&D journals per th. pop.	0.06	4	82	▲	23
2.3.2.4 Researchers in R&D per mln.pop.	401	6	71	▽	-3
2.3.2.5 Technicians in R&D per mln.pop.	90	5	63	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	0.01	2	93	▲	3
2.4 Technology		43	102	●	0
2.4.1 Technology input		60	87	▲	7
2.4.1.1 ICT affordability	5.1	70	76	▲	16
2.4.1.2 ICT access index	4.8	47	84	▽	-8
2.4.2 Technology output		27	119	▽	-12
2.4.2.1 ICT goods and services export (% of exp.)	3.1	20	111	▲	5
2.4.2.2 Mobile broadband per 100 pop.	47.2	30	86	▽	-22
2.5 Entrepreneurship		31	135	▽	-7
2.5.1 Entrepreneurship input		34	139	▲	1
2.5.1.1 Time dealing with gov. regulations (%)	15.6	46	93	▲	16
2.5.1.2 Time to start a business (days)	48.5	5	136	▽	-6
2.5.1.3 Procedures to register a business	11.0	21	131	▽	-2
2.5.1.4 Cost to start a business (% GNI per cap)	21.9	47	103	▲	3
2.5.2 Entrepreneurship output		35	98	▽	-47
2.5.2.1 Global Entrepreneurship Index	20.5	16	90	▽	-2
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.4	48	100	▽	-71
2.6 Statistics		66	71	●	0
2.6.1 Statistical fullness (%)	0.83	66	71	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

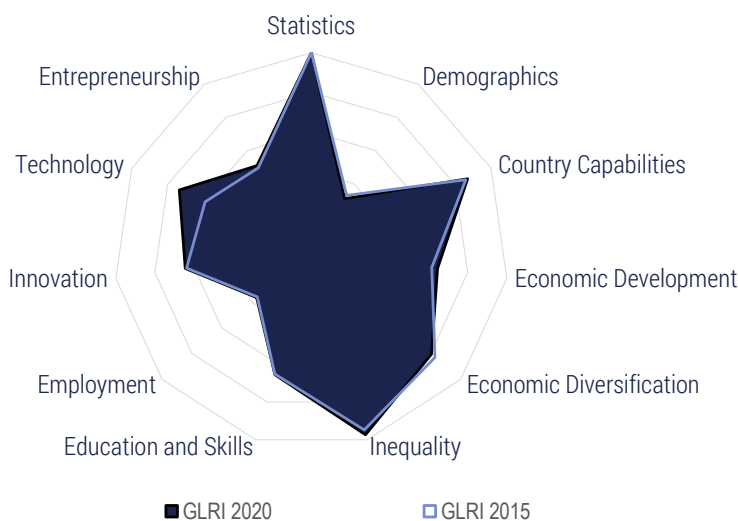## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**78**	**34**	▽ -4
1.1 Demographics		85	55	▲ 4
1.1.1 Share of older population (% of total population)	5.2	85	55	▲ 4
1.2 Country Capabilities		47	65	▲ 2
1.2.1 Economic Complexity Index	-0.1	47	65	▲ 2
1.3 Economic Development		34	92	▲ 9
1.3.1 Income per capita (PPP)	11 014	16	86	● 0
1.3.2 Dependence on natural resources (% of GDP)	5.4	51	91	▲ 16
1.3.3 Tertiarisation of economy (% of GDP)	51.4	58	94	▽ -12
1.4 Economic Diversification		72	28	▲ 2
1.4.1 Concentration of exports	0.2	87	41	▲ 3
1.4.2 Diversity	303	56	25	▽ -1
1.5 Inequality		80	26	▽ -6
1.5.1 Income inequality	31.8	80	26	▽ -6
2. Policy Pillar		**38**	**85**	▲ 18
2.1 Education and skills		41	88	▲ 23
2.1.1 Education and skills input		53	57	▲ 35
2.1.1.1 Government education spendings (% of GDP)	3.8	32	91	▽ -3
2.1.1.2 Tertiary public education spendings (% of gov.exp)	39.6	82	6	▽ -1
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	9.0	60	75	▲ 24
2.1.1.5 Staff training (1-7 survey)	3.5	33	102	▲ 10
2.1.2 Education and skills output		36	114	▲ 21
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a	
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	2.9	20	135	▲ 4
2.1.2.4 Skilled labour supply (1-7 survey)	3.6	43	106	▽ -1
2.1.2.5 Vocational enrollment (% of students)	22.1	47	32	▲ 1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	11.4	39	43	▲ 4
2.1.2.7 Quality of vocational education (1-7 survey)	3.0	17	133	▲ 2
2.1.2.8 STEM graduates (%)	11.2	17	114	▲ 1
2.1.2.9 Digital skills (1-7 survey)	4.2	56	68	▲ 9
2.1.2.10 Critical thinking (1-7 survey)	2.6	19	120	▲ 5
2.2 Employment		23	131	▲ 12
2.2.1 Employment input		32	122	▲ 15
2.2.1.1 Hiring and firing practices (1-7 survey)	4.0	53	49	▲ 54
2.2.1.2 Worker's rights (1-7 score)	56.7	8	110	▽ -4
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.7	42	101	▲ 20
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		25	124	▲ 13
2.2.2.1 Women in labour force (% female-male)	31.2	12	136	▲ 1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.7	28	114	▲ 14
2.2.2.4 Knowledge insentive employment (%)	36.3	58	30	▲ 12

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	38 285	26	67	▲ 7
2.2.2.6 ALP effectiveness (1-7 survey)	2.7	28	101	▽ -1
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	38	72	▲ 42
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.1	49	55	▲ 66
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		22	82	▽ -2
2.3.1 Innovation input		31	70	▲ 1
2.3.1.1 R&D spendings (% of GDP)	0.6	22	52	▽ -3
2.3.1.2 IPR score	5.1	40	75	▲ 7
2.3.2 Innovation output		12	83	▽ -3
2.3.2.1 Trademark applications per th. pop.	0.2	8	104	▽ -1
2.3.2.2 Patent applications per th. pop.	0.02	8	91	● 0
2.3.2.3 R&D journals per th. pop.	0.11	6	74	▽ -2
2.3.2.4 Researchers in R&D per mln.pop.	669	9	60	▲ 1
2.3.2.5 Technicians in R&D per mln.pop.	367	17	42	▲ 2
2.3.2.6 Creative goods exports (% of goods exp.)	0.33	15	47	▽ -1
2.4 Technology		49	87	▽ -8
2.4.1 Technology input		65	74	▽ -21
2.4.1.1 ICT affordability	5.8	82	45	▽ -37
2.4.1.2 ICT access index	4.6	44	90	
2.4.2 Technology output		32	104	▲ 5
2.4.2.1 ICT goods and services export (% of exp.)	4.6	25	94	▲ 33
2.4.2.2 Mobile broadband per 100 pop.	52.6	33	77	▽ -20
2.5 Entrepreneurship		56	59	▲ 3
2.5.1 Entrepreneurship input		72	57	▽ -16
2.5.1.1 Time dealing with gov. regulations (%)	7.0	76	57	▽ -30
2.5.1.2 Time to start a business (days)	11.5	78	70	▽ -15
2.5.1.3 Procedures to register a business	6.0	61	56	▲ 36
2.5.1.4 Cost to start a business (% GNI per cap)	7.4	64	69	● 0
2.5.2 Entrepreneurship output		45	60	▲ 40
2.5.2.1 Global Entrepreneurship Index	25.9	23	72	▲ 17
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a	
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	3.9	59	66	▲ 32
2.6 Statistics		62	79	● 0
2.6.1 Statistical fullness (%)	0.81	62	79	● 0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
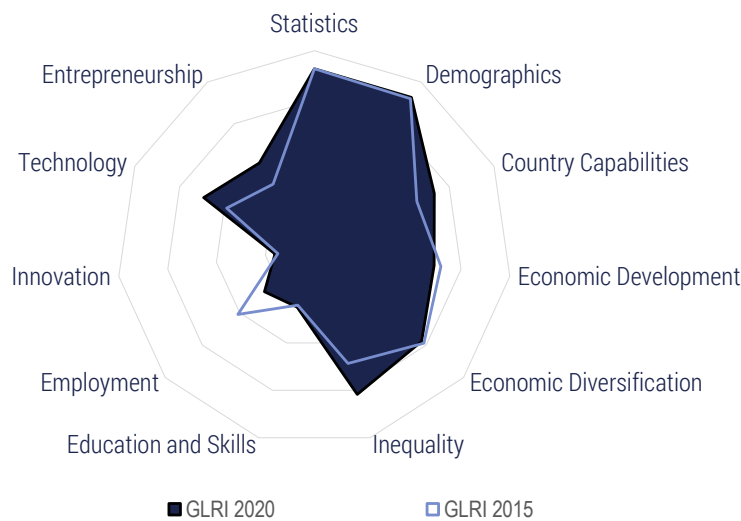
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**68**	**56**	▲	7
1.1 Demographics		73	82	▲	1
1.1.1 Share of older population (% of total population)	8.5	73	82	▲	1
1.2 Country Capabilities		53	51	▲	12
1.2.1 Economic Complexity Index	0.2	53	51	▲	12
1.3 Economic Development		49	59	▽	-7
1.3.1 Income per capita (PPP)	7 393	11	100	▽	-2
1.3.2 Dependence on natural resources (% of GDP)	0.9	82	44	▽	-6
1.3.3 Tertiarisation of economy (% of GDP)	60.3	72	40	▲	3
1.4 Economic Diversification		58	55	▲	2
1.4.1 Concentration of exports	0.2	79	57	▲	2
1.4.2 Diversity	200	37	49	▲	3
1.5 Inequality		62	74	△	28
1.5.1 Income inequality	38.0	62	74	▲	28
2. Policy Pillar		**34**	**98**	▽	-2
2.1 Education and skills		25	129	▽	-2
2.1.1 Education and skills input		28	123	▲	2
2.1.1.1 Government education spendings (% of GDP)	3.8	32	93	▽	-6
2.1.1.2 Tertiary public education spendings (% of gov.exp)	9.4	15	130	▲	3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	3 569	18	59	▲	1
2.1.1.4 Years of schooling	6.9	44	99	▲	1
2.1.1.5 Staff training (1-7 survey)	3.4	30	111	▽	-3
2.1.2 Education and skills output		31	122	▽	-6
2.1.2.1 Tertiary attainment rate (% of pop 25+)	6.7	15	80	▽	-5
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.5	36	107	▽	-7
2.1.2.4 Skilled labour supply (1-7 survey)	3.6	42	107	▲	3
2.1.2.5 Vocational enrollment (% of students)	17.6	38	46	●	0
2.1.2.6 Vocational enrollment of 15-24 olds (%)	7.2	25	57	▽	-9
2.1.2.7 Quality of vocational education (1-7 survey)	3.5	30	105	▽	-4
2.1.2.8 STEM graduates (%)	22.3	38	58	▽	-3
2.1.2.9 Digital skills (1-7 survey)	3.3	30	121	▽	-1
2.1.2.10 Critical thinking (1-7 survey)	2.3	13	132	▽	-5
2.2 Employment		27	123	▽	-36
2.2.1 Employment input		47	75	▽	-30
2.2.1.1 Hiring and firing practices (1-7 survey)	2.9	22	116	▽	-37
2.2.1.2 Worker's rights (1-7 score)	78.4	54	40	▽	-7
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.4	61	44	▲	8
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		16	143	▽	-20
2.2.2.1 Women in labour force (% female-male)	58.4	45	121	▽	-9
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.4	22	129	▽	-71
2.2.2.4 Knowledge insentive employment (%)	12.1	19	101	▽	-1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	17 419	12	101	▽	-2
2.2.2.6 ALP effectiveness (1-7 survey)	1.6	3	136	▽	-10
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.0	27	109	▽	-34
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.3	29	114	▽	-5
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		16	99	▲	4
2.3.1 Innovation input		20	106	▽	-2
2.3.1.1 R&D spendings (% of GDP)	0.1	6	99	▲	17
2.3.1.2 IPR score	4.8	35	86	▽	-4
2.3.2 Innovation output		12	85	▲	1
2.3.2.1 Trademark applications per th. pop.	1.4	45	38	▲	3
2.3.2.2 Patent applications per th. pop.	0.03	10	83	▲	1
2.3.2.3 R&D journals per th. pop.	0.00	1	131	▲	4
2.3.2.4 Researchers in R&D per mln.pop.	66	2	93	▽	-1
2.3.2.5 Technicians in R&D per mln.pop.	14	2	94	▽	-1
2.3.2.6 Creative goods exports (% of goods exp.)	0.05	3	80	▲	1
2.4 Technology		49	85	▽	-8
2.4.1 Technology input		54	100	▽	-20
2.4.1.1 ICT affordability	5.2	71	73	▽	-32
2.4.1.2 ICT access index	3.8	34	102	▽	-6
2.4.2 Technology output		44	68	▲	14
2.4.2.1 ICT goods and services export (% of exp.)	16.2	58	30	▲	26
2.4.2.2 Mobile broadband per 100 pop.	28.5	18	109	▽	-19
2.5 Entrepreneurship		41	113	▲	14
2.5.1 Entrepreneurship input		54	112	▲	17
2.5.1.1 Time dealing with gov. regulations (%)	11.2	61	75	▲	23
2.5.1.2 Time to start a business (days)	16.5	68	90	▽	-19
2.5.1.3 Procedures to register a business	9.0	37	112	▽	-20
2.5.1.4 Cost to start a business (% GNI per cap)	41.4	37	120	●	0
2.5.2 Entrepreneurship output		33	104	▽	-13
2.5.2.1 Global Entrepreneurship Index	16.7	11	105	▽	-27
2.5.2.2 New corporate registrations per th. pop.	0.3	6	84	▲	3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.7	54	81	▽	-7
2.6 Statistics		73	51	●	0
2.6.1 Statistical fullness (%)	0.86	73	51	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics · Demographics · Country Capabilities · Economic Development · Economic Diversification · Inequality · Education and Skills · Employment · Innovation · Technology · Entrepreneurship

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**78**	**35**	▲	10
1.1 Demographics		30	132	▲	3
1.1.1 Share of older population (% of total population)	19.7	30	132	▲	3
1.2 Country Capabilities		71	25	▲	5
1.2.1 Economic Complexity Index	1.0	71	25	▲	5
1.3 Economic Development		61	38	▲	2
1.3.1 Income per capita (PPP)	30 991	45	38	●	0
1.3.2 Dependence on natural resources (% of GDP)	1.0	81	49	▲	4
1.3.3 Tertiarisation of economy (% of GDP)	59.9	71	44	●	0
1.4 Economic Diversification		77	21	▼	-5
1.4.1 Concentration of exports	0.1	94	18	▲	3
1.4.2 Diversity	321	60	22	▼	-4
1.5 Inequality		77	35	▲	16
1.5.1 Income inequality	32.7	77	35	▲	16
2. Policy Pillar		**74**	**24**	▼	-1
2.1 Education and skills		76	18	▼	-1
2.1.1 Education and skills input		79	17	▲	2
2.1.1.1 Government education spendings (% of GDP)	5.2	48	43	▲	17
2.1.1.2 Tertiary public education spendings (% of gov.exp)	27.1	54	27	▲	2
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	11 590	56	13	▲	15
2.1.1.4 Years of schooling	14.0	99	2	▲	2
2.1.1.5 Staff training (1-7 survey)	4.6	63	30	▼	-1
2.1.2 Education and skills output		76	18	▼	-1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	525	79	3	▲	2
2.1.2.3 Skillset of graduates (1-7 survey)	4.7	67	29	▼	-7
2.1.2.4 Skilled labour supply (1-7 survey)	3.6	41	109	▼	-28
2.1.2.5 Vocational enrollment (% of students)	23.1	50	30	▲	11
2.1.2.6 Vocational enrollment of 15-24 olds (%)	12.3	42	41	▼	-3
2.1.2.7 Quality of vocational education (1-7 survey)	4.5	53	37	▼	-10
2.1.2.8 STEM graduates (%)	28.8	51	22	●	0
2.1.2.9 Digital skills (1-7 survey)	5.4	89	9	▲	1
2.1.2.10 Critical thinking (1-7 survey)	4.5	68	20	▼	-2
2.2 Employment		43	70	▲	10
2.2.1 Employment input		42	93	▲	4
2.2.1.1 Hiring and firing practices (1-7 survey)	4.5	65	22	▼	-5
2.2.1.2 Worker's rights (1-7 score)	87.6	74	23	▼	-8
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.5	34	116	▼	-22
2.2.1.4 Tax wedge (% of labour cost)	36.5	39	17	▲	2
2.2.1.5 ALP spendings (% of GDP)	0.7	24	19	▲	4
2.2.2 Employment output		48	40	▲	7
2.2.2.1 Women in labour force (% female-male)	80.3	72	64	▼	-5
2.2.2.2 Gender pay gap (% of employees)	28.3	5	42	●	0
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.4	44	67	▲	26
2.2.2.4 Knowledge insentive employment (%)	42.7	69	19	▲	6

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	61 343	42	42	▲	3
2.2.2.6 ALP effectiveness (1-7 survey)	4.9	80	13	●	0
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.1	65	23	▲	4
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.1	48	59	▼	-34
2.2.2.9 Earnings quality (PPP)	6.7	12	31	●	0
2.2.2.10 Quality of the working environment (%)	23.0	73	6	▲	17
2.3 Innovation		47	33	▼	-3
2.3.1 Innovation input		62	26	▼	-2
2.3.1.1 R&D spendings (% of GDP)	1.3	48	27	▼	-7
2.3.1.2 IPR score	7.2	75	22	▲	5
2.3.2 Innovation output		33	45	▼	-5
2.3.2.1 Trademark applications per th. pop.	1.8	57	25	▼	-6
2.3.2.2 Patent applications per th. pop.	0.03	11	78	▲	2
2.3.2.3 R&D journals per th. pop.	1.12	57	26	▼	-1
2.3.2.4 Researchers in R&D per mln.pop.	3 569	46	26	▼	-1
2.3.2.5 Technicians in R&D per mln.pop.	712	31	24	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	0.18	9	57	▼	-4
2.4 Technology		85	9	▲	6
2.4.1 Technology input		87	21	▼	-1
2.4.1.1 ICT affordability	5.6	78	57	▼	-1
2.4.1.2 ICT access index	8.1	89	16	▲	6
2.4.2 Technology output		75	12	▼	-1
2.4.2.1 ICT goods and services export (% of exp.)	12.1	46	46	▼	-1
2.4.2.2 Mobile broadband per 100 pop.	125.0	77	9	▲	2
2.5 Entrepreneurship		72	23	▼	-4
2.5.1 Entrepreneurship input		83	19	▲	7
2.5.1.1 Time dealing with gov. regulations (%)	6.6	77	54	▲	1
2.5.1.2 Time to start a business (days)	3.5	94	7	▲	14
2.5.1.3 Procedures to register a business	3.0	84	7	▲	12
2.5.1.4 Cost to start a business (% GNI per cap)	1.2	87	30	▼	-7
2.5.2 Entrepreneurship output		64	25	▼	-5
2.5.2.1 Global Entrepreneurship Index	54.8	62	21	▼	-1
2.5.2.2 New corporate registrations per th. pop.	13.4	100	1	●	0
2.5.2.3 Venture capital investments (% of GDP)	0.01	8	27	▼	-10
2.5.2.4 SME outstanding loans (% of loans)	26.2	30	33	▼	-3
2.5.2.5 Access to loans (1-7 survey)	4.7	77	25	▲	22
2.6 Statistics		97	10	●	0
2.6.1 Statistical fullness (%)	0.98	97	10	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Ethiopia

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
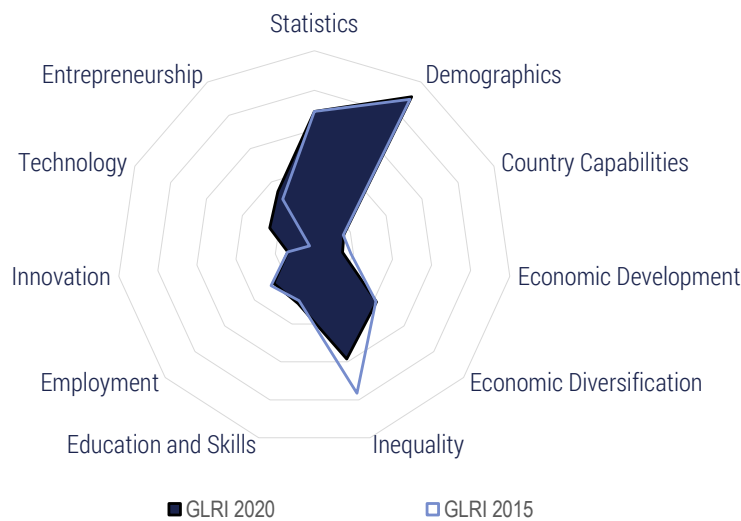
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		37	124	▼	-24
1.1 Demographics		91	34	●	0
1.1.1 Share of older population (% of total population)	3.5	91	34	●	0
1.2 Country Capabilities		16	118	●	0
1.2.1 Economic Complexity Index	-1.5	16	118	●	0
1.3 Economic Development		14	134	▼	-1
1.3.1 Income per capita (PPP)	1 794	3	134	▲	6
1.3.2 Dependence on natural resources (% of GDP)	10.6	35	114	▲	3
1.3.3 Tertiarisation of economy (% of GDP)	36.5	36	139	▼	-14
1.4 Economic Diversification		42	94	▼	-2
1.4.1 Concentration of exports	0.3	69	84	▲	1
1.4.2 Diversity	86	15	101	▼	-2
1.5 Inequality		58	81	▼	-41
1.5.1 Income inequality	39.1	58	81	▼	-41
2. Policy Pillar		27	121	▲	9
2.1 Education and skills		29	118	▼	-3
2.1.1 Education and skills input		31	117	▼	-1
2.1.1.1 Government education spendings (% of GDP)	4.7	43	60	▲	10
2.1.1.2 Tertiary public education spendings (% of gov.exp)	47.9	100	1	▲	2
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	4 187	21	48	▲	2
2.1.1.4 Years of schooling	2.2	7	126	▼	-1
2.1.1.5 Staff training (1-7 survey)	3.6	34	98	▼	-2
2.1.2 Education and skills output		37	112	▼	-2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.4	32	121	▲	9
2.1.2.4 Skilled labour supply (1-7 survey)	3.7	44	99	▲	1
2.1.2.5 Vocational enrollment (% of students)	7.0	16	90	▼	-10
2.1.2.6 Vocational enrollment of 15-24 olds (%)	1.7	7	89	▲	26
2.1.2.7 Quality of vocational education (1-7 survey)	3.7	34	92	▼	-4
2.1.2.8 STEM graduates (%)	11.2	17	116	●	0
2.1.2.9 Digital skills (1-7 survey)	3.5	37	110	▼	-2
2.1.2.10 Critical thinking (1-7 survey)	3.5	43	60	▼	-5
2.2 Employment		27	121	▲	4
2.2.1 Employment input		34	115	▼	-9
2.2.1.1 Hiring and firing practices (1-7 survey)	3.7	43	75	▲	7
2.2.1.2 Worker's rights (1-7 score)	67.0	30	83	▼	-9
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.5	34	117	▼	-2
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		30	106	▲	7
2.2.2.1 Women in labour force (% female-male)	85.8	79	32	▲	8
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.4	44	64	▲	48
2.2.2.4 Knowledge insentive employment (%)	3.8	6	116	▼	-15

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	3 836	3	137	●	0
2.2.2.6 ALP effectiveness (1-7 survey)	3.4	44	64	▼	-4
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.8	19	124	▼	-6
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.8	42	76	▲	32
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		14	110	▼	-1
2.3.1 Innovation input		26	85	▲	2
2.3.1.1 R&D spendings (% of GDP)	0.6	22	53	●	0
2.3.1.2 IPR score	4.4	29	106	▼	-5
2.3.2 Innovation output		1	136	▲	2
2.3.2.1 Trademark applications per th. pop.	0.0	1	132	●	0
2.3.2.2 Patent applications per th. pop.	0.00	1	127	▲	2
2.3.2.3 R&D journals per th. pop.	0.01	1	119	▼	-2
2.3.2.4 Researchers in R&D per mln.pop.	45	1	100	▲	1
2.3.2.5 Technicians in R&D per mln.pop.	33	2	84	▼	-1
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	102	▲	4
2.4 Technology		25	133	▲	10
2.4.1 Technology input		34	121	▲	18
2.4.1.1 ICT affordability	4.6	62	92	▲	37
2.4.1.2 ICT access index	1.7	6	139	▲	2
2.4.2 Technology output		20	130	▲	7
2.4.2.1 ICT goods and services export (% of exp.)	8.6	36	60	▲	68
2.4.2.2 Mobile broadband per 100 pop.	5.3	4	143	▼	-22
2.5 Entrepreneurship		34	129	▲	3
2.5.1 Entrepreneurship input		44	127	▼	-30
2.5.1.1 Time dealing with gov. regulations (%)	11.9	59	79	▼	-53
2.5.1.2 Time to start a business (days)	32.0	38	120	●	0
2.5.1.3 Procedures to register a business	11.0	21	131	▲	5
2.5.1.4 Cost to start a business (% GNI per cap)	57.8	31	128	▲	2
2.5.2 Entrepreneurship output		30	114	▲	25
2.5.2.1 Global Entrepreneurship Index	18.3	13	101	▲	21
2.5.2.2 New corporate registrations per th. pop.	0.0	1	113	▼	-1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.5	49	94	▲	28
2.6 Statistics		69	59	●	0
2.6.1 Statistical fullness (%)	0.85	69	59	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

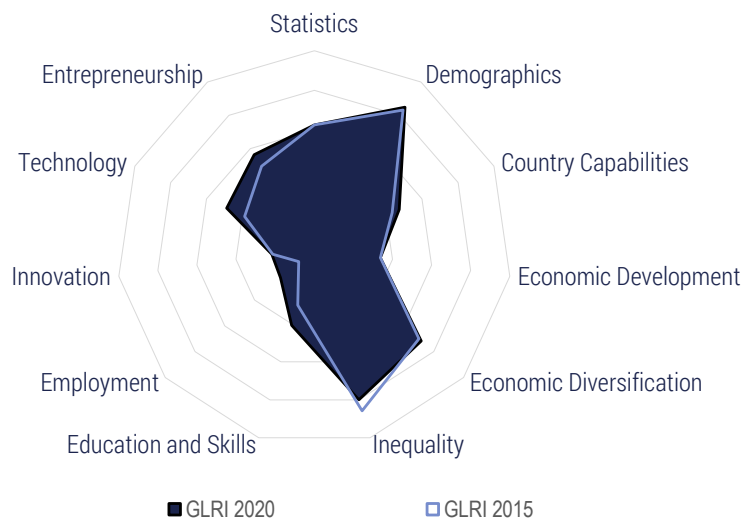## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**87**	**21**	🔻 -4
1.1 Demographics		23	141	🔻 -3
1.1.1 Share of older population (% of total population)	21.6	23	141	🔻 -3
1.2 Country Capabilities		84	9	⚫ 0
1.2.1 Economic Complexity Index	1.6	84	9	⚫ 0
1.3 Economic Development		69	23	⚫ 0
1.3.1 Income per capita (PPP)	41 782	60	22	🔺 1
1.3.2 Dependence on natural resources (% of GDP)	0.6	88	37	🔻 -4
1.3.3 Tertiarisation of economy (% of GDP)	59.2	70	49	🔻 -10
1.4 Economic Diversification		67	35	🔻 -4
1.4.1 Concentration of exports	0.1	88	38	🔻 -4
1.4.2 Diversity	247	46	33	🔻 -3
1.5 Inequality		94	7	🔺 1
1.5.1 Income inequality	27.1	94	7	🔺 1
2. Policy Pillar		**91**	**6**	🔻 -1
2.1 Education and skills		89	4	🔻 -1
2.1.1 Education and skills input		86	8	🔻 -2
2.1.1.1 Government education spendings (% of GDP)	6.9	68	9	⚫ 0
2.1.1.2 Tertiary public education spendings (% of gov.exp)	26.5	53	31	⚫ 0
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	12.8	90	18	🔻 -2
2.1.1.5 Staff training (1-7 survey)	5.2	82	10	🔺 1
2.1.2 Education and skills output		94	2	⚫ 0
2.1.2.1 Tertiary attainment rate (% of pop 25+)	24.3	53	25	🔺 3
2.1.2.2 PISA score	516	76	7	🔻 -3
2.1.2.3 Skillset of graduates (1-7 survey)	5.4	85	4	🔻 -1
2.1.2.4 Skilled labour supply (1-7 survey)	5.3	89	3	⚫ 0
2.1.2.5 Vocational enrollment (% of students)	48.1	100	1	🔺 2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	21.3	73	15	🔻 -2
2.1.2.7 Quality of vocational education (1-7 survey)	5.4	73	6	🔻 -1
2.1.2.8 STEM graduates (%)	27.3	48	29	🔻 -10
2.1.2.9 Digital skills (1-7 survey)	5.8	100	3	🔺 1
2.1.2.10 Critical thinking (1-7 survey)	5.4	92	4	🔺 1
2.2 Employment		69	12	🔺 1
2.2.1 Employment input		61	26	🔺 23
2.2.1.1 Hiring and firing practices (1-7 survey)	3.5	37	90	🔻 -14
2.2.1.2 Worker's rights (1-7 score)	100.0	100	1	🔺 6
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.0	50	79	🔻 -4
2.2.1.4 Tax wedge (% of labour cost)	42.3	26	26	🔺 3
2.2.1.5 ALP spendings (% of GDP)	2.8	89	3	🔺 4
2.2.2 Employment output		70	16	🔻 -4
2.2.2.1 Women in labour force (% female-male)	88.4	82	25	🔻 -2
2.2.2.2 Gender pay gap (% of employees)	17.7	42	36	🔺 2
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.4	63	28	🔻 -10
2.2.2.4 Knowledge insentive employment (%)	45.2	73	12	🔻 -3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	91 937	63	21	🔻 -1
2.2.2.6 ALP effectiveness (1-7 survey)	4.9	81	12	⚫ 0
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.3	70	15	🔺 5
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.3	28	118	🔻 -62
2.2.2.9 Earnings quality (PPP)	20.3	65	11	⚫ 0
2.2.2.10 Quality of the working environment (%)	16.3	93	2	🔺 1
2.3 Innovation		80	12	🔻 -4
2.3.1 Innovation input		100	1	⚫ 0
2.3.1.1 R&D spendings (% of GDP)	2.8	100	10	🔻 -9
2.3.1.2 IPR score	8.7	100	1	⚫ 0
2.3.2 Innovation output		60	24	🔻 -4
2.3.2.1 Trademark applications per th. pop.	0.8	26	69	🔻 -13
2.3.2.2 Patent applications per th. pop.	0.28	92	15	🔻 -14
2.3.2.3 R&D journals per th. pop.	1.91	96	7	⚫ 0
2.3.2.4 Researchers in R&D per mln.pop.	6 707	86	6	🔻 -5
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.6 Creative goods exports (% of goods exp.)	0.25	12	53	🔻 -5
2.4 Technology		98	2	🔻 -1
2.4.1 Technology input		93	9	🔻 -4
2.4.1.1 ICT affordability	6.4	92	12	🔺 6
2.4.1.2 ICT access index	7.9	86	20	🔻 -14
2.4.2 Technology output		92	4	🔻 -2
2.4.2.1 ICT goods and services export (% of exp.)	14.9	54	33	🔻 -20
2.4.2.2 Mobile broadband per 100 pop.	153.0	94	3	⚫ 0
2.5 Entrepreneurship		76	16	🔻 -10
2.5.1 Entrepreneurship input		81	29	🔻 -14
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a	
2.5.1.2 Time to start a business (days)	17.0	67	95	🔻 -21
2.5.1.3 Procedures to register a business	3.0	84	7	🔻 -2
2.5.1.4 Cost to start a business (% GNI per cap)	1.0	88	22	🔻 -1
2.5.2 Entrepreneurship output		73	15	🔻 -6
2.5.2.1 Global Entrepreneurship Index	67.9	79	12	🔺 1
2.5.2.2 New corporate registrations per th. pop.	2.5	35	31	🔺 3
2.5.2.3 Venture capital investments (% of GDP)	0.05	57	9	🔻 -4
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	5.4	95	4	🔺 7
2.6 Statistics		86	33	⚫ 0
2.6.1 Statistical fullness (%)	0.93	86	33	⚫ 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
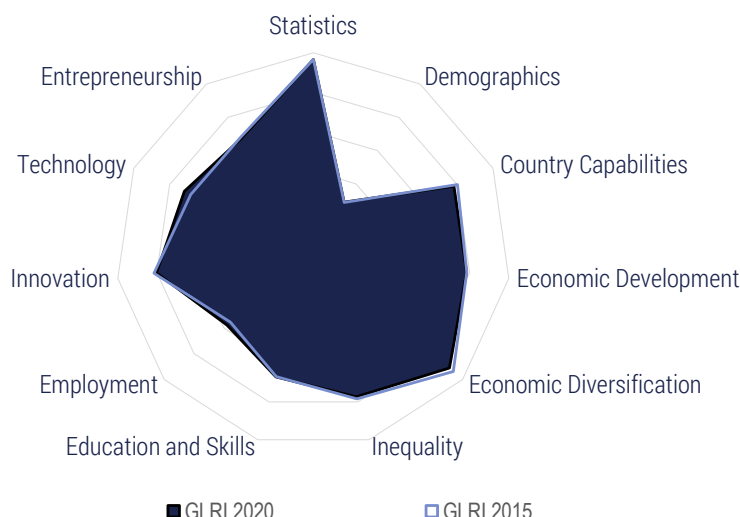
■ GLRI 2020   □ GLRI 2015

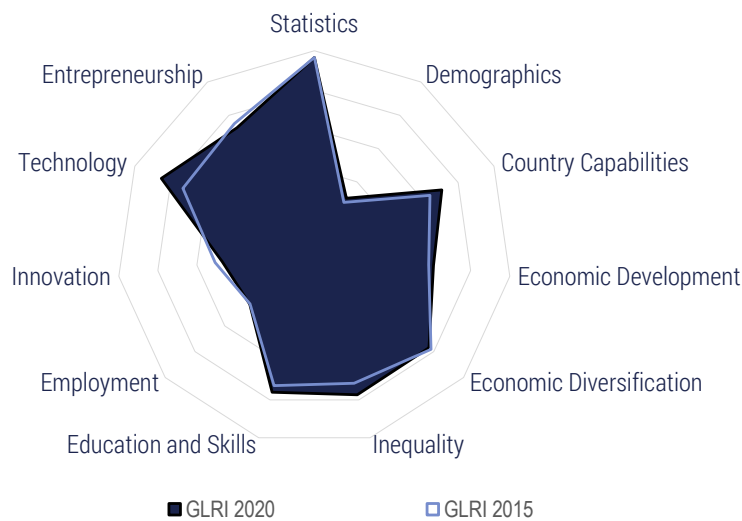## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		94	11	▽	-6
1.1 Demographics		29	136	▽	-6
1.1.1 Share of older population (% of total population)	20.1	29	136	▽	-6
1.2 Country Capabilities		78	15	▽	-2
1.2.1 Economic Complexity Index	1.3	78	15	▽	-2
1.3 Economic Development		78	10	▽	-1
1.3.1 Income per capita (PPP)	39 556	57	24	▲	1
1.3.2 Dependence on natural resources (% of GDP)	0.0	99	12	▽	-3
1.3.3 Tertiarisation of economy (% of GDP)	70.3	87	10	▲	2
1.4 Economic Diversification		91	6	▽	-1
1.4.1 Concentration of exports	0.1	95	11	▽	-3
1.4.2 Diversity	461	87	6	▽	-1
1.5 Inequality		77	35	▽	-1
1.5.1 Income inequality	32.7	77	35	▽	-1
2. Policy Pillar		79	19	●	0
2.1 Education and skills		67	25	▽	-1
2.1.1 Education and skills input		75	21	●	0
2.1.1.1 Government education spendings (% of GDP)	5.4	51	32	▲	3
2.1.1.2 Tertiary public education spendings (% of gov.exp)	22.6	44	55	▲	4
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	14 515	70	10	●	0
2.1.1.4 Years of schooling	11.5	79	34	▽	-1
2.1.1.5 Staff training (1-7 survey)	4.8	69	24	▽	-1
2.1.2 Education and skills output		64	34	▽	-5
2.1.2.1 Tertiary attainment rate (% of pop 25+)	18.0	39	45	▽	-3
2.1.2.2 PISA score	494	67	23	▽	-3
2.1.2.3 Skillset of graduates (1-7 survey)	4.7	65	34	▽	-4
2.1.2.4 Skilled labour supply (1-7 survey)	4.8	74	26	▽	-7
2.1.2.5 Vocational enrollment (% of students)	17.8	38	45	▽	-2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	19.4	66	20	●	0
2.1.2.7 Quality of vocational education (1-7 survey)	4.9	61	22	▽	-1
2.1.2.8 STEM graduates (%)	25.6	45	35	▲	14
2.1.2.9 Digital skills (1-7 survey)	4.3	59	61	▽	-3
2.1.2.10 Critical thinking (1-7 survey)	3.7	48	47	▽	-1
2.2 Employment		58	27	▲	14
2.2.1 Employment input		53	43	▲	35
2.2.1.1 Hiring and firing practices (1-7 survey)	2.7	16	119	▲	6
2.2.1.2 Worker's rights (1-7 score)	89.7	78	18	▽	-6
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.2	55	60	▲	16
2.2.1.4 Tax wedge (% of labour cost)	47.6	13	33	▽	-1
2.2.1.5 ALP spendings (% of GDP)	3.0	94	2	▲	2
2.2.2 Employment output		61	22	▲	2
2.2.2.1 Women in labour force (% female-male)	83.8	76	50	▽	-9
2.2.2.2 Gender pay gap (% of employees)	9.9	70	20	▽	-6
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.4	42	73	▽	-20
2.2.2.4 Knowledge insentive employment (%)	44.0	71	15	▲	3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	95 846	66	18	▽	-3
2.2.2.6 ALP effectiveness (1-7 survey)	4.5	69	30	▲	6
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.1	29	103	▲	29
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.0	22	126	▽	-3
2.2.2.9 Earnings quality (PPP)	20.1	64	12	●	0
2.2.2.10 Quality of the working environment (%)	25.8	65	16	▲	17
2.3 Innovation		80	13	▽	-3
2.3.1 Innovation input		77	17	▽	-3
2.3.1.1 R&D spendings (% of GDP)	2.2	79	13	●	0
2.3.1.2 IPR score	7.2	75	21	▽	-2
2.3.2 Innovation output		83	6	▽	-1
2.3.2.1 Trademark applications per th. pop.	1.4	45	39	▽	-5
2.3.2.2 Patent applications per th. pop.	0.24	80	19	▲	1
2.3.2.3 R&D journals per th. pop.	1.04	53	27	●	0
2.3.2.4 Researchers in R&D per mln.pop.	4 441	57	18	▲	2
2.3.2.5 Technicians in R&D per mln.pop.	1 798	77	11	▽	-3
2.3.2.6 Creative goods exports (% of goods exp.)	14.26	100	1	●	0
2.4 Technology		72	27	▽	-7
2.4.1 Technology input		84	28	▽	-1
2.4.1.1 ICT affordability	5.2	71	74	▲	13
2.4.1.2 ICT access index	8.2	90	13	▲	3
2.4.2 Technology output		54	41	▽	-22
2.4.2.1 ICT goods and services export (% of exp.)	10.1	40	53	▽	-12
2.4.2.2 Mobile broadband per 100 pop.	81.7	51	36	▽	-10
2.5 Entrepreneurship		67	31	▽	-2
2.5.1 Entrepreneurship input		86	16	▽	-5
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	3.5	94	7	▲	14
2.5.1.3 Procedures to register a business	5.0	68	38	▽	-19
2.5.1.4 Cost to start a business (% GNI per cap)	0.7	91	15	▽	-1
2.5.2 Entrepreneurship output		52	44	▽	-3
2.5.2.1 Global Entrepreneurship Index	68.5	80	10	▲	1
2.5.2.2 New corporate registrations per th. pop.	1.1	16	56	▽	-13
2.5.2.3 Venture capital investments (% of GDP)	0.06	57	8	▲	4
2.5.2.4 SME outstanding loans (% of loans)	20.5	24	36	▽	-1
2.5.2.5 Access to loans (1-7 survey)	4.1	63	53	▽	-14
2.6 Statistics		97	10	●	0
2.6.1 Statistical fullness (%)	0.98	97	10	●	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- Statistics
- Entrepreneurship
- Demographics
- Technology
- Country Capabilities
- Innovation
- Economic Development
- Employment
- Economic Diversification
- Education and Skills
- Inequality
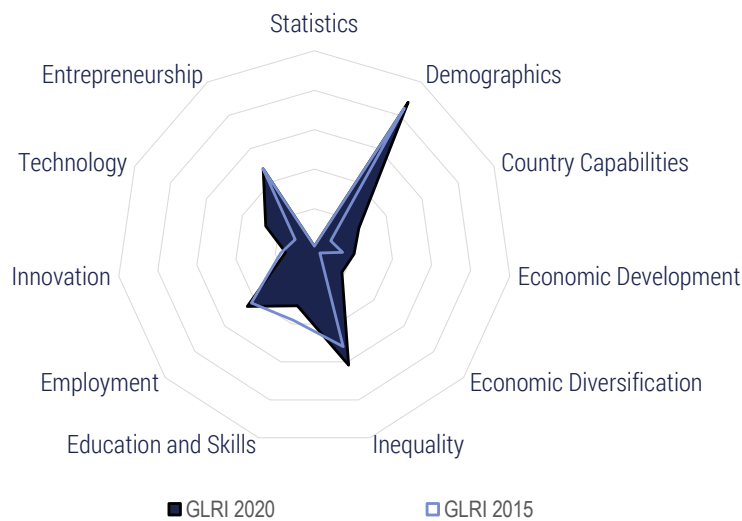
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**33**	**131**	▲	14
1.1 Demographics		88	42	▲	10
1.1.1 Share of older population (% of total population)	4.4	88	42	▲	10
1.2 Country Capabilities		25	109	▲	13
1.2.1 Economic Complexity Index	-1.1	25	109	▲	13
1.3 Economic Development		20	123	▲	16
1.3.1 Income per capita (PPP)	15 922	23	68	▼	-7
1.3.2 Dependence on natural resources (% of GDP)	18.4	21	130	▲	7
1.3.3 Tertiarisation of economy (% of GDP)	42.6	45	123	▲	16
1.4 Economic Diversification		18	133	▲	8
1.4.1 Concentration of exports	0.5	34	130	▲	10
1.4.2 Diversity	26	3	142	▼	-1
1.5 Inequality		62	74	▲	18
1.5.1 Income inequality	38.0	62	74	▲	18
2. Policy Pillar		**20**	**134**	▲	1
2.1 Education and skills		30	114	▼	-24
2.1.1 Education and skills input		49	74	▼	-42
2.1.1.1 Government education spendings (% of GDP)	2.7	19	123	▼	-13
2.1.1.2 Tertiary public education spendings (% of gov.exp)	37.8	78	7	▼	-6
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	n/a	n/a	n/a		
2.1.2 Education and skills output		20	139	●	0
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	n/a	n/a	n/a		
2.1.2.4 Skilled labour supply (1-7 survey)	n/a	n/a	n/a		
2.1.2.5 Vocational enrollment (% of students)	7.2	16	88	▼	-3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	n/a	n/a	n/a		
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	n/a	n/a	n/a		
2.1.2.10 Critical thinking (1-7 survey)	n/a	n/a	n/a		
2.2 Employment		45	62	▲	21
2.2.1 Employment input					
2.2.1.1 Hiring and firing practices (1-7 survey)	n/a	n/a	n/a		
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	n/a	n/a	n/a		
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		46	47	▲	1
2.2.2.1 Women in labour force (% female-male)	72.1	62	90	▲	1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.4	42	70	▲	8
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	61 666	42	40	▼	-4
2.2.2.6 ALP effectiveness (1-7 survey)	n/a	n/a	n/a		
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.1	31	98	▲	13
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.6	61	21	▲	3
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		15	103	▼	-8
2.3.1 Innovation input		27	80	▼	-13
2.3.1.1 R&D spendings (% of GDP)	0.6	21	55	●	0
2.3.1.2 IPR score	4.7	34	94	▼	-29
2.3.2 Innovation output		2	131	▼	-1
2.3.2.1 Trademark applications per th. pop.	n/a	n/a	n/a		
2.3.2.2 Patent applications per th. pop.	n/a	n/a	n/a		
2.3.2.3 R&D journals per th. pop.	0.03	2	97	▼	-5
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	136	▼	-1
2.4 Technology		27	130	▲	3
2.4.1 Technology input		41	113	▼	-3
2.4.1.1 ICT affordability	3.6	44	115	▼	-18
2.4.1.2 ICT access index	4.1	37	98	▲	7
2.4.2 Technology output		17	134	▲	11
2.4.2.1 ICT goods and services export (% of exp.)	0.7	13	142	▲	2
2.4.2.2 Mobile broadband per 100 pop.	33.1	21	104	▲	29
2.5 Entrepreneurship		48	82	▼	-16
2.5.1 Entrepreneurship input		68	72	▲	5
2.5.1.1 Time dealing with gov. regulations (%)	2.8	91	22	▲	1
2.5.1.2 Time to start a business (days)	31.0	40	119	▲	9
2.5.1.3 Procedures to register a business	7.0	53	70	▲	22
2.5.1.4 Cost to start a business (% GNI per cap)	n/a	n/a	n/a		
2.5.2 Entrepreneurship output		32	106	▼	-29
2.5.2.1 Global Entrepreneurship Index	25.0	22	75	▲	16
2.5.2.2 New corporate registrations per th. pop.	1.6	23	44	▼	-4
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.0	38	122	▼	-45
2.6 Statistics		1	143	●	0
2.6.1 Statistical fullness (%)	0.51	1	143	●	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   ☐ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**61**	**64**	▲	8
1.1 Demographics		96	4	▲	3
1.1.1 Share of older population (% of total population)	2.4	96	4	▲	3
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		31	102	▼	-10
1.3.1 Income per capita (PPP)	1 517	2	138	●	0
1.3.2 Dependence on natural resources (% of GDP)	5.8	49	94	▼	-9
1.3.3 Tertiarisation of economy (% of GDP)	56.6	66	62	▼	-4
1.4 Economic Diversification		27	123	▼	-20
1.4.1 Concentration of exports	0.4	47	119	▼	-23
1.4.2 Diversity	48	7	127	▼	-1
1.5 Inequality		68	61	▲	43
1.5.1 Income inequality	35.9	68	61	▲	43
2. Policy Pillar		**30**	**112**	▲	11
2.1 Education and skills		42	85	▲	13
2.1.1 Education and skills input		22	130	▲	5
2.1.1.1 Government education spendings (% of GDP)	2.1	12	134	▲	1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	14.6	26	107	▲	21
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	2 489	13	70	▼	-3
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	3.8	39	76	▲	18
2.1.2 Education and skills output		69	24	▲	6
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	4.4	58	44	▲	2
2.1.2.4 Skilled labour supply (1-7 survey)	4.5	66	44	▲	15
2.1.2.5 Vocational enrollment (% of students)	9.6	21	72	▲	3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	4.0	41	68	●	5
2.1.2.8 STEM graduates (%)	54.1	100	1	●	0
2.1.2.9 Digital skills (1-7 survey)	3.8	45	89	▲	16
2.1.2.10 Critical thinking (1-7 survey)	4.1	59	33	▲	3
2.2 Employment		60	24	▲	21
2.2.1 Employment input		74	10	▲	11
2.2.1.1 Hiring and firing practices (1-7 survey)	3.9	57	63	▼	-26
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.4	62	41	▲	25
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		43	56	▲	29
2.2.2.1 Women in labour force (% female-male)	76.4	67	76	▲	5
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.1	57	37	▲	38
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	5 347	4	127	▼	-2
2.2.2.6 ALP effectiveness (1-7 survey)	3.3	43	65	▲	7
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.7	52	40	▼	-14
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.5	57	29	▲	61
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		6	135	▼	-1
2.3.1 Innovation input		5	128	▲	3
2.3.1.1 R&D spendings (% of GDP)	0.1	5	102	●	0
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		6	108	●	0
2.3.2.1 Trademark applications per th. pop.	0.4	14	98	▲	4
2.3.2.2 Patent applications per th. pop.	0.00	2	114	▲	9
2.3.2.3 R&D journals per th. pop.	0.02	2	101	▼	-6
2.3.2.4 Researchers in R&D per mln.pop.	34	1	106	▲	2
2.3.2.5 Technicians in R&D per mln.pop.	422	19	37	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	138	▼	-9
2.4 Technology		17	141	●	0
2.4.1 Technology input		25	128	▼	-1
2.4.1.1 ICT affordability	3.0	34	129	▼	-2
2.4.1.2 ICT access index	2.6	18	120	▼	-10
2.4.2 Technology output		14	137	▲	5
2.4.2.1 ICT goods and services export (% of exp.)	1.9	17	135	▲	7
2.4.2.2 Mobile broadband per 100 pop.	21.3	14	121	▼	-6
2.5 Entrepreneurship		46	90	▲	18
2.5.1 Entrepreneurship input		66	78	▲	23
2.5.1.1 Time dealing with gov. regulations (%)	2.5	92	20	▲	41
2.5.1.2 Time to start a business (days)	25.0	51	114	▼	-16
2.5.1.3 Procedures to register a business	7.0	53	70	▲	5
2.5.1.4 Cost to start a business (% GNI per cap)	128.2	18	134	●	0
2.5.2 Entrepreneurship output		31	111	▼	-5
2.5.2.1 Global Entrepreneurship Index	16.1	10	108	▼	-9
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.4	47	101	▼	-4
2.6 Statistics		45	124	●	0
2.6.1 Statistical fullness (%)	0.73	45	124	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
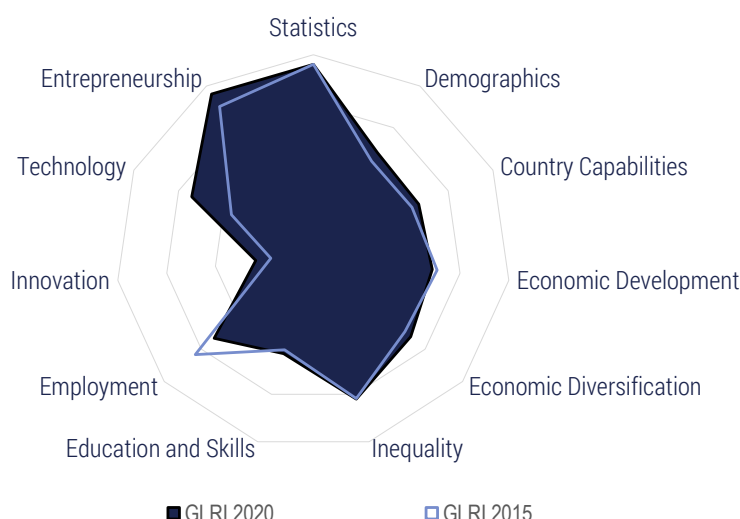
■ GLRI 2020   ☐ GLRI 2015

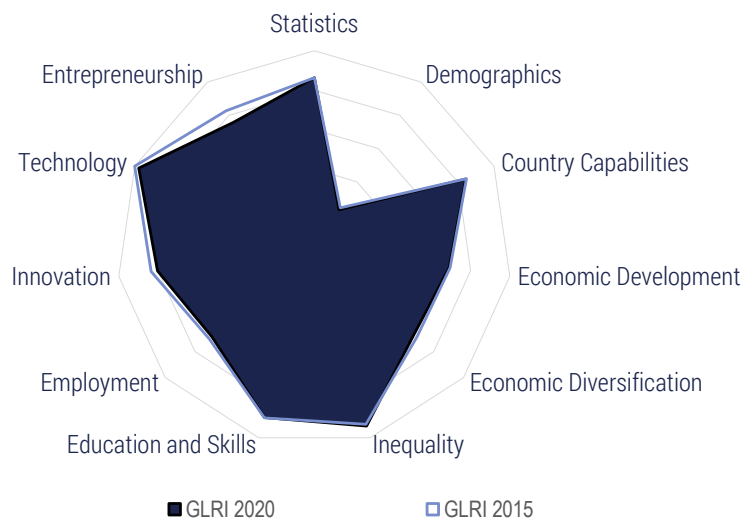## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**52**	**87**	▲	6
1.1 Demographics		48	108	▲	6
1.1.1 Share of older population (% of total population)	15.0	48	108	▲	6
1.2 Country Capabilities		47	67	▼	-2
1.2.1 Economic Complexity Index	-0.1	47	67	▼	-2
1.3 Economic Development		49	61	▼	-7
1.3.1 Income per capita (PPP)	10 152	15	88	▲	2
1.3.2 Dependence on natural resources (% of GDP)	1.1	81	51	▼	-2
1.3.3 Tertiarisation of economy (% of GDP)	58.4	69	52	▼	-5
1.4 Economic Diversification		52	67	▲	10
1.4.1 Concentration of exports	0.2	79	55	▲	17
1.4.2 Diversity	143	26	74	▲	5
1.5 Inequality		62	73	▼	-1
1.5.1 Income inequality	37.9	62	73	▼	-1
2. Policy Pillar		**54**	**46**	▲	2
2.1 Education and skills		43	82	●	0
2.1.1 Education and skills input		49	72	▲	7
2.1.1.1 Government education spendings (% of GDP)	3.8	33	88	▲	44
2.1.1.2 Tertiary public education spendings (% of gov.exp)	10.1	17	127	▼	-41
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	13.1	92	11	▲	3
2.1.1.5 Staff training (1-7 survey)	3.5	31	109	▲	12
2.1.2 Education and skills output		44	91	▼	-10
2.1.2.1 Tertiary attainment rate (% of pop 25+)	34.0	73	6	●	0
2.1.2.2 PISA score	387	25	68	▼	-10
2.1.2.3 Skillset of graduates (1-7 survey)	3.4	32	122	▲	5
2.1.2.4 Skilled labour supply (1-7 survey)	3.6	41	108	▲	15
2.1.2.5 Vocational enrollment (% of students)	3.8	9	104	▼	-20
2.1.2.6 Vocational enrollment of 15-24 olds (%)	2.1	8	86	▼	-11
2.1.2.7 Quality of vocational education (1-7 survey)	3.1	19	128	▲	1
2.1.2.8 STEM graduates (%)	21.2	36	62	▼	-2
2.1.2.9 Digital skills (1-7 survey)	3.7	41	99	▲	1
2.1.2.10 Critical thinking (1-7 survey)	3.1	33	90	▲	6
2.2 Employment		53	37	▼	-20
2.2.1 Employment input		71	14	▼	-7
2.2.1.1 Hiring and firing practices (1-7 survey)	4.5	65	20	▼	-9
2.2.1.2 Worker's rights (1-7 score)	73.2	43	53	▼	-12
2.2.1.3 Hiring of foreign labour (1-7 survey)	5.1	81	6	▼	-3
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		35	85	▲	8
2.2.2.1 Women in labour force (% female-male)	73.5	64	85	▼	-2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.9	32	103	▼	-5
2.2.2.4 Knowledge insentive employment (%)	22.2	36	66	▼	-3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	20 733	14	92	▲	6
2.2.2.6 ALP effectiveness (1-7 survey)	2.9	32	89	▲	9
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.2	34	91	▼	-12
2.2.2.8 Impact of taxes on workers (1-7 survey)	5.0	70	12	▲	17
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		24	75	▲	18
2.3.1 Innovation input		26	84	▲	34
2.3.1.1 R&D spendings (% of GDP)	0.3	11	83	▲	29
2.3.1.2 IPR score	5.1	41	72	▲	35
2.3.2 Innovation output		21	68	▼	-2
2.3.2.1 Trademark applications per th. pop.	1.4	44	41	▼	-2
2.3.2.2 Patent applications per th. pop.	0.06	21	54	▼	-5
2.3.2.3 R&D journals per th. pop.	0.16	9	64	▲	3
2.3.2.4 Researchers in R&D per mln.pop.	1 340	18	44	▲	16
2.3.2.5 Technicians in R&D per mln.pop.	200	9	50	▲	7
2.3.2.6 Creative goods exports (% of goods exp.)	0.27	13	50	▲	2
2.4 Technology		54	74	▲	11
2.4.1 Technology input		79	43	▲	6
2.4.1.1 ICT affordability	6.4	91	14	▼	-3
2.4.1.2 ICT access index	5.8	59	66	▲	7
2.4.2 Technology output		28	113	▲	13
2.4.2.1 ICT goods and services export (% of exp.)	1.7	16	137	●	0
2.4.2.2 Mobile broadband per 100 pop.	57.7	36	70	▼	-7
2.5 Entrepreneurship		76	15	▲	13
2.5.1 Entrepreneurship input		95	4	▼	-1
2.5.1.1 Time dealing with gov. regulations (%)	0.9	97	6	▼	-1
2.5.1.2 Time to start a business (days)	2.0	97	4	▼	-2
2.5.1.3 Procedures to register a business	1.0	100	1	▲	1
2.5.1.4 Cost to start a business (% GNI per cap)	2.5	79	46	▼	-3
2.5.2 Entrepreneurship output		59	32	▲	14
2.5.2.1 Global Entrepreneurship Index	25.8	23	73	▲	10
2.5.2.2 New corporate registrations per th. pop.	5.7	79	16	●	0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	43.1	50	19	▲	5
2.5.2.5 Access to loans (1-7 survey)	4.2	66	46	▲	50
2.6 Statistics		76	43	●	0
2.6.1 Statistical fullness (%)	0.88	76	43	●	0

Germany

Global Labour Resilience Index 2020

GLRI 2015 Rank 8 ▲

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		100	1	▲	2
1.1 Demographics		23	142	▲	1
1.1.1 Share of older population (% of total population)	21.7	23	142	▲	1
1.2 Country Capabilities		92	3	●	0
1.2.1 Economic Complexity Index	2.0	92	3	●	0
1.3 Economic Development		77	13	▽	-1
1.3.1 Income per capita (PPP)	45 959	66	17	●	0
1.3.2 Dependence on natural resources (% of GDP)	0.1	98	13	▲	3
1.3.3 Tertiarisation of economy (% of GDP)	61.5	73	35	▽	-2
1.4 Economic Diversification		96	3	▽	-1
1.4.1 Concentration of exports	0.1	95	13	▽	-2
1.4.2 Diversity	518	98	3	●	0
1.5 Inequality		80	25	●	0
1.5.1 Income inequality	31.7	80	25	●	0
2. Policy Pillar		86	10	▲	2
2.1 Education and skills		84	6	▲	1
2.1.1 Education and skills input		84	10	▽	-2
2.1.1.1 Government education spendings (% of GDP)	4.8	44	56	▲	1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	26.0	52	35	▲	4
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	14.2	100	1	▲	2
2.1.1.5 Staff training (1-7 survey)	5.2	81	11	▽	-5
2.1.2 Education and skills output		87	6	▲	1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	25.1	54	20	●	0
2.1.2.2 PISA score	500	69	17	▽	-5
2.1.2.3 Skillset of graduates (1-7 survey)	5.3	82	7	▽	-1
2.1.2.4 Skilled labour supply (1-7 survey)	5.2	85	7	●	0
2.1.2.5 Vocational enrollment (% of students)	19.2	41	41	▲	4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	20.6	71	16	▽	-1
2.1.2.7 Quality of vocational education (1-7 survey)	5.4	73	7	▽	-4
2.1.2.8 STEM graduates (%)	35.6	64	9	▲	18
2.1.2.9 Digital skills (1-7 survey)	5.2	83	15	●	0
2.1.2.10 Critical thinking (1-7 survey)	5.2	87	8	▲	2
2.2 Employment		62	18	▲	7
2.2.1 Employment input		49	63	▲	31
2.2.1.1 Hiring and firing practices (1-7 survey)	4.8	75	10	▲	91
2.2.1.2 Worker's rights (1-7 score)	94.8	89	9	▲	2
2.2.1.3 Hiring of foreign labour (1-7 survey)	5.0	76	11	▲	12
2.2.1.4 Tax wedge (% of labour cost)	49.5	9	35	●	0
2.2.1.5 ALP spendings (% of GDP)	1.4	46	13	▽	-1
2.2.2 Employment output		72	14	▽	-3
2.2.2.1 Women in labour force (% female-male)	83.4	76	51	▲	3
2.2.2.2 Gender pay gap (% of employees)	16.2	48	34	▽	-10
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	5.1	78	10	▽	-1
2.2.2.4 Knowledge insentive employment (%)	43.5	70	17	▽	-1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	91 358	63	23	▽	-1
2.2.2.6 ALP effectiveness (1-7 survey)	5.2	87	8	▽	-3
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.2	67	18	▽	-1
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.4	55	33	▲	29
2.2.2.9 Earnings quality (PPP)	24.5	81	7	●	0
2.2.2.10 Quality of the working environment (%)	28.5	57	21	▲	1
2.3 Innovation		90	3	▽	-1
2.3.1 Innovation input		94	8	▽	-2
2.3.1.1 R&D spendings (% of GDP)	3.0	100	1	●	0
2.3.1.2 IPR score	7.9	87	16	▽	-2
2.3.2 Innovation output		87	3	●	0
2.3.2.1 Trademark applications per th. pop.	0.9	30	58	▲	11
2.3.2.2 Patent applications per th. pop.	0.82	100	1	●	0
2.3.2.3 R&D journals per th. pop.	1.24	63	22	●	0
2.3.2.4 Researchers in R&D per mln.pop.	5 036	65	12	▲	5
2.3.2.5 Technicians in R&D per mln.pop.	1 952	84	10	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	10.71	100	1	●	0
2.4 Technology		75	19	▽	-1
2.4.1 Technology input		90	13	●	0
2.4.1.1 ICT affordability	5.6	79	53	▲	1
2.4.1.2 ICT access index	8.4	92	11	▲	4
2.4.2 Technology output		54	40	▽	-8
2.4.2.1 ICT goods and services export (% of exp.)	10.5	42	51	▽	-9
2.4.2.2 Mobile broadband per 100 pop.	80.2	50	38	▽	-1
2.5 Entrepreneurship		69	28	▲	5
2.5.1 Entrepreneurship input		82	22	▽	-3
2.5.1.1 Time dealing with gov. regulations (%)	1.2	96	10	▽	-2
2.5.1.2 Time to start a business (days)	8.0	85	43	▲	21
2.5.1.3 Procedures to register a business	9.0	37	112	▽	-20
2.5.1.4 Cost to start a business (% GNI per cap)	1.9	82	40	▽	-5
2.5.2 Entrepreneurship output		58	33	▲	10
2.5.2.1 Global Entrepreneurship Index	65.9	77	14	▽	-4
2.5.2.2 New corporate registrations per th. pop.	0.9	13	66	▽	-6
2.5.2.3 Venture capital investments (% of GDP)	0.03	36	15	▲	3
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	5.2	88	9	▲	35
2.6 Statistics		93	22	●	0
2.6.1 Statistical fullness (%)	0.97	93	22	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics · Demographics · Country Capabilities · Economic Development · Economic Diversification · Inequality · Education and Skills · Employment · Innovation · Technology · Entrepreneurship

■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**33**	**132**	🔻 -7
1.1 Demographics		92	32	🔺 3
1.1.1 Share of older population (% of total population)	3.4	92	32	🔺 3
1.2 Country Capabilities		28	103	🔻 -4
1.2.1 Economic Complexity Index	-0.9	28	103	🔻 -4
1.3 Economic Development		17	129	⬤ 0
1.3.1 Income per capita (PPP)	4 212	6	113	🔺 1
1.3.2 Dependence on natural resources (% of GDP)	13.1	30	119	🔻 -10
1.3.3 Tertiarisation of economy (% of GDP)	42.3	44	125	🔺 1
1.4 Economic Diversification		30	115	🔻 -13
1.4.1 Concentration of exports	0.5	46	120	🔻 -12
1.4.2 Diversity	88	15	100	🔻 -8
1.5 Inequality		45	105	🔻 -11
1.5.1 Income inequality	43.5	45	105	🔻 -11
2. Policy Pillar		**46**	**69**	🔺 5
2.1 Education and skills		42	84	🔺 3
2.1.1 Education and skills input		44	89	🔻 -7
2.1.1.1 Government education spendings (% of GDP)	3.6	30	96	🔻 -32
2.1.1.2 Tertiary public education spendings (% of gov.exp)	18.3	35	86	🔻 -3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	7.6	49	94	🔻 -4
2.1.1.5 Staff training (1-7 survey)	4.2	52	50	🔺 13
2.1.2 Education and skills output		47	77	🔺 13
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a	
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	4.1	50	64	🔺 6
2.1.2.4 Skilled labour supply (1-7 survey)	4.6	69	38	🔺 5
2.1.2.5 Vocational enrollment (% of students)	2.7	6	110	🔺 3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	1.3	5	96	🔻 -1
2.1.2.7 Quality of vocational education (1-7 survey)	4.1	42	64	🔺 16
2.1.2.8 STEM graduates (%)	16.4	27	92	🔺 2
2.1.2.9 Digital skills (1-7 survey)	4.1	52	74	🔺 1
2.1.2.10 Critical thinking (1-7 survey)	3.4	39	67	🔺 10
2.2 Employment		50	44	🔻 -2
2.2.1 Employment input		60	27	🔻 -7
2.2.1.1 Hiring and firing practices (1-7 survey)	4.5	70	21	🔺 2
2.2.1.2 Worker's rights (1-7 score)	76.3	49	46	🔻 -5
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.4	62	40	🔻 -5
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		40	68	🔺 4
2.2.2.1 Women in labour force (% female-male)	89.0	82	20	🔻 -3
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.9	54	39	🔺 5
2.2.2.4 Knowledge insentive employment (%)	9.6	15	105	⬤ 0

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	11 423	8	113	⬤ 0
2.2.2.6 ALP effectiveness (1-7 survey)	3.6	49	58	🔺 13
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.4	41	61	🔺 6
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.2	51	48	🔺 21
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		17	96	⬤ 0
2.3.1 Innovation input		32	67	🔺 1
2.3.1.1 R&D spendings (% of GDP)	0.4	14	72	🔺 1
2.3.1.2 IPR score	5.6	49	58	🔻 -3
2.3.2 Innovation output		2	122	🔻 -1
2.3.2.1 Trademark applications per th. pop.	0.1	4	120	🔻 -8
2.3.2.2 Patent applications per th. pop.	0.00	1	122	🔻 -8
2.3.2.3 R&D journals per th. pop.	0.03	3	92	🔺 5
2.3.2.4 Researchers in R&D per mln.pop.	38	1	105	⬤ 0
2.3.2.5 Technicians in R&D per mln.pop.	30	2	85	🔻 -1
2.3.2.6 Creative goods exports (% of goods exp.)	0.02	2	90	🔺 1
2.4 Technology		70	31	🔺 53
2.4.1 Technology input		46	110	🔻 -8
2.4.1.1 ICT affordability	4.2	54	105	🔻 -46
2.4.1.2 ICT access index	4.1	37	99	🔺 12
2.4.2 Technology output		89	5	🔺 58
2.4.2.1 ICT goods and services export (% of exp.)	39.7	100	1	🔺 72
2.4.2.2 Mobile broadband per 100 pop.	71.3	44	48	🔻 -1
2.5 Entrepreneurship		48	85	⬤ 0
2.5.1 Entrepreneurship input		71	60	🔻 -10
2.5.1.1 Time dealing with gov. regulations (%)	4.0	86	32	🔺 2
2.5.1.2 Time to start a business (days)	14.0	73	81	🔻 -19
2.5.1.3 Procedures to register a business	8.0	45	92	🔻 -17
2.5.1.4 Cost to start a business (% GNI per cap)	17.5	51	99	🔺 4
2.5.2 Entrepreneurship output		28	121	🔻 -4
2.5.2.1 Global Entrepreneurship Index	21.2	17	86	🔺 17
2.5.2.2 New corporate registrations per th. pop.	0.4	7	77	⬤ 0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	3.1	41	113	🔻 -12
2.6 Statistics		62	79	⬤ 0
2.6.1 Statistical fullness (%)	0.81	62	79	⬤ 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Greece

Global Labour Resilience Index 2020

64

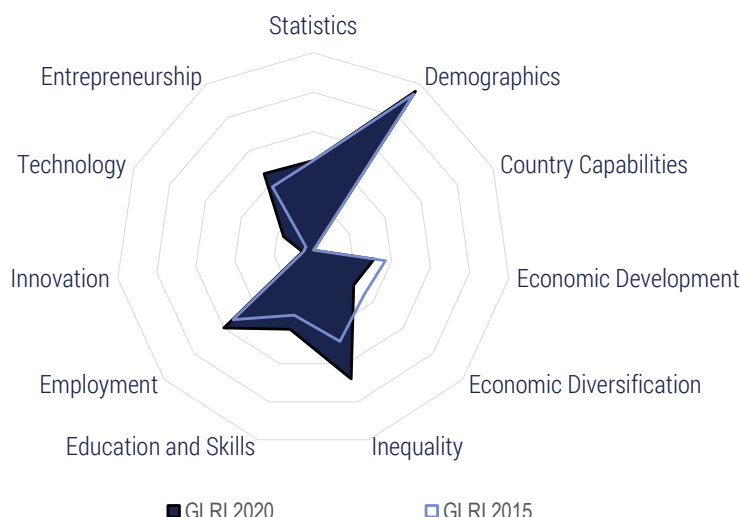## Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
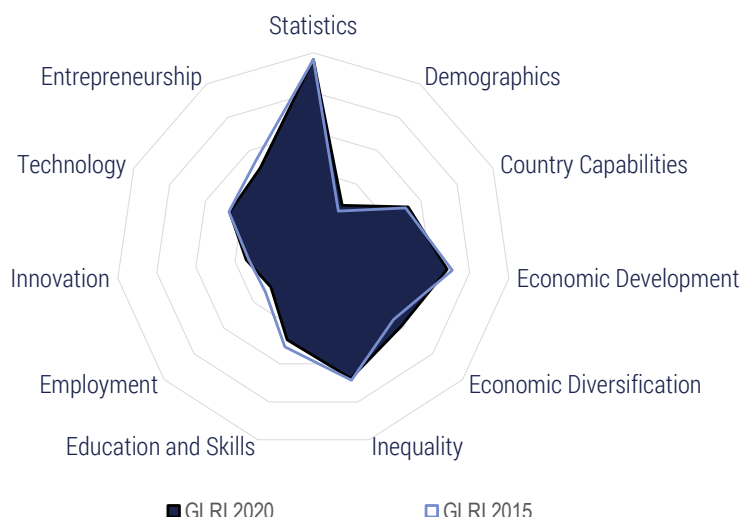
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**60**	**67**	▲ 4
1.1 Demographics		27	139	▲ 1
1.1.1 Share of older population (% of total population)	20.6	27	139	▲ 1
1.2 Country Capabilities		53	54	▼ -3
1.2.1 Economic Complexity Index	0.2	53	54	▼ -3
1.3 Economic Development		68	24	▼ -3
1.3.1 Income per capita (PPP)	25 141	36	47	▼ -5
1.3.2 Dependence on natural resources (% of GDP)	0.1	97	18	▲ 2
1.3.3 Tertiarisation of economy (% of GDP)	68.1	83	17	▼ -9
1.4 Economic Diversification		59	50	▲ 13
1.4.1 Concentration of exports	0.3	68	86	▲ 9
1.4.2 Diversity	267	50	31	▲ 6
1.5 Inequality		68	63	▼ -4
1.5.1 Income inequality	36.0	68	63	▼ -4
2. Policy Pillar		**49**	**56**	▼ -12
2.1 Education and skills		47	60	▼ -15
2.1.1 Education and skills input		50	64	▼ -14
2.1.1.1 Government education spendings (% of GDP)	4.0	34	81	▲ 4
2.1.1.2 Tertiary public education spendings (% of gov.exp)	36.1	74	8	● 0
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	3 167	16	64	▼ -18
2.1.1.4 Years of schooling	10.3	70	59	▼ -7
2.1.1.5 Staff training (1-7 survey)	3.6	35	96	▼ -18
2.1.2 Education and skills output		51	65	▼ -18
2.1.2.1 Tertiary attainment rate (% of pop 25+)	20.1	44	36	▼ -10
2.1.2.2 PISA score	453	51	40	▼ -2
2.1.2.3 Skillset of graduates (1-7 survey)	4.4	57	45	▲ 6
2.1.2.4 Skilled labour supply (1-7 survey)	4.4	63	50	▼ -6
2.1.2.5 Vocational enrollment (% of students)	15.6	34	51	▼ -4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	13.1	45	37	▲ 4
2.1.2.7 Quality of vocational education (1-7 survey)	3.5	29	108	▼ -2
2.1.2.8 STEM graduates (%)	29.4	52	19	▼ -6
2.1.2.9 Digital skills (1-7 survey)	4.2	55	70	▼ -8
2.1.2.10 Critical thinking (1-7 survey)	2.7	21	116	▼ -7
2.2 Employment		28	117	▼ -2
2.2.1 Employment input		35	112	▲ 12
2.2.1.1 Hiring and firing practices (1-7 survey)	3.5	38	87	▼ -2
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a	
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.4	61	43	▲ 8
2.2.1.4 Tax wedge (% of labour cost)	40.9	29	24	● 0
2.2.1.5 ALP spendings (% of GDP)	0.7	22	22	▲ 1
2.2.2 Employment output		31	102	▼ -27
2.2.2.1 Women in labour force (% female-male)	74.6	65	82	▲ 6
2.2.2.2 Gender pay gap (% of employees)	4.5	90	6	▲ 15
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.2	17	136	▼ -26
2.2.2.4 Knowledge insentive employment (%)	30.6	49	44	▼ -9

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	65 816	45	38	▼ -6
2.2.2.6 ALP effectiveness (1-7 survey)	2.9	33	85	▲ 10
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.0	27	110	▲ 11
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.2	2	143	▼ -10
2.2.2.9 Earnings quality (PPP)	10.2	25	23	● 0
2.2.2.10 Quality of the working environment (%)	48.0	1	39	▼ -1
2.3 Innovation		34	47	● 0
2.3.1 Innovation input		42	43	▲ 7
2.3.1.1 R&D spendings (% of GDP)	1.1	42	32	▲ 8
2.3.1.2 IPR score	5.3	43	65	▼ -5
2.3.2 Innovation output		26	57	▼ -7
2.3.2.1 Trademark applications per th. pop.	0.6	20	82	▼ -1
2.3.2.2 Patent applications per th. pop.	0.05	19	60	▼ -4
2.3.2.3 R&D journals per th. pop.	1.00	51	28	▲ 1
2.3.2.4 Researchers in R&D per mln.pop.	3 153	41	27	▲ 4
2.3.2.5 Technicians in R&D per mln.pop.	555	24	30	▲ 1
2.3.2.6 Creative goods exports (% of goods exp.)	0.26	13	51	▼ -4
2.4 Technology		47	97	▼ -37
2.4.1 Technology input		66	73	▼ -39
2.4.1.1 ICT affordability	3.9	49	111	▼ -37
2.4.1.2 ICT access index	7.2	78	32	▼ -1
2.4.2 Technology output		28	117	▼ -27
2.4.2.1 ICT goods and services export (% of exp.)	2.6	19	119	▲ 13
2.4.2.2 Mobile broadband per 100 pop.	51.3	32	80	▼ -48
2.5 Entrepreneurship		50	73	▼ -22
2.5.1 Entrepreneurship input		79	37	▼ -24
2.5.1.1 Time dealing with gov. regulations (%)	6.1	79	51	▼ -36
2.5.1.2 Time to start a business (days)	12.5	76	75	▼ -13
2.5.1.3 Procedures to register a business	4.0	76	18	▲ 1
2.5.1.4 Cost to start a business (% GNI per cap)	2.2	80	43	▼ -3
2.5.2 Entrepreneurship output		25	127	▼ -23
2.5.2.1 Global Entrepreneurship Index	37.1	38	45	▼ -1
2.5.2.2 New corporate registrations per th. pop.	0.5	8	75	▼ -1
2.5.2.3 Venture capital investments (% of GDP)	0.00	1	35	▼ -1
2.5.2.4 SME outstanding loans (% of loans)	54.4	63	14	▼ -1
2.5.2.5 Access to loans (1-7 survey)	1.8	12	141	▲ 2
2.6 Statistics		97	10	● 0
2.6.1 Statistical fullness (%)	0.98	97	10	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Guatemala

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
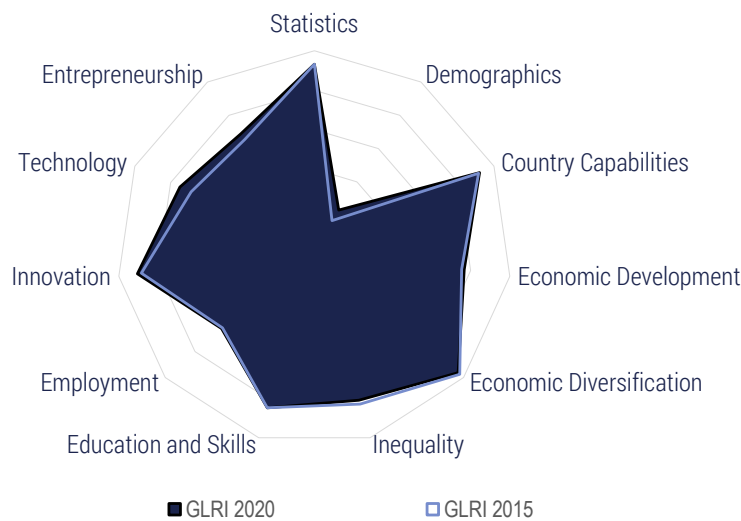

■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**58**	**72**	▲	15
1.1 Demographics		86	49	▽	-3
1.1.1 Share of older population (% of total population)	4.8	86	49	▽	-3
1.2 Country Capabilities		42	77	△	3
1.2.1 Economic Complexity Index	-0.3	42	77	△	3
1.3 Economic Development		46	71	▽	-10
1.3.1 Income per capita (PPP)	7 509	11	98	▽	-1
1.3.2 Dependence on natural resources (% of GDP)	2.0	71	72	▽	-7
1.3.3 Tertiarisation of economy (% of GDP)	62.9	75	31	△	14
1.4 Economic Diversification		65	38	△	5
1.4.1 Concentration of exports	0.1	89	31	△	1
1.4.2 Diversity	222	41	43	△	2
1.5 Inequality		31	120	△	9
1.5.1 Income inequality	48.3	31	120	▲	9
2. Policy Pillar		**34**	**96**	▽	-5
2.1 Education and skills		35	102	△	4
2.1.1 Education and skills input		37	106	△	7
2.1.1.1 Government education spendings (% of GDP)	2.8	21	119	▽	-3
2.1.1.2 Tertiary public education spendings (% of gov.exp)	13.9	25	110	△	12
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	4 030	20	52	▽	-1
2.1.1.4 Years of schooling	6.6	42	102	△	12
2.1.1.5 Staff training (1-7 survey)	4.2	53	47	▽	-9
2.1.2 Education and skills output		41	96	▽	-4
2.1.2.1 Tertiary attainment rate (% of pop 25+)	6.9	16	78	▲	10
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	4.1	50	63	▽	-16
2.1.2.4 Skilled labour supply (1-7 survey)	4.3	60	56	▽	-6
2.1.2.5 Vocational enrollment (% of students)	28.7	61	22	△	5
2.1.2.6 Vocational enrollment of 15-24 olds (%)	9.5	33	48	▽	-3
2.1.2.7 Quality of vocational education (1-7 survey)	4.5	51	41	△	2
2.1.2.8 STEM graduates (%)	9.8	14	118	▽	-34
2.1.2.9 Digital skills (1-7 survey)	3.6	39	107	▽	-3
2.1.2.10 Critical thinking (1-7 survey)	2.9	27	109	▽	-15
2.2 Employment		39	79	▽	-6
2.2.1 Employment input		58	30	▽	-6
2.2.1.1 Hiring and firing practices (1-7 survey)	3.9	50	58	▽	-21
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.3	58	50	▽	-5
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		24	125	▽	-1
2.2.2.1 Women in labour force (% female-male)	48.3	33	128	●	0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.5	45	57	△	9
2.2.2.4 Knowledge insentive employment (%)	10.9	17	103	●	0

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	18 951	13	96	●	0
2.2.2.6 ALP effectiveness (1-7 survey)	2.1	14	122	▽	-11
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.0	61	29	▽	-7
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.3	52	46	△	26
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		14	109	△	9
2.3.1 Innovation input		20	107	△	3
2.3.1.1 R&D spendings (% of GDP)	0.0	2	123	▽	-1
2.3.1.2 IPR score	5.0	39	79	△	7
2.3.2 Innovation output		7	105	△	1
2.3.2.1 Trademark applications per th. pop.	0.7	23	78	△	4
2.3.2.2 Patent applications per th. pop.	0.02	6	96	▽	-1
2.3.2.3 R&D journals per th. pop.	0.00	1	128	▽	-2
2.3.2.4 Researchers in R&D per mln.pop.	22	1	114	●	0
2.3.2.5 Technicians in R&D per mln.pop.	26	2	89	▽	-2
2.3.2.6 Creative goods exports (% of goods exp.)	0.06	4	77	△	5
2.4 Technology		24	136	▽	-30
2.4.1 Technology input		40	114	▽	-13
2.4.1.1 ICT affordability	4.0	52	108	▽	-26
2.4.1.2 ICT access index	3.4	28	106	▽	-4
2.4.2 Technology output		11	140	▽	-25
2.4.2.1 ICT goods and services export (% of exp.)	2.1	17	128	▽	-29
2.4.2.2 Mobile broadband per 100 pop.	13.9	9	131	▽	-33
2.5 Entrepreneurship		53	66	△	34
2.5.1 Entrepreneurship input		64	86	△	17
2.5.1.1 Time dealing with gov. regulations (%)	9.1	69	66	△	8
2.5.1.2 Time to start a business (days)	15.0	71	84	△	13
2.5.1.3 Procedures to register a business	6.0	61	56	△	36
2.5.1.4 Cost to start a business (% GNI per cap)	22.9	46	106	△	2
2.5.2 Entrepreneurship output		46	54	△	34
2.5.2.1 Global Entrepreneurship Index	18.5	14	99	△	20
2.5.2.2 New corporate registrations per th. pop.	0.2	4	91	●	0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.6	76	27	△	23
2.6 Statistics		69	59	●	0
2.6.1 Statistical fullness (%)	0.85	69	59	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

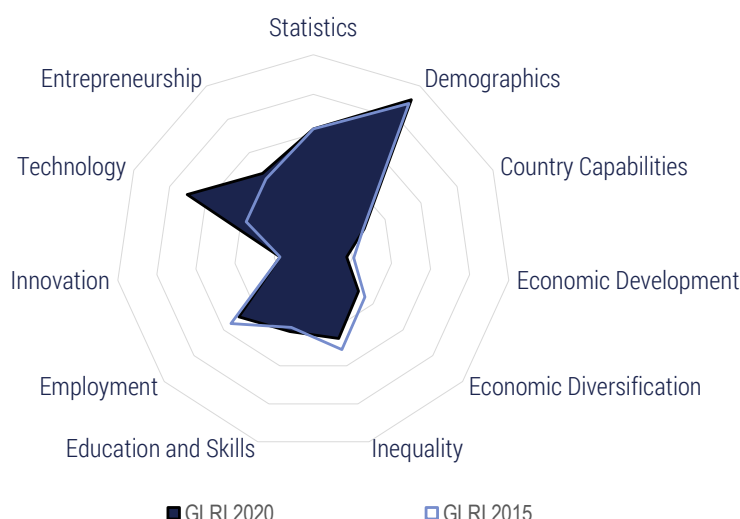## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**28**	**135**	▽ -22
1.1 Demographics		93	30	▽ -3
1.1.1 Share of older population (% of total population)	3.2	93	30	▽ -3
1.2 Country Capabilities		1	124	▽ -15
1.2.1 Economic Complexity Index	-2.2	1	124	▽ -15
1.3 Economic Development		12	140	▽ -9
1.3.1 Income per capita (PPP)	2 338	3	128	▲ 3
1.3.2 Dependence on natural resources (% of GDP)	20.2	19	133	▽ -12
1.3.3 Tertiarisation of economy (% of GDP)	41.7	43	127	▽ -11
1.4 Economic Diversification		22	130	▽ -10
1.4.1 Concentration of exports	0.5	40	127	▽ -15
1.4.2 Diversity	29	4	140	▽ -13
1.5 Inequality		74	44	▽ -1
1.5.1 Income inequality	33.7	74	44	▽ -1
2. Policy Pillar		**32**	**104**	▲ 2
2.1 Education and skills		22	132	▽ -13
2.1.1 Education and skills input		36	109	▽ -19
2.1.1.1 Government education spendings (% of GDP)	2.2	14	132	▽ -11
2.1.1.2 Tertiary public education spendings (% of gov.exp)	17.3	33	88	▽ -77
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	5 715	28	42	▽ -2
2.1.1.4 Years of schooling	1.9	5	127	▲ 2
2.1.1.5 Staff training (1-7 survey)	5.3	84	8	▲ 2
2.1.2 Education and skills output		17	140	● 0
2.1.2.1 Tertiary attainment rate (% of pop 25+)	4.4	10	83	-2
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	2.9	19	136	▽ -1
2.1.2.4 Skilled labour supply (1-7 survey)	3.0	26	134	● 0
2.1.2.5 Vocational enrollment (% of students)	3.7	9	106	▲ 2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.8	4	102	▲ 6
2.1.2.7 Quality of vocational education (1-7 survey)	4.6	54	36	▽ -4
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a	
2.1.2.9 Digital skills (1-7 survey)	2.7	13	135	▽ -1
2.1.2.10 Critical thinking (1-7 survey)	2.3	11	134	● 0
2.2 Employment		50	42	▲ 1
2.2.1 Employment input		69	17	▽ -7
2.2.1.1 Hiring and firing practices (1-7 survey)	3.9	49	61	▽ -19
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a	
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.9	75	13	▽ -2
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		32	95	▲ 15
2.2.2.1 Women in labour force (% female-male)	98.4	94	4	▲ 2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.7	28	113	▽ -5
2.2.2.4 Knowledge insentive employment (%)	0.7	1	120	● 0

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	5 994	4	124	▲ 6
2.2.2.6 ALP effectiveness (1-7 survey)	2.1	15	119	▲ 8
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.1	31	96	▲ 4
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.8	67	16	▲ 37
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		1	145	● 0
2.3.1 Innovation input				
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a	
2.3.1.2 IPR score	n/a	n/a	n/a	
2.3.2 Innovation output		1	145	● 0
2.3.2.1 Trademark applications per th. pop.	0.0	1	136	● 0
2.3.2.2 Patent applications per th. pop.	n/a	n/a	n/a	
2.3.2.3 R&D journals per th. pop.	0.00	1	137	▲ 4
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	129	▲ 8
2.4 Technology		47	92	▽ -10
2.4.1 Technology input		52	101	▲ 18
2.4.1.1 ICT affordability	6.6	95	9	▲ 100
2.4.1.2 ICT access index	1.8	8	135	▽ -14
2.4.2 Technology output		42	75	▽ -47
2.4.2.1 ICT goods and services export (% of exp.)	17.8	63	23	▽ -16
2.4.2.2 Mobile broadband per 100 pop.	15.0	10	128	▲ 5
2.5 Entrepreneurship		60	45	▲ 68
2.5.1 Entrepreneurship input		70	64	▲ 1
2.5.1.1 Time dealing with gov. regulations (%)	3.9	87	29	▽ -7
2.5.1.2 Time to start a business (days)	15.0	71	84	▲ 6
2.5.1.3 Procedures to register a business	6.0	61	56	▽ -1
2.5.1.4 Cost to start a business (% GNI per cap)	67.5	29	131	● 0
2.5.2 Entrepreneurship output		53	42	▲ 93
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a	
2.5.2.2 New corporate registrations per th. pop.	0.1	2	103	▲ 7
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	5.4	94	5	▲ 112
2.6 Statistics		45	124	● 0
2.6.1 Statistical fullness (%)	0.73	45	124	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- Statistics
- Demographics
- Entrepreneurship
- Country Capabilities
- Technology
- Economic Development
- Innovation
- Economic Diversification
- Employment
- Inequality
- Education and Skills

■ GLRI 2020   ☐ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**31**	**134**	▼	-4
1.1 Demographics		84	56	▼	-2
1.1.1 Share of older population (% of total population)	5.4	84	56	▼	-2
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		12	138	▼	-6
1.3.1 Income per capita (PPP)	7 617	11	97	▲	3
1.3.2 Dependence on natural resources (% of GDP)	25.3	13	141	▼	-11
1.3.3 Tertiarisation of economy (% of GDP)	42.0	44	126	▼	-9
1.4 Economic Diversification		27	122	▲	1
1.4.1 Concentration of exports	0.5	45	122	▲	2
1.4.2 Diversity	57	9	119	▼	-3
1.5 Inequality		42	108	▼	-1
1.5.1 Income inequality	44.6	42	108	▼	-1
2. Policy Pillar		**11**	**143**	▼	-1
2.1 Education and skills		16	138	▲	3
2.1.1 Education and skills input		27	125	▲	9
2.1.1.1 Government education spendings (% of GDP)	6.3	62	20	▲	84
2.1.1.2 Tertiary public education spendings (% of gov.exp)	5.1	5	138	▼	-1
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	1 797	9	72	▲	1
2.1.1.4 Years of schooling	6.1	38	105	▼	-4
2.1.1.5 Staff training (1-7 survey)	n/a	n/a	n/a		
2.1.2 Education and skills output		15	143	▼	-1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	n/a	n/a	n/a		
2.1.2.4 Skilled labour supply (1-7 survey)	n/a	n/a	n/a		
2.1.2.5 Vocational enrollment (% of students)	5.3	12	97	▼	-1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	1.2	5	99	▼	-6
2.1.2.7 Quality of vocational education (1-7 survey)	n/a	n/a	n/a		
2.1.2.8 STEM graduates (%)	14.2	22	106	▼	-10
2.1.2.9 Digital skills (1-7 survey)	n/a	n/a	n/a		
2.1.2.10 Critical thinking (1-7 survey)	n/a	n/a	n/a		
2.2 Employment		21	134	▲	3
2.2.1 Employment input					
2.2.1.1 Hiring and firing practices (1-7 survey)	n/a	n/a	n/a		
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	n/a	n/a	n/a		
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		27	118	▼	-17
2.2.2.1 Women in labour force (% female-male)	56.0	42	123	●	0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.7	50	47	▼	-13
2.2.2.4 Knowledge insentive employment (%)	12.7	20	99	●	0

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	21 259	14	91	▲	1
2.2.2.6 ALP effectiveness (1-7 survey)	n/a	n/a	n/a		
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.2	34	89	▼	-37
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.8	40	80	▼	-30
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		7	129	▼	-3
2.3.1 Innovation input					
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		7	102	▼	-6
2.3.2.1 Trademark applications per th. pop.	0.7	24	76	▼	-24
2.3.2.2 Patent applications per th. pop.	0.03	11	80	▼	-1
2.3.2.3 R&D journals per th. pop.	0.02	2	105	▲	2
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	117	▲	2
2.4 Technology		29	127	▼	-11
2.4.1 Technology input		42	112	▼	-3
2.4.1.1 ICT affordability	4.2	55	104	▲	7
2.4.1.2 ICT access index	3.4	29	105	▼	-15
2.4.2 Technology output		20	132	▼	-24
2.4.2.1 ICT goods and services export (% of exp.)	9.4	38	56	▲	22
2.4.2.2 Mobile broadband per 100 pop.	0.2	1	144	▼	-11
2.5 Entrepreneurship		42	108	▼	-26
2.5.1 Entrepreneurship input		59	96	▼	-14
2.5.1.1 Time dealing with gov. regulations (%)	11.5	60	77	▲	1
2.5.1.2 Time to start a business (days)	18.0	65	99	▼	-23
2.5.1.3 Procedures to register a business	7.0	53	70	▼	-15
2.5.1.4 Cost to start a business (% GNI per cap)	n/a	n/a	n/a		
2.5.2 Entrepreneurship output		30	113	▼	-26
2.5.2.1 Global Entrepreneurship Index	16.4	11	106	▲	18
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.3	46	104	▼	-61
2.6 Statistics		11	140	●	0
2.6.1 Statistical fullness (%)	0.56	11	140	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Radar chart legend:
■ GLRI 2020   ☐ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

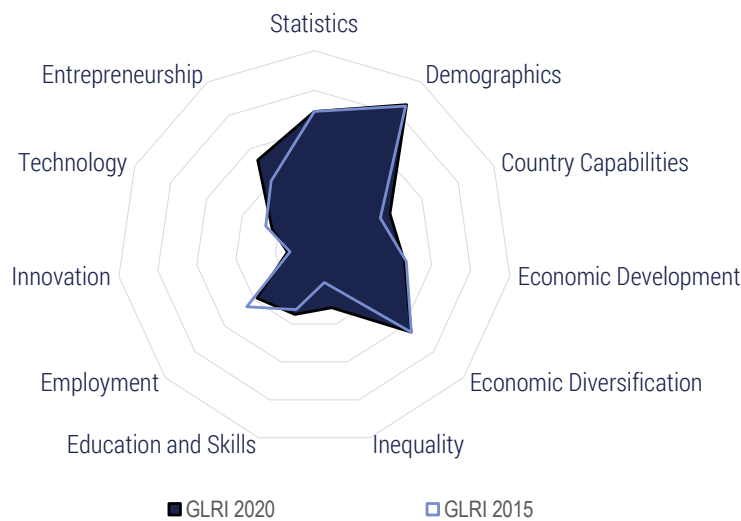## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**43**	**113**	▼	-12
1.1 Demographics		86	51	●	0
1.1.1 Share of older population (% of total population)	4.9	86	51	●	0
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		24	115	▲	5
1.3.1 Income per capita (PPP)	1 656	2	137	▼	-2
1.3.2 Dependence on natural resources (% of GDP)	1.2	79	56	▼	-17
1.3.3 Tertiarisation of economy (% of GDP)	24.8	18	144	▲	1
1.4 Economic Diversification		25	125	▼	-3
1.4.1 Concentration of exports	0.5	39	128	▼	-6
1.4.2 Diversity	71	12	112	▼	-2
1.5 Inequality		53	92	▼	-4
1.5.1 Income inequality	41.1	53	92	▼	-4
2. Policy Pillar		**1**	**145**	▼	-1
2.1 Education and skills		5	144	●	0
2.1.1 Education and skills input		1	145	▼	-1
2.1.1.1 Government education spendings (% of GDP)	2.4	17	129	▲	10
2.1.1.2 Tertiary public education spendings (% of gov.exp)	10.2	17	126	▲	5
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	2.6	5	136	▼	-1
2.1.2 Education and skills output		21	138	▼	-1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.5	35	111	▼	-14
2.1.2.4 Skilled labour supply (1-7 survey)	3.0	26	133	▼	-1
2.1.2.5 Vocational enrollment (% of students)	n/a	n/a	n/a		
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	3.1	19	130	●	0
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	2.8	18	133	▼	-6
2.1.2.10 Critical thinking (1-7 survey)	2.1	8	136	▲	1
2.2 Employment		29	115	▼	-50
2.2.1 Employment input		46	78	▼	-62
2.2.1.1 Hiring and firing practices (1-7 survey)	3.9	55	68	▼	-6
2.2.1.2 Worker's rights (1-7 score)	70.1	36	70	▼	-29
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.5	65	30	▼	-13
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		21	133	▼	-6
2.2.2.1 Women in labour force (% female-male)	86.9	80	31	▲	1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	1.9	11	140	▼	-20
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	4 213	3	134	▼	-1
2.2.2.6 ALP effectiveness (1-7 survey)	1.8	6	132	▲	2
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.4	8	140	▼	-14
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.3	52	45	▲	46
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		2	144	●	0
2.3.1 Innovation input		1	138	▼	-1
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	2.7	1	126	●	0
2.3.2 Innovation output		2	121	▲	1
2.3.2.1 Trademark applications per th. pop.	0.1	6	114	▼	-8
2.3.2.2 Patent applications per th. pop.	0.00	2	112	▲	8
2.3.2.3 R&D journals per th. pop.	0.00	1	139	▼	-6
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	n/a	n/a	n/a		
2.4 Technology		17	139	▼	-36
2.4.1 Technology input		24	130	▼	-34
2.4.1.1 ICT affordability	3.5	43	117	▼	-94
2.4.1.2 ICT access index	1.7	7	137	▼	-14
2.4.2 Technology output		16	135	▼	-25
2.4.2.1 ICT goods and services export (% of exp.)	5.3	27	90	▼	-11
2.4.2.2 Mobile broadband per 100 pop.	10.3	7	134	▼	-7
2.5 Entrepreneurship		1	145	●	0
2.5.1 Entrepreneurship input		7	144	●	0
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	97.0	1	137	●	0
2.5.1.3 Procedures to register a business	12.0	13	138	▼	-14
2.5.1.4 Cost to start a business (% GNI per cap)	200.2	10	136	▲	1
2.5.2 Entrepreneurship output		4	144	▼	-2
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a		
2.5.2.2 New corporate registrations per th. pop.	0.0	1	109	▼	-1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	1.7	9	142	▼	-18
2.6 Statistics		25	138	●	0
2.6.1 Statistical fullness (%)	0.63	25	138	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Honduras

Global Labour Resilience Index 2020

98

GLRI 2015 Rank 104 ⬆

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
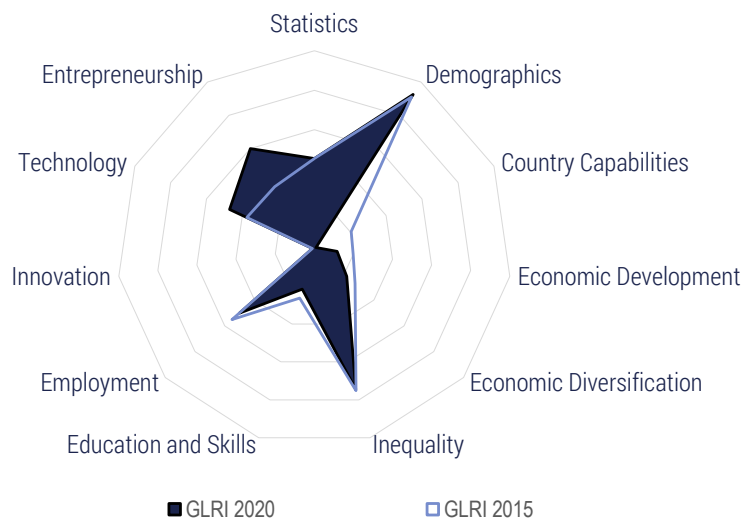

■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**47**	**101**	▲	5
1.1 Demographics		87	48	▽	-4
1.1.1 Share of older population (% of total population)	4.8	87	48	▽	-4
1.2 Country Capabilities		39	84	△	9
1.2.1 Economic Complexity Index	-0.4	39	84	△	9
1.3 Economic Development		41	81	▽	-17
1.3.1 Income per capita (PPP)	4 560	7	112	●	0
1.3.2 Dependence on natural resources (% of GDP)	2.1	70	73	▽	-10
1.3.3 Tertiarisation of economy (% of GDP)	57.1	67	58	▽	-20
1.4 Economic Diversification		53	65	△	1
1.4.1 Concentration of exports	0.2	77	64	△	1
1.4.2 Diversity	160	29	68	△	3
1.5 Inequality		25	125	▽	-1
1.5.1 Income inequality	50.5	25	125	▽	-1
2. Policy Pillar		**37**	**89**	▲	11
2.1 Education and skills		38	91	△	14
2.1.1 Education and skills input		39	100	△	8
2.1.1.1 Government education spendings (% of GDP)	6.0	57	25	△	2
2.1.1.2 Tertiary public education spendings (% of gov.exp)	13.7	25	112	▽	-20
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	2 532	13	69	▽	-3
2.1.1.4 Years of schooling	6.3	39	104	△	3
2.1.1.5 Staff training (1-7 survey)	4.1	50	55	△	1
2.1.2 Education and skills output		46	85	△	20
2.1.2.1 Tertiary attainment rate (% of pop 25+)	9.6	21	68	△	14
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	4.0	48	69	△	7
2.1.2.4 Skilled labour supply (1-7 survey)	4.0	54	71	△	2
2.1.2.5 Vocational enrollment (% of students)	38.5	82	7	△	19
2.1.2.6 Vocational enrollment of 15-24 olds (%)	9.9	34	47	△	7
2.1.2.7 Quality of vocational education (1-7 survey)	3.9	39	75	△	16
2.1.2.8 STEM graduates (%)	15.2	24	104	▽	-9
2.1.2.9 Digital skills (1-7 survey)	3.6	40	102	▽	-1
2.1.2.10 Critical thinking (1-7 survey)	3.2	34	82	△	21
2.2 Employment		26	125	△	4
2.2.1 Employment input		41	98	▽	-14
2.2.1.1 Hiring and firing practices (1-7 survey)	3.7	44	70	△	20
2.2.1.2 Worker's rights (1-7 score)	59.8	14	103	▽	-12
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.5	65	31	▽	-3
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		21	132	△	8
2.2.2.1 Women in labour force (% female-male)	56.5	43	122	△	2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.1	38	89	△	24
2.2.2.4 Knowledge insentive employment (%)	12.8	20	98	●	0

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	10 770	7	115	▽	-5
2.2.2.6 ALP effectiveness (1-7 survey)	2.4	22	109	△	4
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.7	52	42	△	20
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.1	23	123	△	18
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		12	115	●	0
2.3.1 Innovation input		18	114	▽	-8
2.3.1.1 R&D spendings (% of GDP)	0.0	1	124	▽	-3
2.3.1.2 IPR score	4.7	34	90	▽	-8
2.3.2 Innovation output		7	106	▽	-3
2.3.2.1 Trademark applications per th. pop.	0.7	24	74	▽	-12
2.3.2.2 Patent applications per th. pop.	0.02	8	92	▽	-2
2.3.2.3 R&D journals per th. pop.	0.00	1	135	△	1
2.3.2.4 Researchers in R&D per mln.pop.	23	1	113	▽	-3
2.3.2.5 Technicians in R&D per mln.pop.	10	1	98	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	0.01	1	96	△	1
2.4 Technology		57	69	▽	-3
2.4.1 Technology input		48	107	▽	-8
2.4.1.1 ICT affordability	4.9	67	83	▽	-4
2.4.1.2 ICT access index	3.3	27	107	▽	-6
2.4.2 Technology output		65	22	△	26
2.4.2.1 ICT goods and services export (% of exp.)	28.4	93	9	△	7
2.4.2.2 Mobile broadband per 100 pop.	22.5	15	119	▽	-19
2.5 Entrepreneurship		42	111	△	19
2.5.1 Entrepreneurship input		46	125	△	10
2.5.1.1 Time dealing with gov. regulations (%)	9.4	68	67	△	28
2.5.1.2 Time to start a business (days)	42.0	18	133	▽	-8
2.5.1.3 Procedures to register a business	11.0	21	131	▽	-2
2.5.1.4 Cost to start a business (% GNI per cap)	41.3	37	119	●	0
2.5.2 Entrepreneurship output		43	65	△	19
2.5.2.1 Global Entrepreneurship Index	18.7	14	97	▽	-21
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.2	65	47	△	36
2.6 Statistics		69	59	●	0
2.6.1 Statistical fullness (%)	0.85	69	59	●	0

Hungary

Global Labour Resilience Index 2020

GLRI 2015 Rank 35

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
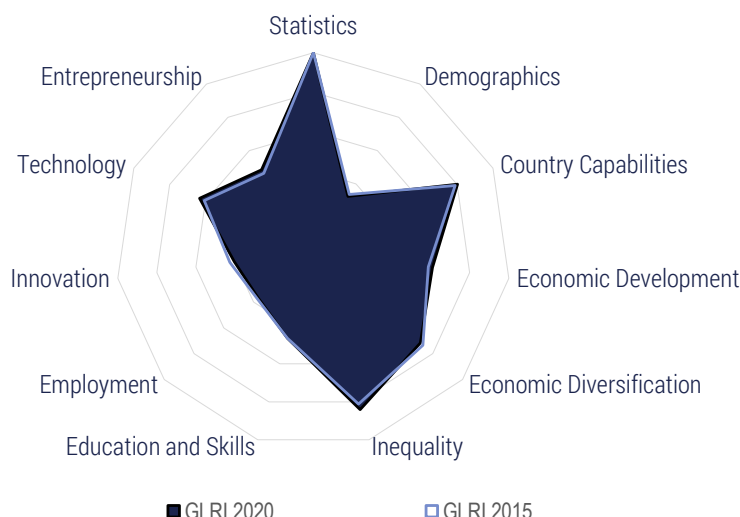
- ■ GLRI 2020
- □ GLRI 2015

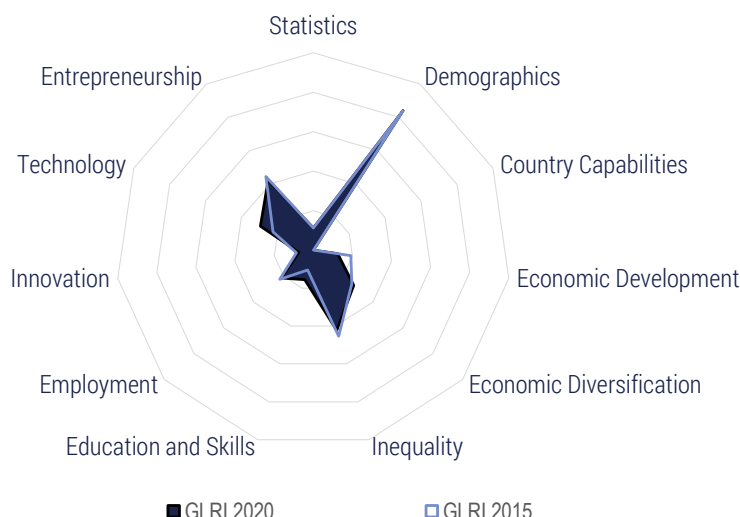## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**83**	**27**	▲	1
1.1 Demographics		32	125	▼	-3
1.1.1 Share of older population (% of total population)	19.2	32	125	▼	-3
1.2 Country Capabilities		80	14	●	0
1.2.1 Economic Complexity Index	1.4	80	14	●	0
1.3 Economic Development		61	39	●	0
1.3.1 Income per capita (PPP)	28 243	41	42	▲	4
1.3.2 Dependence on natural resources (% of GDP)	0.3	93	26	▲	5
1.3.3 Tertiarisation of economy (% of GDP)	54.4	63	74	▼	-7
1.4 Economic Diversification		72	27	▼	-2
1.4.1 Concentration of exports	0.1	93	23	▼	-5
1.4.2 Diversity	273	51	30	▼	-3
1.5 Inequality		84	20	▲	6
1.5.1 Income inequality	30.4	84	20	▲	6
2. Policy Pillar		**56**	**44**	▼	-2
2.1 Education and skills		46	65	▼	-7
2.1.1 Education and skills input		54	53	▼	-4
2.1.1.1 Government education spendings (% of GDP)	4.7	43	62	▲	14
2.1.1.2 Tertiary public education spendings (% of gov.exp)	16.1	30	94	▼	-21
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	9 391	46	23	▼	-2
2.1.1.4 Years of schooling	12.0	83	29	▼	-6
2.1.1.5 Staff training (1-7 survey)	3.6	34	97	▲	3
2.1.2 Education and skills output		46	84	▼	-5
2.1.2.1 Tertiary attainment rate (% of pop 25+)	20.4	44	35	▼	-1
2.1.2.2 PISA score	479	61	31	▼	-1
2.1.2.3 Skillset of graduates (1-7 survey)	3.7	40	96	▲	2
2.1.2.4 Skilled labour supply (1-7 survey)	2.9	24	135	●	0
2.1.2.5 Vocational enrollment (% of students)	12.2	27	62	▼	-4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	13.4	46	36	▼	-12
2.1.2.7 Quality of vocational education (1-7 survey)	3.3	25	120	▲	4
2.1.2.8 STEM graduates (%)	23.3	40	51	▲	24
2.1.2.9 Digital skills (1-7 survey)	3.5	35	113	▲	4
2.1.2.10 Critical thinking (1-7 survey)	3.3	38	73	▲	6
2.2 Employment		37	86	▲	8
2.2.1 Employment input		41	96	▲	6
2.2.1.1 Hiring and firing practices (1-7 survey)	4.2	59	36	▲	12
2.2.1.2 Worker's rights (1-7 score)	78.4	54	40	▲	5
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.7	69	22	▼	-8
2.2.1.4 Tax wedge (% of labour cost)	45.0	19	31	▲	2
2.2.1.5 ALP spendings (% of GDP)	1.2	38	15	▼	-1
2.2.2 Employment output		38	72	▼	-7
2.2.2.1 Women in labour force (% female-male)	74.2	64	84	▼	-5
2.2.2.2 Gender pay gap (% of employees)	9.4	72	18	▼	-5
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.5	24	121	▼	-6
2.2.2.4 Knowledge insentive employment (%)	35.3	57	35	▼	-6

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	60 702	42	43	▼	-2
2.2.2.6 ALP effectiveness (1-7 survey)	3.5	47	61	▲	9
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.2	35	86	▼	-4
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.6	37	93	▲	35
2.2.2.9 Earnings quality (PPP)	7.3	14	29	●	0
2.2.2.10 Quality of the working environment (%)	36.4	34	36	●	0
2.3 Innovation		40	37	▼	-3
2.3.1 Innovation input		53	32	▼	-3
2.3.1.1 R&D spendings (% of GDP)	1.4	49	25	●	0
2.3.1.2 IPR score	6.1	57	44	▼	-8
2.3.2 Innovation output		28	54	▼	-7
2.3.2.1 Trademark applications per th. pop.	0.6	19	83	▲	3
2.3.2.2 Patent applications per th. pop.	0.05	19	61	▼	-8
2.3.2.3 R&D journals per th. pop.	0.64	33	39	▼	-3
2.3.2.4 Researchers in R&D per mln.pop.	2 924	38	29	▲	3
2.3.2.5 Technicians in R&D per mln.pop.	641	28	26	▼	-1
2.3.2.6 Creative goods exports (% of goods exp.)	0.55	23	41	●	0
2.4 Technology		63	47	▼	-19
2.4.1 Technology input		74	51	▼	-12
2.4.1.1 ICT affordability	5.0	69	78	▼	-3
2.4.1.2 ICT access index	6.9	74	42	▼	-5
2.4.2 Technology output		49	50	▼	-16
2.4.2.1 ICT goods and services export (% of exp.)	15.4	56	32	▼	-10
2.4.2.2 Mobile broadband per 100 pop.	44.5	28	94	▼	-33
2.5 Entrepreneurship		48	77	▼	-5
2.5.1 Entrepreneurship input		67	76	▲	2
2.5.1.1 Time dealing with gov. regulations (%)	11.3	61	76	▲	1
2.5.1.2 Time to start a business (days)	7.0	87	39	▼	-14
2.5.1.3 Procedures to register a business	6.0	61	56	▼	-18
2.5.1.4 Cost to start a business (% GNI per cap)	5.4	69	58	▲	8
2.5.2 Entrepreneurship output		35	97	▼	-12
2.5.2.1 Global Entrepreneurship Index	36.4	37	47	▼	-6
2.5.2.2 New corporate registrations per th. pop.	2.3	32	35	▼	-5
2.5.2.3 Venture capital investments (% of GDP)	0.02	25	22	●	0
2.5.2.4 SME outstanding loans (% of loans)	0.7	1	42	▼	-1
2.5.2.5 Access to loans (1-7 survey)	4.3	68	41	▲	80
2.6 Statistics		100	1	●	0
2.6.1 Statistical fullness (%)	1.00	100	1	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Iceland

Global Labour Resilience Index 2020

GLRI 2015 Rank 20 ⬆

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics · Demographics · Country Capabilities · Economic Development · Economic Diversification · Inequality · Education and Skills · Employment · Innovation · Technology · Entrepreneurship
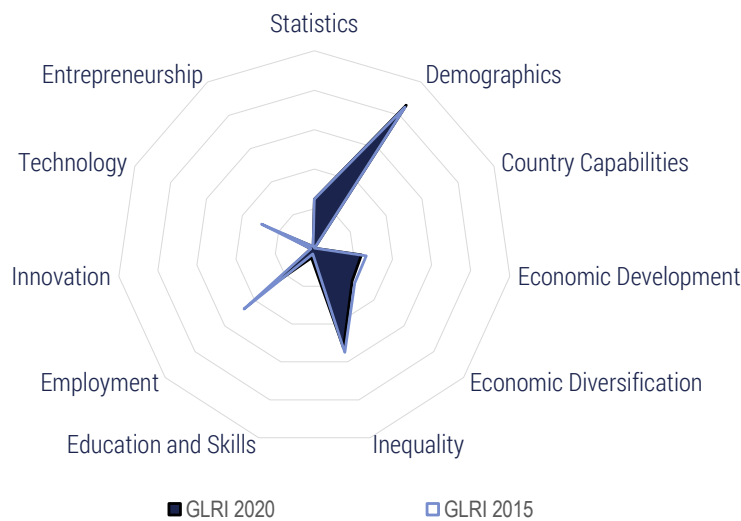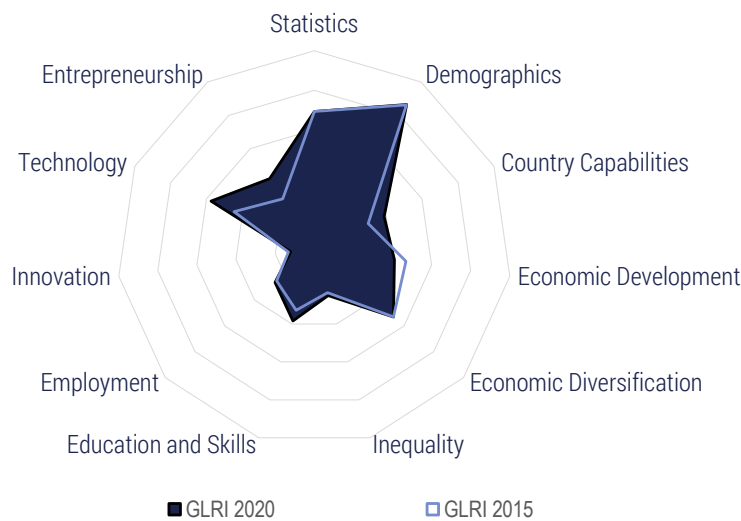
■ GLRI 2020   ☐ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**76**	**38**	▼	-9
1.1 Demographics		49	107	▼	-3
1.1.1 Share of older population (% of total population)	14.8	49	107	▼	-3
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		80	8	▲	3
1.3.1 Income per capita (PPP)	48 606	70	13	▲	6
1.3.2 Dependence on natural resources (% of GDP)	0.0	100	2	▲	1
1.3.3 Tertiarisation of economy (% of GDP)	63.8	77	28	▲	4
1.4 Economic Diversification		29	119	▼	-9
1.4.1 Concentration of exports	0.5	46	121	▼	-10
1.4.2 Diversity	77	13	109	▼	-7
1.5 Inequality		92	13	▼	-11
1.5.1 Income inequality	27.8	92	13	▼	-11
2. Policy Pillar		**82**	**13**	▲	5
2.1 Education and skills		73	20	▼	-2
2.1.1 Education and skills input		71	26	▼	-1
2.1.1.1 Government education spendings (% of GDP)	7.5	75	5	▲	2
2.1.1.2 Tertiary public education spendings (% of gov.exp)	19.9	38	77	▲	7
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	4.9	74	18	▼	-2
2.1.2 Education and skills output		78	17	▼	-2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	481	62	29	▲	2
2.1.2.3 Skillset of graduates (1-7 survey)	5.3	82	8	▲	2
2.1.2.4 Skilled labour supply (1-7 survey)	5.0	79	15	▼	-7
2.1.2.5 Vocational enrollment (% of students)	19.2	41	40	▼	-3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	9.3	32	49	▼	-9
2.1.2.7 Quality of vocational education (1-7 survey)	5.1	66	13	▲	1
2.1.2.8 STEM graduates (%)	15.7	25	98	▼	-9
2.1.2.9 Digital skills (1-7 survey)	5.7	97	5	▲	1
2.1.2.10 Critical thinking (1-7 survey)	4.6	71	18	▼	-5
2.2 Employment		78	8	●	0
2.2.1 Employment input		73	11	▲	3
2.2.1.1 Hiring and firing practices (1-7 survey)	5.3	89	4	●	0
2.2.1.2 Worker's rights (1-7 score)	100.0	100	1	●	0
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.5	64	35	▲	3
2.2.1.4 Tax wedge (% of labour cost)	33.2	47	13	●	0
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		73	12	▲	3
2.2.2.1 Women in labour force (% female-male)	89.4	83	19	▼	-5
2.2.2.2 Gender pay gap (% of employees)	11.5	64	22	▲	4
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.5	66	24	▲	13
2.2.2.4 Knowledge insentive employment (%)	48.2	77	6	●	0

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	82 068	56	26	▲	4
2.2.2.6 ALP effectiveness (1-7 survey)	5.3	89	6	▲	1
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.4	76	11	●	0
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.2	51	49	▲	64
2.2.2.9 Earnings quality (PPP)	21.2	69	9	●	0
2.2.2.10 Quality of the working environment (%)	23.8	71	10	▼	-3
2.3 Innovation		70	19	▲	5
2.3.1 Innovation input		81	16	▲	3
2.3.1.1 R&D spendings (% of GDP)	2.2	79	14	▲	5
2.3.1.2 IPR score	7.6	82	19	▲	2
2.3.2 Innovation output		60	25	▲	1
2.3.2.1 Trademark applications per th. pop.	10.3	100	1	●	0
2.3.2.2 Patent applications per th. pop.	0.12	42	36	▼	-4
2.3.2.3 R&D journals per th. pop.	1.84	93	8	▲	1
2.3.2.4 Researchers in R&D per mln.pop.	6 635	85	7	●	0
2.3.2.5 Technicians in R&D per mln.pop.	2 096	90	6	▲	5
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	114	▼	-4
2.4 Technology		78	14	▼	-1
2.4.1 Technology input		100	1	▲	1
2.4.1.1 ICT affordability	6.3	90	17	▼	-12
2.4.1.2 ICT access index	9.0	100	1	▲	2
2.4.2 Technology output		50	48	▼	-9
2.4.2.1 ICT goods and services export (% of exp.)	3.2	20	108	▼	-14
2.4.2.2 Mobile broadband per 100 pop.	104.0	64	16	▼	-2
2.5 Entrepreneurship		84	6	▲	5
2.5.1 Entrepreneurship input		77	39	▼	-21
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	11.5	78	70	▼	-64
2.5.1.3 Procedures to register a business	5.0	68	38	▼	-19
2.5.1.4 Cost to start a business (% GNI per cap)	1.8	83	37	●	0
2.5.2 Entrepreneurship output		92	5	▲	13
2.5.2.1 Global Entrepreneurship Index	74.2	88	7	●	0
2.5.2.2 New corporate registrations per th. pop.	7.5	100	1	▲	10
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.6	74	28	▲	43
2.6 Statistics		73	51	●	0
2.6.1 Statistical fullness (%)	0.86	73	51	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

India

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
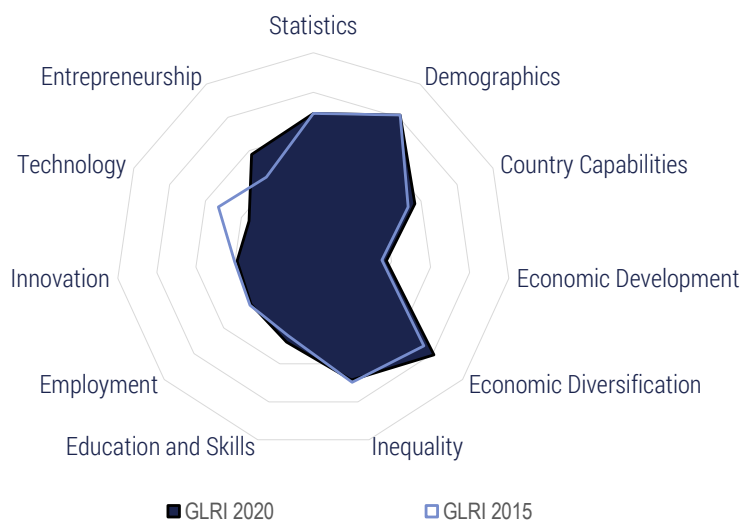
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		81	29	▲	3
1.1 Demographics		81	63	⬤	0
1.1.1 Share of older population (% of total population)	6.2	81	63	⬤	0
1.2 Country Capabilities		56	43	▲	5
1.2.1 Economic Complexity Index	0.4	56	43	▲	5
1.3 Economic Development		37	88	▲	10
1.3.1 Income per capita (PPP)	6 899	10	102	▲	6
1.3.2 Dependence on natural resources (% of GDP)	2.1	70	74	▲	5
1.3.3 Tertiarisation of economy (% of GDP)	49.0	54	105	▲	3
1.4 Economic Diversification		81	13	▲	9
1.4.1 Concentration of exports	0.1	89	34	▲	19
1.4.2 Diversity	389	73	13	▲	3
1.5 Inequality		68	58	▽	-3
1.5.1 Income inequality	35.7	68	58	▽	-3
2. Policy Pillar		47	68	▽	-14
2.1 Education and skills		48	56	▲	5
2.1.1 Education and skills input		43	96	▽	-1
2.1.1.1 Government education spendings (% of GDP)	3.8	33	89	▽	-3
2.1.1.2 Tertiary public education spendings (% of gov.exp)	28.5	57	23	▲	3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	2 806	14	67	▽	-4
2.1.1.4 Years of schooling	5.3	32	111	▽	-2
2.1.1.5 Staff training (1-7 survey)	4.6	62	31	▲	1
2.1.2 Education and skills output		61	40	▲	5
2.1.2.1 Tertiary attainment rate (% of pop 25+)	9.1	20	72	▽	-7
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	4.6	64	35	▲	10
2.1.2.4 Skilled labour supply (1-7 survey)	4.7	71	32	▲	16
2.1.2.5 Vocational enrollment (% of students)	1.8	5	120	▲	4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	4.6	55	32	▲	12
2.1.2.8 STEM graduates (%)	31.7	57	13	▲	3
2.1.2.9 Digital skills (1-7 survey)	4.6	67	46	▲	10
2.1.2.10 Critical thinking (1-7 survey)	4.6	72	17	⬤	0
2.2 Employment		42	72	▲	10
2.2.1 Employment input		49	65	▽	-1
2.2.1.1 Hiring and firing practices (1-7 survey)	4.6	70	13	▲	34
2.2.1.2 Worker's rights (1-7 score)	57.7	10	108	▽	-17
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.4	62	42	▲	2
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		38	69	▲	17
2.2.2.1 Women in labour force (% female-male)	30.0	11	138	⬤	0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.6	69	20	▲	31
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	18 565	13	99	▲	6
2.2.2.6 ALP effectiveness (1-7 survey)	4.4	68	32	▽	-4
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.7	51	44	▲	14
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.4	56	31	▲	33
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	30.7	51	28	▽	-8
2.3 Innovation		39	39	▽	-3
2.3.1 Innovation input		36	56	▽	-8
2.3.1.1 R&D spendings (% of GDP)	0.6	23	51	▽	-15
2.3.1.2 IPR score	5.6	49	57	▽	-2
2.3.2 Innovation output		42	36	⬤	0
2.3.2.1 Trademark applications per th. pop.	0.2	7	107	▲	1
2.3.2.2 Patent applications per th. pop.	0.03	12	75	▲	2
2.3.2.3 R&D journals per th. pop.	0.08	5	79	▽	-1
2.3.2.4 Researchers in R&D per mln.pop.	216	4	79	▲	2
2.3.2.5 Technicians in R&D per mln.pop.	96	5	61	▲	1
2.3.2.6 Creative goods exports (% of goods exp.)	6.39	100	1	⬤	0
2.4 Technology		36	114	▽	-71
2.4.1 Technology input		61	83	▽	-17
2.4.1.1 ICT affordability	6.6	95	8	▽	-7
2.4.1.2 ICT access index	3.0	24	112	▽	-5
2.4.2 Technology output		13	138	▽	-95
2.4.2.1 ICT goods and services export (% of exp.)	2.1	17	129	▽	-115
2.4.2.2 Mobile broadband per 100 pop.	16.8	11	127	▽	-31
2.5 Entrepreneurship		58	56	▲	33
2.5.1 Entrepreneurship input		72	55	▲	43
2.5.1.1 Time dealing with gov. regulations (%)	1.9	94	15	▲	41
2.5.1.2 Time to start a business (days)	16.5	68	90	▲	21
2.5.1.3 Procedures to register a business	10.0	29	123	▲	13
2.5.1.4 Cost to start a business (% GNI per cap)	14.8	53	92	▽	-6
2.5.2 Entrepreneurship output		47	53	▲	21
2.5.2.1 Global Entrepreneurship Index	28.4	27	63	▲	39
2.5.2.2 New corporate registrations per th. pop.	0.1	2	102	⬤	0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.5	72	34	▲	2
2.6 Statistics		69	59	⬤	0
2.6.1 Statistical fullness (%)	0.85	69	59	⬤	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Indonesia

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		68	57	▲	3
1.1 Demographics		84	57	▲	3
1.1.1 Share of older population (% of total population)	5.5	84	57	▲	3
1.2 Country Capabilities		46	68	▲	3
1.2.1 Economic Complexity Index	-0.1	46	68	▲	3
1.3 Economic Development		33	95	▲	11
1.3.1 Income per capita (PPP)	11 606	17	84	▲	3
1.3.2 Dependence on natural resources (% of GDP)	3.5	60	82	▲	7
1.3.3 Tertiarisation of economy (% of GDP)	43.4	46	119	▲	1
1.4 Economic Diversification		69	31	▲	5
1.4.1 Concentration of exports	0.1	89	30	▲	12
1.4.2 Diversity	266	49	32	▲	2
1.5 Inequality		61	76	▲	3
1.5.1 Income inequality	38.1	61	76	▲	3
2. Policy Pillar		48	64	●	0
2.1 Education and skills		49	55	▲	4
2.1.1 Education and skills input		49	73	▼	-1
2.1.1.1 Government education spendings (% of GDP)	3.6	30	99	●	0
2.1.1.2 Tertiary public education spendings (% of gov.exp)	15.8	29	97	▲	4
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	4 087	20	51	▼	-4
2.1.1.4 Years of schooling	8.2	54	89	▲	2
2.1.1.5 Staff training (1-7 survey)	4.7	67	28	●	0
2.1.2 Education and skills output		56	52	▲	4
2.1.2.1 Tertiary attainment rate (% of pop 25+)	9.4	21	69	▼	-1
2.1.2.2 PISA score	382	23	70	▼	-2
2.1.2.3 Skillset of graduates (1-7 survey)	4.7	65	32	▼	-6
2.1.2.4 Skilled labour supply (1-7 survey)	4.7	71	33	▼	-1
2.1.2.5 Vocational enrollment (% of students)	19.7	42	38	▲	4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	12.8	44	38	▲	5
2.1.2.7 Quality of vocational education (1-7 survey)	4.6	55	33	▲	4
2.1.2.8 STEM graduates (%)	19.4	33	77	▲	3
2.1.2.9 Digital skills (1-7 survey)	4.7	70	37	▼	-4
2.1.2.10 Critical thinking (1-7 survey)	4.2	60	29	▼	-3
2.2 Employment		41	73	▲	12
2.2.1 Employment input		48	70	▲	4
2.2.1.1 Hiring and firing practices (1-7 survey)	4.5	67	18	▲	17
2.2.1.2 Worker's rights (1-7 score)	60.8	16	99	▼	-2
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.2	55	58	●	0
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		38	70	▲	10
2.2.2.1 Women in labour force (% female-male)	63.7	52	108	▲	7
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.4	64	27	▲	4
2.2.2.4 Knowledge insentive employment (%)	8.9	14	107	▼	-1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	24 849	17	87	▲	2
2.2.2.6 ALP effectiveness (1-7 survey)	4.1	61	37	▼	-4
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.6	48	49	▼	-3
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.5	58	26	▲	1
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		24	70	▲	15
2.3.1 Innovation input		27	83	▲	17
2.3.1.1 R&D spendings (% of GDP)	0.2	9	87	▲	24
2.3.1.2 IPR score	5.3	44	62	▲	14
2.3.2 Innovation output		22	65	▲	5
2.3.2.1 Trademark applications per th. pop.	0.3	9	102	▼	-2
2.3.2.2 Patent applications per th. pop.	0.03	12	74	▲	11
2.3.2.3 R&D journals per th. pop.	0.03	2	96	▲	15
2.3.2.4 Researchers in R&D per mln.pop.	216	4	80	▲	8
2.3.2.5 Technicians in R&D per mln.pop.	18	2	92	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	1.56	48	31	▲	1
2.4 Technology		52	79	▼	-26
2.4.1 Technology input		64	77	▼	-3
2.4.1.1 ICT affordability	5.9	84	36	▲	3
2.4.1.2 ICT access index	4.3	40	95	▼	-1
2.4.2 Technology output		39	85	▼	-34
2.4.2.1 ICT goods and services export (% of exp.)	5.4	27	89	▼	-37
2.4.2.2 Mobile broadband per 100 pop.	67.3	42	54	▼	-3
2.5 Entrepreneurship		49	74	▲	23
2.5.1 Entrepreneurship input		72	59	▲	37
2.5.1.1 Time dealing with gov. regulations (%)	0.9	97	6	▲	5
2.5.1.2 Time to start a business (days)	21.0	59	106	▲	29
2.5.1.3 Procedures to register a business	11.0	21	131	▼	-7
2.5.1.4 Cost to start a business (% GNI per cap)	10.9	58	79	▲	22
2.5.2 Entrepreneurship output		31	110	▼	-24
2.5.2.1 Global Entrepreneurship Index	21.0	17	88	▲	29
2.5.2.2 New corporate registrations per th. pop.	0.2	4	92	▲	1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	19.7	23	37	▼	-1
2.5.2.5 Access to loans (1-7 survey)	4.5	73	31	▼	-17
2.6 Statistics		80	37	●	0
2.6.1 Statistical fullness (%)	0.90	80	37	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
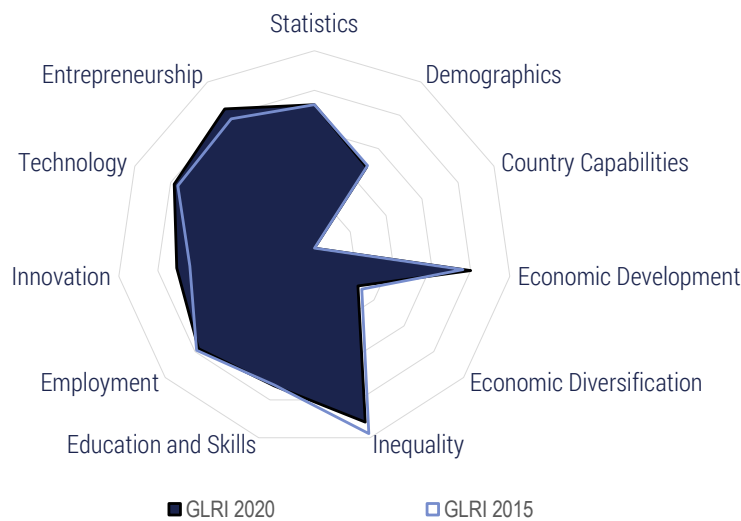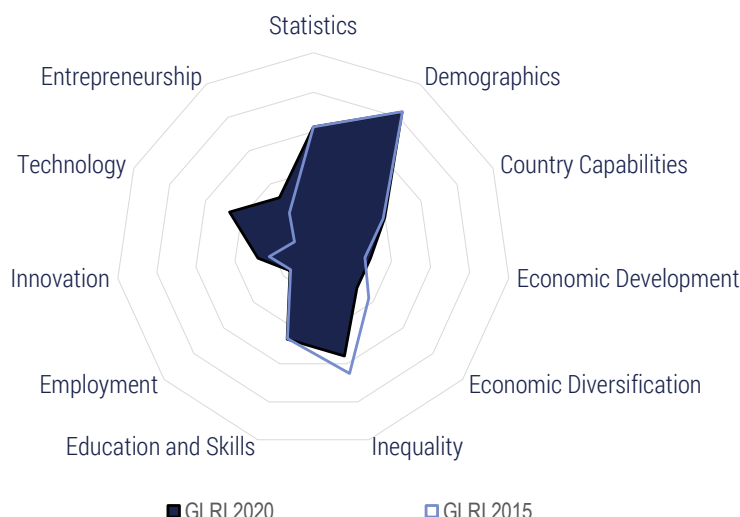

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**43**	**110**	▼	-21
1.1 Demographics		83	60	▼	-3
1.1.1 Share of older population (% of total population)	5.7	83	60	▼	-3
1.2 Country Capabilities		40	81	▼	-5
1.2.1 Economic Complexity Index	-0.4	40	81	▼	-5
1.3 Economic Development		29	107	▲	14
1.3.1 Income per capita (PPP)	19 098	28	57	▲	3
1.3.2 Dependence on natural resources (% of GDP)	17.8	22	127	▲	6
1.3.3 Tertiarisation of economy (% of GDP)	54.4	63	75	▲	24
1.4 Economic Diversification		29	117	▼	-17
1.4.1 Concentration of exports	0.5	37	129	▼	-16
1.4.2 Diversity	122	21	84	▼	-11
1.5 Inequality		56	85	▼	-17
1.5.1 Income inequality	40.0	56	85	▼	-17
2. Policy Pillar		**34**	**97**	▲	30
2.1 Education and skills		47	62	▼	-5
2.1.1 Education and skills input		50	67	▲	9
2.1.1.1 Government education spendings (% of GDP)	4.0	34	83	▲	24
2.1.1.2 Tertiary public education spendings (% of gov.exp)	28.2	57	24	▲	33
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	10.3	71	57	▼	-1
2.1.1.5 Staff training (1-7 survey)	3.4	28	118	▼	-23
2.1.2 Education and skills output		51	66	▼	-16
2.1.2.1 Tertiary attainment rate (% of pop 25+)	18.2	40	43	●	0
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.5	35	112	▼	-1
2.1.2.4 Skilled labour supply (1-7 survey)	4.0	53	76	▼	-6
2.1.2.5 Vocational enrollment (% of students)	13.4	29	60	▼	-4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	5.9	21	63	▼	-5
2.1.2.7 Quality of vocational education (1-7 survey)	3.7	34	94	▼	-17
2.1.2.8 STEM graduates (%)	43.9	80	6	▼	-4
2.1.2.9 Digital skills (1-7 survey)	4.2	56	67	▼	-4
2.1.2.10 Critical thinking (1-7 survey)	3.0	30	100	▼	-30
2.2 Employment		16	138	▲	4
2.2.1 Employment input		25	130	▲	2
2.2.1.1 Hiring and firing practices (1-7 survey)	3.6	41	82	▲	10
2.2.1.2 Worker's rights (1-7 score)	62.9	21	90	▲	7
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.2	26	126	▼	-16
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		19	137	▲	1
2.2.2.1 Women in labour force (% female-male)	23.6	3	141	▲	2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.8	29	109	▲	26
2.2.2.4 Knowledge insentive employment (%)	17.1	27	89	▲	4

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	66 427	45	36	▲	6
2.2.2.6 ALP effectiveness (1-7 survey)	2.9	33	86	▼	-19
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.6	14	128	▼	-3
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.7	40	83	▼	-5
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		28	64	▲	10
2.3.1 Innovation input		22	99	▲	10
2.3.1.1 R&D spendings (% of GDP)	0.3	10	85	▲	2
2.3.1.2 IPR score	4.7	34	88	▲	17
2.3.2 Innovation output		34	43	▲	11
2.3.2.1 Trademark applications per th. pop.	1.3	43	42	▲	46
2.3.2.2 Patent applications per th. pop.	0.20	66	24	▲	5
2.3.2.3 R&D journals per th. pop.	0.50	26	42	▼	-1
2.3.2.4 Researchers in R&D per mln.pop.	671	9	59	▼	-2
2.3.2.5 Technicians in R&D per mln.pop.	187	9	51	▼	-1
2.3.2.6 Creative goods exports (% of goods exp.)	0.61	25	37	▲	1
2.4 Technology		47	95	▲	40
2.4.1 Technology input		73	53	▲	58
2.4.1.1 ICT affordability	6.0	84	35	▲	81
2.4.1.2 ICT access index	5.6	56	71	▲	15
2.4.2 Technology output		20	131	▲	13
2.4.2.1 ICT goods and services export (% of exp.)	2.4	18	125	▲	18
2.4.2.2 Mobile broadband per 100 pop.	33.8	22	102	▲	31
2.5 Entrepreneurship		32	134	▲	4
2.5.1 Entrepreneurship input		38	133	▼	-8
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	72.5	1	137	▼	-3
2.5.1.3 Procedures to register a business	10.0	29	123	▼	-11
2.5.1.4 Cost to start a business (% GNI per cap)	1.4	85	32	▼	-9
2.5.2 Entrepreneurship output		31	108	▲	28
2.5.2.1 Global Entrepreneurship Index	26.8	25	68	▲	23
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	2.8	35	127	▲	18
2.6 Statistics		62	79	●	0
2.6.1 Statistical fullness (%)	0.81	62	79	●	0

 WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
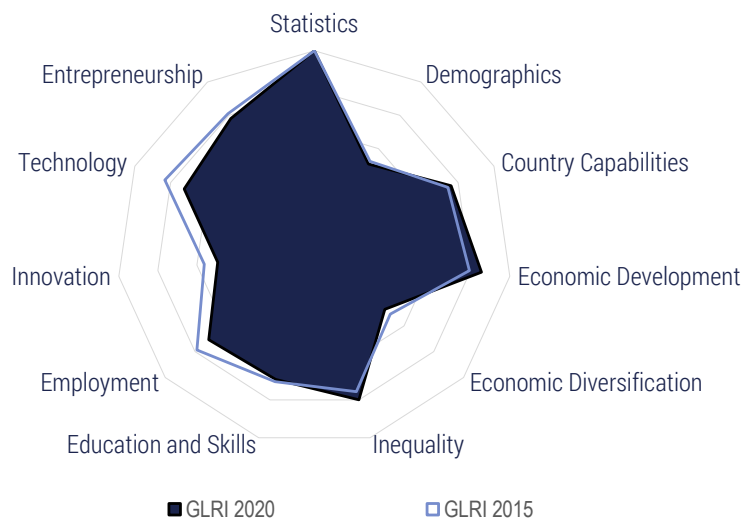
- ■ GLRI 2020
- □ GLRI 2015

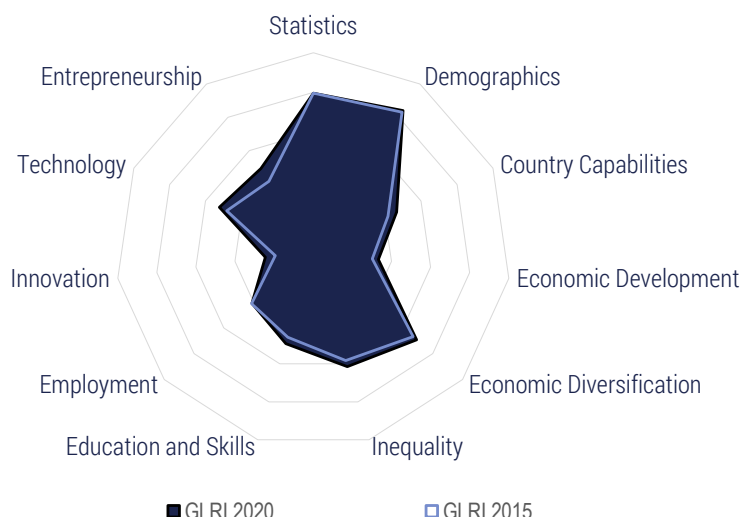## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank		Rank change GLRI 2015-2020
1. Structural Pillar		**88**	**18**	▲	4
1.1 Demographics		51	102	▲	1
1.1.1 Share of older population (% of total population)	14.3	51	102	▲	1
1.2 Country Capabilities		76	17	▲	2
1.2.1 Economic Complexity Index	1.3	76	17	▲	2
1.3 Economic Development		86	5	▲	1
1.3.1 Income per capita (PPP)	70 855	100	1	▲	11
1.3.2 Dependence on natural resources (% of GDP)	0.1	97	20	▼	-8
1.3.3 Tertiarisation of economy (% of GDP)	55.8	65	65	▼	-43
1.4 Economic Diversification		47	80	▼	-6
1.4.1 Concentration of exports	0.3	71	83	▼	-14
1.4.2 Diversity	131	23	81	▼	-6
1.5 Inequality		80	26	▲	16
1.5.1 Income inequality	31.8	80	26	▲	16
2. Policy Pillar		**79**	**20**	▼	-10
2.1 Education and skills		69	21	▼	-2
2.1.1 Education and skills input		71	27	▼	-4
2.1.1.1 Government education spendings (% of GDP)	3.7	31	95	▼	-54
2.1.1.2 Tertiary public education spendings (% of gov.exp)	19.6	38	81	▼	-10
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	11 519	56	14	▲	1
2.1.1.4 Years of schooling	11.5	80	33	▲	5
2.1.1.5 Staff training (1-7 survey)	5.0	76	15	▲	3
2.1.2 Education and skills output		72	21	▼	-2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	31.2	67	12	●	0
2.1.2.2 PISA score	505	71	9	▲	2
2.1.2.3 Skillset of graduates (1-7 survey)	5.1	77	12	▲	4
2.1.2.4 Skilled labour supply (1-7 survey)	5.0	81	11	●	0
2.1.2.5 Vocational enrollment (% of students)	4.9	11	99	▼	-46
2.1.2.6 Vocational enrollment of 15-24 olds (%)	6.7	23	59	▼	-4
2.1.2.7 Quality of vocational education (1-7 survey)	4.9	61	21	▲	2
2.1.2.8 STEM graduates (%)	25.2	44	40	▲	21
2.1.2.9 Digital skills (1-7 survey)	5.2	83	18	▲	4
2.1.2.10 Critical thinking (1-7 survey)	4.2	60	31	▼	-4
2.2 Employment		71	11	▼	-2
2.2.1 Employment input		57	31	▼	-16
2.2.1.1 Hiring and firing practices (1-7 survey)	3.9	50	55	▼	-17
2.2.1.2 Worker's rights (1-7 score)	91.8	82	13	●	0
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.6	67	28	▼	-3
2.2.1.4 Tax wedge (% of labour cost)	32.7	48	12	●	0
2.2.1.5 ALP spendings (% of GDP)	1.5	49	11	▼	-8
2.2.2 Employment output		77	7	▲	6
2.2.2.1 Women in labour force (% female-male)	80.9	73	61	●	0
2.2.2.2 Gender pay gap (% of employees)	5.9	85	12	▲	11
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.9	74	15	▲	6
2.2.2.4 Knowledge insentive employment (%)	40.3	65	23	▲	1

Variable	Value	Score	GLRI 2020 rank		Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	155 252	100	1	▲	9
2.2.2.6 ALP effectiveness (1-7 survey)	4.8	77	15	▲	2
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.2	66	20	▼	-8
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.2	26	119	▼	-33
2.2.2.9 Earnings quality (PPP)	17.6	54	17	▼	-1
2.2.2.10 Quality of the working environment (%)	23.9	71	11	▼	-2
2.3 Innovation		49	31	▼	-5
2.3.1 Innovation input		61	27	▼	-5
2.3.1.1 R&D spendings (% of GDP)	1.0	38	34	▼	-10
2.3.1.2 IPR score	7.7	83	18	▼	-1
2.3.2 Innovation output		38	39	▼	-5
2.3.2.1 Trademark applications per th. pop.	0.8	25	72	▲	4
2.3.2.2 Patent applications per th. pop.	0.06	19	59	▼	-8
2.3.2.3 R&D journals per th. pop.	1.41	71	16	▼	-2
2.3.2.4 Researchers in R&D per mln.pop.	4 108	53	23	▼	-13
2.3.2.5 Technicians in R&D per mln.pop.	1 145	49	17	▲	3
2.3.2.6 Creative goods exports (% of goods exp.)	0.55	23	40	▼	-4
2.4 Technology		72	24	▼	-16
2.4.1 Technology input		83	33	▼	-14
2.4.1.1 ICT affordability	5.2	71	75	▼	-14
2.4.1.2 ICT access index	8.0	88	18	●	0
2.4.2 Technology output		57	33	▼	-26
2.4.2.1 ICT goods and services export (% of exp.)	8.1	35	70	▼	-60
2.4.2.2 Mobile broadband per 100 pop.	98.2	61	21	▼	-3
2.5 Entrepreneurship		78	11	▼	-4
2.5.1 Entrepreneurship input		90	10	▼	-2
2.5.1.1 Time dealing with gov. regulations (%)	2.3	92	18	▲	2
2.5.1.2 Time to start a business (days)	11.0	79	63	▲	5
2.5.1.3 Procedures to register a business	3.0	84	7	▲	5
2.5.1.4 Cost to start a business (% GNI per cap)	0.2	97	4	●	0
2.5.2 Entrepreneurship output		68	20	▼	-4
2.5.2.1 Global Entrepreneurship Index	73.7	87	8	▲	8
2.5.2.2 New corporate registrations per th. pop.	4.3	59	21	▲	4
2.5.2.3 Venture capital investments (% of GDP)	0.04	42	14	▼	-10
2.5.2.4 SME outstanding loans (% of loans)	57.0	66	12	▲	-4
2.5.2.5 Access to loans (1-7 survey)	3.4	49	98	▲	27
2.6 Statistics		100	1	●	0
2.6.1 Statistical fullness (%)	1.00	100	1	●	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
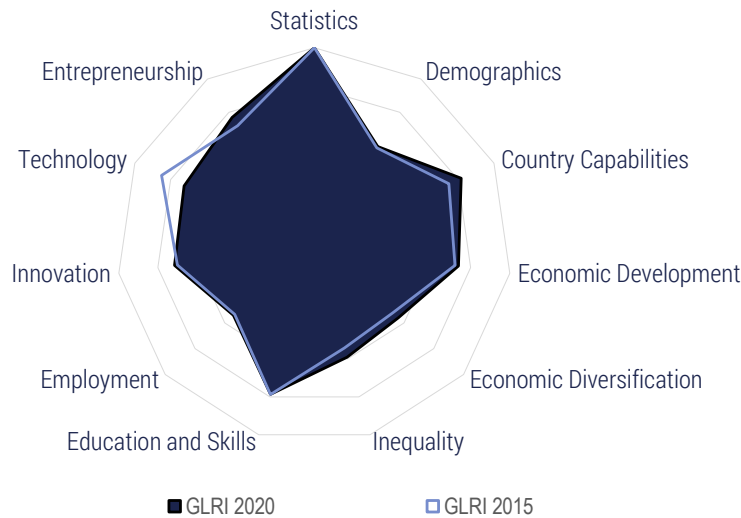
Statistics · Demographics · Country Capabilities · Economic Development · Economic Diversification · Inequality · Education and Skills · Employment · Innovation · Technology · Entrepreneurship

■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**84**	**26**	▲ 8
1.1 Demographics		59	97	▲ 1
1.1.1 Share of older population (% of total population)	12.0	59	97	▲ 1
1.2 Country Capabilities		82	12	▲ 5
1.2.1 Economic Complexity Index	1.5	82	12	▲ 5
1.3 Economic Development		74	18	▲ 2
1.3.1 Income per capita (PPP)	33 661	48	32	▼ -1
1.3.2 Dependence on natural resources (% of GDP)	0.1	96	22	▲ 2
1.3.3 Tertiarisation of economy (% of GDP)	69.4	85	12	▲ 5
1.4 Economic Diversification		56	59	▲ 9
1.4.1 Concentration of exports	0.2	77	65	▲ 13
1.4.2 Diversity	193	35	54	▲ 8
1.5 Inequality		59	80	▲ 10
1.5.1 Income inequality	38.9	59	80	▲ 10
2. Policy Pillar		**82**	**14**	▼ -1
2.1 Education and skills		79	14	● 0
2.1.1 Education and skills input		73	23	▼ -1
2.1.1.1 Government education spendings (% of GDP)	5.8	56	26	● 0
2.1.1.2 Tertiary public education spendings (% of gov.exp)	15.2	28	102	▲ 3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	9 101	44	24	▼ -7
2.1.1.4 Years of schooling	13.0	91	14	▼ -3
2.1.1.5 Staff training (1-7 survey)	4.8	70	22	▼ -1
2.1.2 Education and skills output		87	5	● 0
2.1.2.1 Tertiary attainment rate (% of pop 25+)	33.2	72	8	▼ -4
2.1.2.2 PISA score	465	56	35	▲ 1
2.1.2.3 Skillset of graduates (1-7 survey)	5.3	81	9	▲ 11
2.1.2.4 Skilled labour supply (1-7 survey)	5.5	92	2	▲ 2
2.1.2.5 Vocational enrollment (% of students)	19.7	42	37	▲ 3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	16.6	57	28	▲ 1
2.1.2.7 Quality of vocational education (1-7 survey)	4.6	54	35	● 0
2.1.2.8 STEM graduates (%)	45.6	84	4	● 0
2.1.2.9 Digital skills (1-7 survey)	5.6	93	8	● 0
2.1.2.10 Critical thinking (1-7 survey)	4.4	67	22	▼ -2
2.2 Employment		54	33	▲ 13
2.2.1 Employment input		50	57	▲ 18
2.2.1.1 Hiring and firing practices (1-7 survey)	4.4	64	23	▲ 26
2.2.1.2 Worker's rights (1-7 score)	82.5	63	31	▲ 19
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.4	32	122	▼ -2
2.2.1.4 Tax wedge (% of labour cost)	22.4	73	5	▼ -1
2.2.1.5 ALP spendings (% of GDP)	0.6	20	25	▼ -4
2.2.2 Employment output		58	23	▲ 5
2.2.2.1 Women in labour force (% female-male)	85.7	78	34	▲ 3
2.2.2.2 Gender pay gap (% of employees)	21.8	28	40	▼ -1
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.4	63	29	▲ 25
2.2.2.4 Knowledge insentive employment (%)	47.7	76	7	▲ 10

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	79 560	54	28	● 0
2.2.2.6 ALP effectiveness (1-7 survey)	4.4	69	31	▼ -1
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.1	64	25	▲ 30
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.5	59	25	▲ 38
2.2.2.9 Earnings quality (PPP)	8.5	19	26	● 0
2.2.2.10 Quality of the working environment (%)	25.1	67	12	▼ -4
2.3 Innovation		72	18	● 0
2.3.1 Innovation input		87	11	▼ -2
2.3.1.1 R&D spendings (% of GDP)	4.6	100	1	● 0
2.3.1.2 IPR score	7.1	74	24	▲ 3
2.3.2 Innovation output		56	27	● 0
2.3.2.1 Trademark applications per th. pop.	1.1	34	54	▼ -8
2.3.2.2 Patent applications per th. pop.	0.77	100	1	● 0
2.3.2.3 R&D journals per th. pop.	1.34	68	20	▼ -3
2.3.2.4 Researchers in R&D per mln.pop.	8 250	100	1	● 0
2.3.2.5 Technicians in R&D per mln.pop.	997	43	20	▼ -2
2.3.2.6 Creative goods exports (% of goods exp.)	0.25	12	52	▲ 4
2.4 Technology		72	25	▼ -19
2.4.1 Technology input		85	27	▼ -9
2.4.1.1 ICT affordability	5.5	76	66	▼ -21
2.4.1.2 ICT access index	7.9	86	20	▲ 3
2.4.2 Technology output		55	37	▼ -31
2.4.2.1 ICT goods and services export (% of exp.)	8.2	35	67	▼ -59
2.4.2.2 Mobile broadband per 100 pop.	93.4	58	24	▼ -8
2.5 Entrepreneurship		77	12	▲ 12
2.5.1 Entrepreneurship input		82	25	▼ -2
2.5.1.1 Time dealing with gov. regulations (%)	4.3	85	34	▲ 2
2.5.1.2 Time to start a business (days)	11.0	79	63	▼ -14
2.5.1.3 Procedures to register a business	4.0	76	18	▲ 1
2.5.1.4 Cost to start a business (% GNI per cap)	3.2	76	48	▼ -2
2.5.2 Entrepreneurship output		74	13	▲ 14
2.5.2.1 Global Entrepreneurship Index	65.4	76	15	▲ 6
2.5.2.2 New corporate registrations per th. pop.	2.0	28	40	▲ 1
2.5.2.3 Venture capital investments (% of GDP)	0.38	100	1	● 0
2.5.2.4 SME outstanding loans (% of loans)	61.3	71	10	▲ 7
2.5.2.5 Access to loans (1-7 survey)	4.8	79	18	▲ 47
2.6 Statistics		100	1	● 0
2.6.1 Statistical fullness (%)	1.00	100	1	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**87**	**20**	▲	1
1.1 Demographics		17	144	●	0
1.1.1 Share of older population (% of total population)	23.3	17	144	●	0
1.2 Country Capabilities		77	16	●	0
1.2.1 Economic Complexity Index	1.3	77	16	●	0
1.3 Economic Development		74	19	▽	-3
1.3.1 Income per capita (PPP)	35 739	51	30	▽	-3
1.3.2 Dependence on natural resources (% of GDP)	0.1	98	15	▲	3
1.3.3 Tertiarisation of economy (% of GDP)	66.1	80	21	▽	-1
1.4 Economic Diversification		100	1	●	0
1.4.1 Concentration of exports	0.1	100	1	●	0
1.4.2 Diversity	536	100	1	●	0
1.5 Inequality		69	55	▽	-5
1.5.1 Income inequality	35.4	69	55	▽	-5
2. Policy Pillar		**62**	**35**	▽	-1
2.1 Education and skills		55	42	▽	-8
2.1.1 Education and skills input		49	76	▽	-21
2.1.1.1 Government education spendings (% of GDP)	3.8	33	90	▽	-13
2.1.1.2 Tertiary public education spendings (% of gov.exp)	19.1	37	82	▽	-1
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	10 683	52	16	●	0
2.1.1.4 Years of schooling	10.2	69	62	▽	-2
2.1.1.5 Staff training (1-7 survey)	3.6	33	101	▽	-18
2.1.2 Education and skills output		67	26	▽	-4
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	477	60	32	▽	-4
2.1.2.3 Skillset of graduates (1-7 survey)	4.1	52	59	▽	-7
2.1.2.4 Skilled labour supply (1-7 survey)	4.5	66	46	▽	-12
2.1.2.5 Vocational enrollment (% of students)	34.0	73	16	▽	-1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	21.8	74	14	▽	-4
2.1.2.7 Quality of vocational education (1-7 survey)	4.4	51	42	▽	-6
2.1.2.8 STEM graduates (%)	23.3	40	50	▽	-7
2.1.2.9 Digital skills (1-7 survey)	4.3	58	62	▽	-1
2.1.2.10 Critical thinking (1-7 survey)	3.6	46	55	▽	-7
2.2 Employment		46	54	▲	17
2.2.1 Employment input		45	83	▲	9
2.2.1.1 Hiring and firing practices (1-7 survey)	3.0	24	114	▲	10
2.2.1.2 Worker's rights (1-7 score)	97.9	96	6	▲	3
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.3	58	51	▽	-5
2.2.1.4 Tax wedge (% of labour cost)	47.9	12	34	▽	-3
2.2.1.5 ALP spendings (% of GDP)	1.8	57	8	▲	3
2.2.2 Employment output		49	34	▲	10
2.2.2.1 Women in labour force (% female-male)	68.5	57	99	▽	-1
2.2.2.2 Gender pay gap (% of employees)	5.6	86	10	▲	10
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.7	29	111	▲	8
2.2.2.4 Knowledge insentive employment (%)	35.6	57	34	▽	-11

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	95 991	66	17	▽	-4
2.2.2.6 ALP effectiveness (1-7 survey)	2.8	31	95	▽	-11
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.9	22	118	▲	15
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.8	17	134	▲	10
2.2.2.9 Earnings quality (PPP)	18.0	56	15	●	0
2.2.2.10 Quality of the working environment (%)	29.6	54	24	▲	5
2.3 Innovation		59	26	▽	-1
2.3.1 Innovation input		52	33	▽	-2
2.3.1.1 R&D spendings (% of GDP)	1.4	49	24	▲	3
2.3.1.2 IPR score	6.0	55	48	▽	-5
2.3.2 Innovation output		66	19	▲	2
2.3.2.1 Trademark applications per th. pop.	0.7	23	79	▽	-1
2.3.2.2 Patent applications per th. pop.	0.16	53	27	▲	1
2.3.2.3 R&D journals per th. pop.	1.14	58	24	▲	2
2.3.2.4 Researchers in R&D per mln.pop.	2 295	30	36	▽	-2
2.3.2.5 Technicians in R&D per mln.pop.	818	36	22	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	11.04	100	1	●	0
2.4 Technology		67	36	▽	-9
2.4.1 Technology input		81	37	▽	-15
2.4.1.1 ICT affordability	5.7	80	50	●	0
2.4.1.2 ICT access index	7.0	75	41	▽	-14
2.4.2 Technology output		49	52	▽	-10
2.4.2.1 ICT goods and services export (% of exp.)	6.4	30	82	▽	-23
2.4.2.2 Mobile broadband per 100 pop.	86.7	54	34	▽	-7
2.5 Entrepreneurship		43	104	▲	2
2.5.1 Entrepreneurship input		63	89	●	0
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	11.0	79	63	▽	-8
2.5.1.3 Procedures to register a business	7.0	53	70	▲	5
2.5.1.4 Cost to start a business (% GNI per cap)	13.7	55	88	▽	-1
2.5.2 Entrepreneurship output		29	119	▽	-6
2.5.2.1 Global Entrepreneurship Index	41.4	44	39	▲	7
2.5.2.2 New corporate registrations per th. pop.	1.7	24	43	▲	4
2.5.2.3 Venture capital investments (% of GDP)	0.01	7	29	▲	2
2.5.2.4 SME outstanding loans (% of loans)	17.7	21	39	▽	-2
2.5.2.5 Access to loans (1-7 survey)	3.0	39	121	▲	21
2.6 Statistics		93	22	●	0
2.6.1 Statistical fullness (%)	0.97	93	22	●	0

WHITESHIELD PARTNERS
Strategy & Public Policy Advisory

Jamaica

Global Labour Resilience Index 2020

88

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- ■ GLRI 2020
- □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**39**	**120**	▼	-1
1.1 Demographics		67	87	▲	2
1.1.1 Share of older population (% of total population)	9.9	67	87	▲	2
1.2 Country Capabilities		42	79	▲	7
1.2.1 Economic Complexity Index	-0.3	42	79	▲	7
1.3 Economic Development		47	66	▼	-18
1.3.1 Income per capita (PPP)	8 266	12	93	▼	-1
1.3.2 Dependence on natural resources (% of GDP)	1.2	79	55	▼	-11
1.3.3 Tertiarisation of economy (% of GDP)	59.2	70	48	▼	-19
1.4 Economic Diversification		30	114	▼	-8
1.4.1 Concentration of exports	0.5	41	126	▼	-16
1.4.2 Diversity	115	20	87	▲	8
1.5 Inequality		40	111	▼	-1
1.5.1 Income inequality	45.5	40	111	▼	-1
2. Policy Pillar		**46**	**70**	▲	8
2.1 Education and skills		47	64	▲	2
2.1.1 Education and skills input		54	54	●	0
2.1.1.1 Government education spendings (% of GDP)	5.4	51	35	▼	-14
2.1.1.2 Tertiary public education spendings (% of gov.exp)	19.6	38	80	▲	15
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	6 858	34	34	▼	-4
2.1.1.4 Years of schooling	9.0	60	77	▼	-7
2.1.1.5 Staff training (1-7 survey)	4.3	55	40	▲	6
2.1.2 Education and skills output		46	81	▲	10
2.1.2.1 Tertiary attainment rate (% of pop 25+)	6.8	15	79	▼	-6
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	4.5	60	41	▲	3
2.1.2.4 Skilled labour supply (1-7 survey)	4.5	66	48	▼	-2
2.1.2.5 Vocational enrollment (% of students)	0.2	1	137	●	0
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.1	1	118	▼	-1
2.1.2.7 Quality of vocational education (1-7 survey)	4.7	57	28	●	0
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	3.9	48	77	▲	22
2.1.2.10 Critical thinking (1-7 survey)	3.7	47	49	▲	13
2.2 Employment		54	35	▲	17
2.2.1 Employment input		69	15	▲	4
2.2.1.1 Hiring and firing practices (1-7 survey)	4.0	51	52	▼	-25
2.2.1.2 Worker's rights (1-7 score)	84.5	67	28	▲	20
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.7	68	25	▲	7
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		38	74	▲	23
2.2.2.1 Women in labour force (% female-male)	81.8	74	56	▲	7
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.2	39	83	▲	13
2.2.2.4 Knowledge insentive employment (%)	20.1	32	75	▼	-1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	17 762	12	100	▼	-7
2.2.2.6 ALP effectiveness (1-7 survey)	3.1	37	74	▲	15
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.4	42	57	▲	34
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.2	50	53	▲	61
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		19	89	▲	8
2.3.1 Innovation input		29	76	▲	14
2.3.1.1 R&D spendings (% of GDP)	0.1	3	118	●	0
2.3.1.2 IPR score	6.0	55	49	▲	11
2.3.2 Innovation output		8	98	▼	-1
2.3.2.1 Trademark applications per th. pop.	0.9	28	63	▲	11
2.3.2.2 Patent applications per th. pop.	0.02	9	88	▼	-16
2.3.2.3 R&D journals per th. pop.	0.05	3	86	▼	-7
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	111	▼	-4
2.4 Technology		46	100	▲	13
2.4.1 Technology input		63	79	▲	10
2.4.1.1 ICT affordability	5.4	74	67	▲	21
2.4.1.2 ICT access index	4.8	47	84	▼	-1
2.4.2 Technology output		29	111	▲	24
2.4.2.1 ICT goods and services export (% of exp.)	2.4	18	123	●	0
2.4.2.2 Mobile broadband per 100 pop.	56.2	35	72	▲	39
2.5 Entrepreneurship		61	41	▲	26
2.5.1 Entrepreneurship input		91	9	▲	1
2.5.1.1 Time dealing with gov. regulations (%)	1.7	94	12	▲	1
2.5.1.2 Time to start a business (days)	3.0	95	6	▲	6
2.5.1.3 Procedures to register a business	2.0	92	3	▲	16
2.5.1.4 Cost to start a business (% GNI per cap)	4.8	70	54	▼	-5
2.5.2 Entrepreneurship output		35	99	▲	29
2.5.2.1 Global Entrepreneurship Index	22.2	19	83	▲	12
2.5.2.2 New corporate registrations per th. pop.	0.9	13	65	▲	3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.5	49	95	▲	31
2.6 Statistics		62	79	●	0
2.6.1 Statistical fullness (%)	0.81	62	79	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

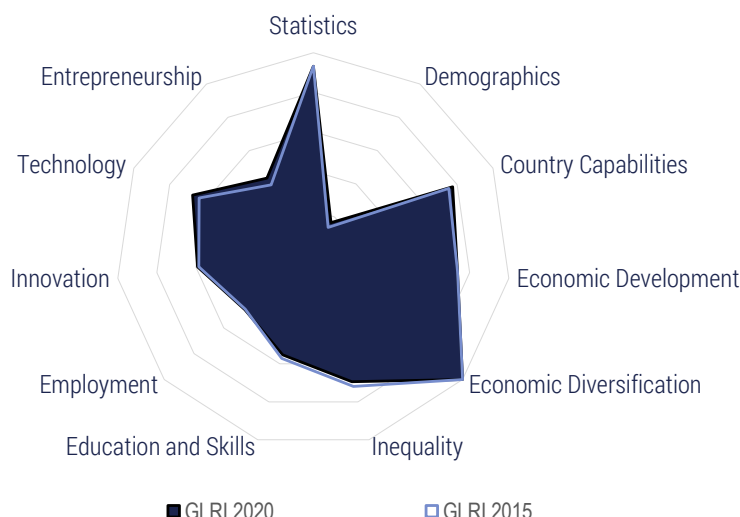## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**85**	**23**	▽	-4
1.1 Demographics			1	145	●	0
1.1.1 Share of older population (% of total population)	27.5	1	145	●	0
1.2 Country Capabilities			100	1	●	0
1.2.1 Economic Complexity Index	2.3	100	1	●	0
1.3 Economic Development			78	11	▽	-4
1.3.1 Income per capita (PPP)	39 294	57	25	▲	1
1.3.2 Dependence on natural resources (% of GDP)	0.0	99	10	▽	-2
1.3.3 Tertiarisation of economy (% of GDP)	69.1	85	14	▽	-7
1.4 Economic Diversification			76	23	▽	-6
1.4.1 Concentration of exports	0.1	89	35	▽	-7
1.4.2 Diversity	342	64	19	▽	-4
1.5 Inequality			79	30	△	1
1.5.1 Income inequality	32.1	79	30	▲	1
2. Policy Pillar		**78**	**21**	▽	-1
2.1 Education and skills			69	22	▽	-1
2.1.1 Education and skills input			78	18	▽	-4
2.1.1.1 Government education spendings (% of GDP)	3.6	30	98	▽	-6
2.1.1.2 Tertiary public education spendings (% of gov.exp)	20.8	40	72	▲	8
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	15 701	76	8	▽	-1
2.1.1.4 Years of schooling	12.3	86	25	▽	-6
2.1.1.5 Staff training (1-7 survey)	5.2	80	12	▲	1
2.1.2 Education and skills output			64	32	●	0
2.1.2.1 Tertiary attainment rate (% of pop 25+)	19.9	43	38	▽	-6
2.1.2.2 PISA score	520	77	4	▽	-1
2.1.2.3 Skillset of graduates (1-7 survey)	4.5	61	39	▲	3
2.1.2.4 Skilled labour supply (1-7 survey)	4.6	69	41	▲	1
2.1.2.5 Vocational enrollment (% of students)	11.5	25	65	▲	1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	5.0	65	15	▲	3
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	4.6	66	47	▲	2
2.1.2.10 Critical thinking (1-7 survey)	3.3	39	68	▲	39
2.2 Employment			44	68	▲	6
2.2.1 Employment input			40	100	▲	19
2.2.1.1 Hiring and firing practices (1-7 survey)	3.5	38	89	▲	27
2.2.1.2 Worker's rights (1-7 score)	89.7	78	18	▲	2
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.0	50	76	▲	27
2.2.1.4 Tax wedge (% of labour cost)	32.6	49	11	●	0
2.2.1.5 ALP spendings (% of GDP)	0.3	10	32	▽	-1
2.2.2 Employment output			51	33	▽	-6
2.2.2.1 Women in labour force (% female-male)	72.7	63	88	▲	9
2.2.2.2 Gender pay gap (% of employees)	24.5	18	41	●	0
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.6	47	54	▽	-11
2.2.2.4 Knowledge insentive employment (%)	24.4	39	59	▽	-32

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	76 419	52	29	●	0
2.2.2.6 ALP effectiveness (1-7 survey)	4.7	75	22	▲	4
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.7	86	5	▲	3
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.3	54	36	▲	37
2.2.2.9 Earnings quality (PPP)	16.1	49	21	●	0
2.2.2.10 Quality of the working environment (%)	312	50	30	▽	-9
2.3 Innovation			82	8	▲	3
2.3.1 Innovation input			96	4	▲	2
2.3.1.1 R&D spendings (% of GDP)	3.2	100	1	●	0
2.3.1.2 IPR score	8.2	92	11	▲	3
2.3.2 Innovation output			68	17	▲	2
2.3.2.1 Trademark applications per th. pop.	1.5	48	36	▲	22
2.3.2.2 Patent applications per th. pop.	2.52	100	1	●	0
2.3.2.3 R&D journals per th. pop.	0.76	39	34	▽	-4
2.3.2.4 Researchers in R&D per mln.pop.	5 305	68	9	●	0
2.3.2.5 Technicians in R&D per mln.pop.	521	23	31	▲	1
2.3.2.6 Creative goods exports (% of goods exp.)	2.74	67	19	▽	-1
2.4 Technology			98	3	△	2
2.4.1 Technology input			91	12	▲	13
2.4.1.1 ICT affordability	5.8	81	47	▲	46
2.4.1.2 ICT access index	8.4	93	9	●	0
2.4.2 Technology output			94	3	●	0
2.4.2.1 ICT goods and services export (% of exp.)	20.2	70	20	▲	3
2.4.2.2 Mobile broadband per 100 pop.	131.9	82	5	▽	-3
2.5 Entrepreneurship			55	61	▽	-15
2.5.1 Entrepreneurship input			63	88	▽	-15
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	11.1	79	69	▽	-21
2.5.1.3 Procedures to register a business	8.0	45	92	▽	-17
2.5.1.4 Cost to start a business (% GNI per cap)	7.5	64	70	▽	-2
2.5.2 Entrepreneurship output			52	46	▽	-4
2.5.2.1 Global Entrepreneurship Index	51.5	57	26	▲	6
2.5.2.2 New corporate registrations per th. pop.	0.1	2	99	▲	1
2.5.2.3 Venture capital investments (% of GDP)	0.03	29	19	▽	-9
2.5.2.4 SME outstanding loans (% of loans)	66.3	77	8	▲	1
2.5.2.5 Access to loans (1-7 survey)	5.2	89	7	▲	24
2.6 Statistics			90	26	●	0
2.6.1 Statistical fullness (%)	0.95	90	26	●	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
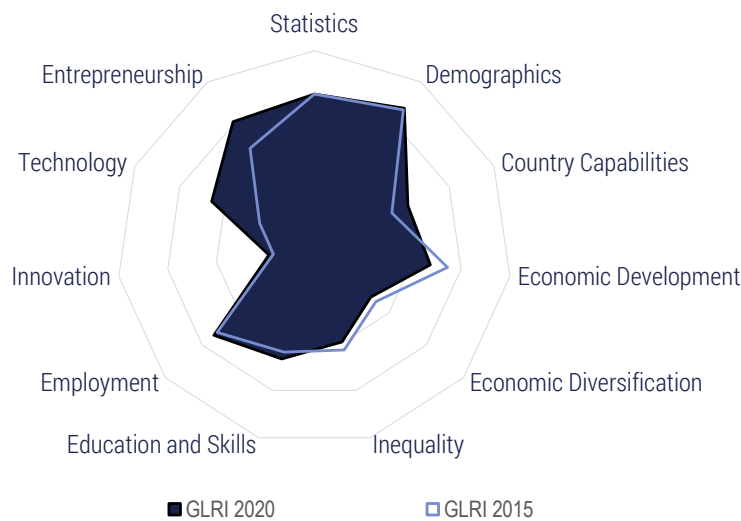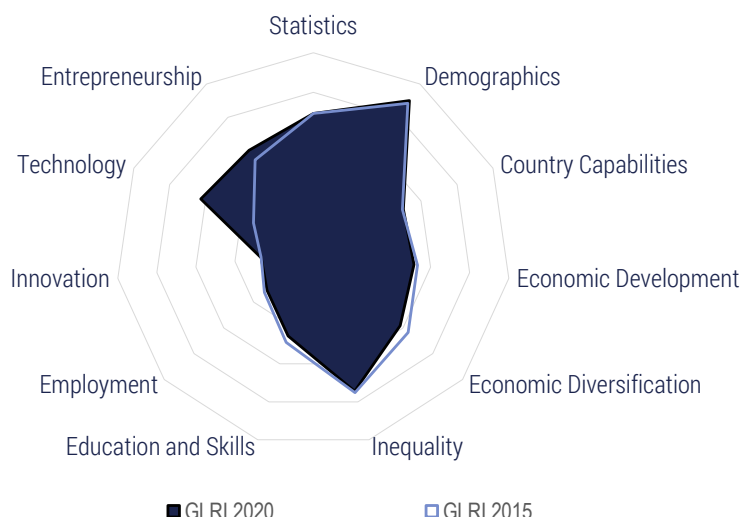

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**81**	**30**	▽	-5
1.1 Demographics		90	37	△	1
1.1.1 Share of older population (% of total population)	3.8	90	37	△	1
1.2 Country Capabilities		50	60	▽	-4
1.2.1 Economic Complexity Index	0.1	50	60	▽	-4
1.3 Economic Development		51	53	▽	-3
1.3.1 Income per capita (PPP)	8 309	12	92	▽	-3
1.3.2 Dependence on natural resources (% of GDP)	0.7	85	40	△	3
1.3.3 Tertiarisation of economy (% of GDP)	61.8	74	34	●	0
1.4 Economic Diversification		58	54	▽	-9
1.4.1 Concentration of exports	0.2	84	44	▽	-4
1.4.2 Diversity	177	32	59	▽	-11
1.5 Inequality		74	44	▽	-1
1.5.1 Income inequality	33.7	74	44	▽	-1
2. Policy Pillar		**47**	**65**	△	3
2.1 Education and skills		45	72	▽	-21
2.1.1 Education and skills input		45	85	▽	-32
2.1.1.1 Government education spendings (% of GDP)	3.6	30	97	▽	-43
2.1.1.2 Tertiary public education spendings (% of gov.exp)	9.3	15	131	▽	-41
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	9.8	66	67	▽	-6
2.1.1.5 Staff training (1-7 survey)	4.1	49	58	▽	-4
2.1.2 Education and skills output		52	63	▽	-4
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	416	37	54	△	7
2.1.2.3 Skillset of graduates (1-7 survey)	3.9	46	75	▽	-42
2.1.2.4 Skilled labour supply (1-7 survey)	4.5	66	45	▽	-7
2.1.2.5 Vocational enrollment (% of students)	2.9	7	108	▽	-4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	1.2	5	97	▽	-11
2.1.2.7 Quality of vocational education (1-7 survey)	4.1	42	67	▽	-15
2.1.2.8 STEM graduates (%)	26.4	46	32	△	6
2.1.2.9 Digital skills (1-7 survey)	4.7	70	38	▽	-1
2.1.2.10 Critical thinking (1-7 survey)	3.7	47	48	▽	-5
2.2 Employment		31	108	△	5
2.2.1 Employment input		47	74	△	11
2.2.1.1 Hiring and firing practices (1-7 survey)	4.2	57	39	△	23
2.2.1.2 Worker's rights (1-7 score)	74.2	45	51	△	14
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.5	34	115	▽	-9
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		23	128	▽	-6
2.2.2.1 Women in labour force (% female-male)	22.1	1	143	▽	-1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.3	41	77	▽	-21
2.2.2.4 Knowledge insentive employment (%)	28.2	45	48	●	0

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	38 645	26	66	▽	-2
2.2.2.6 ALP effectiveness (1-7 survey)	3.1	38	70	▽	-7
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.7	52	38	△	6
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.6	35	98	▽	-5
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		27	67	▽	-5
2.3.1 Innovation input		42	42	△	14
2.3.1.1 R&D spendings (% of GDP)	0.7	26	48	△	19
2.3.1.2 IPR score	6.2	58	40	△	4
2.3.2 Innovation output		11	88	▽	-15
2.3.2.1 Trademark applications per th. pop.	0.8	25	73	▽	-1
2.3.2.2 Patent applications per th. pop.	0.02	8	93	▽	-26
2.3.2.3 R&D journals per th. pop.	0.17	9	61	▽	-1
2.3.2.4 Researchers in R&D per mln.pop.	601	8	64	▽	-27
2.3.2.5 Technicians in R&D per mln.pop.	110	6	60	▽	-33
2.3.2.6 Creative goods exports (% of goods exp.)	0.09	5	67	△	10
2.4 Technology		63	50	△	43
2.4.1 Technology input		64	78	▽	-21
2.4.1.1 ICT affordability	4.6	61	93	▽	-67
2.4.1.2 ICT access index	6.0	62	63	△	9
2.4.2 Technology output		59	32	△	98
2.4.2.1 ICT goods and services export (% of exp.)	4.6	24	96	△	34
2.4.2.2 Mobile broadband per 100 pop.	118.8	74	12	△	66
2.5 Entrepreneurship		60	43	△	6
2.5.1 Entrepreneurship input		70	65	▽	-9
2.5.1.1 Time dealing with gov. regulations (%)	5.3	82	44	●	0
2.5.1.2 Time to start a business (days)	12.5	76	75	▽	-20
2.5.1.3 Procedures to register a business	7.0	53	70	▽	-15
2.5.1.4 Cost to start a business (% GNI per cap)	24.2	46	107	▽	-3
2.5.2 Entrepreneurship output		54	40	△	20
2.5.2.1 Global Entrepreneurship Index	36.5	37	46	△	16
2.5.2.2 New corporate registrations per th. pop.	0.3	6	83	▽	-5
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.7	77	26	△	6
2.6 Statistics		69	59	●	0
2.6.1 Statistical fullness (%)	0.85	69	59	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
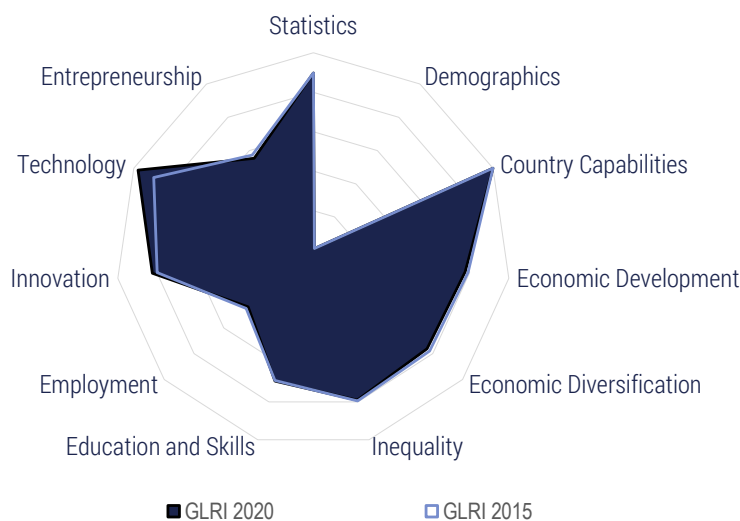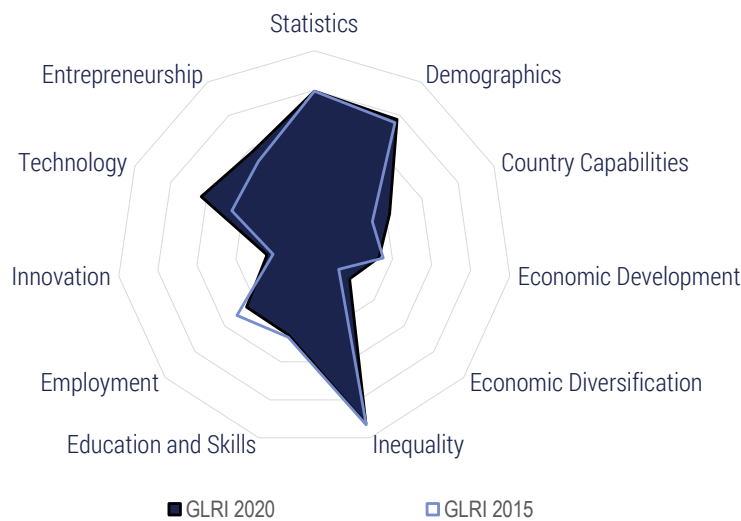

■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**57**	**77**	▲	9
1.1 Demographics		77	74	▲	4
1.1.1 Share of older population (% of total population)	7.2	77	74	▲	4
1.2 Country Capabilities		42	78	▲	12
1.2.1 Economic Complexity Index	-0.3	42	78	▲	12
1.3 Economic Development		33	96	△	1
1.3.1 Income per capita (PPP)	24 738	36	49	▼	-2
1.3.2 Dependence on natural resources (% of GDP)	16.2	24	124	▲	2
1.3.3 Tertiarisation of economy (% of GDP)	54.5	63	73	▲	1
1.4 Economic Diversification		24	128	▲	4
1.4.1 Concentration of exports	0.6	27	133	●	0
1.4.2 Diversity	116	20	86	▲	27
1.5 Inequality		93	9	▼	-2
1.5.1 Income inequality	27.5	93	9	▼	-2
2. Policy Pillar		**52**	**51**	▲	2
2.1 Education and skills		46	68	▼	-13
2.1.1 Education and skills input		44	90	▼	-13
2.1.1.1 Government education spendings (% of GDP)	2.8	21	117	▼	-8
2.1.1.2 Tertiary public education spendings (% of gov.exp)	10.6	18	123	▼	-4
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	3 955	20	54	▲	1
2.1.1.4 Years of schooling	11.0	76	47	▼	-6
2.1.1.5 Staff training (1-7 survey)	3.8	40	73	▼	-7
2.1.2 Education and skills output		55	56	▼	-10
2.1.2.1 Tertiary attainment rate (% of pop 25+)	22.8	50	28	▼	-5
2.1.2.2 PISA score	402	31	60	▼	-7
2.1.2.3 Skillset of graduates (1-7 survey)	3.7	41	92	▼	-4
2.1.2.4 Skilled labour supply (1-7 survey)	3.9	50	84	▼	-13
2.1.2.5 Vocational enrollment (% of students)	10.8	24	67	▲	4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	14.9	51	32	▲	5
2.1.2.7 Quality of vocational education (1-7 survey)	3.7	35	90	▲	14
2.1.2.8 STEM graduates (%)	24.8	43	42	▼	-13
2.1.2.9 Digital skills (1-7 survey)	4.6	68	45	▼	-3
2.1.2.10 Critical thinking (1-7 survey)	3.7	48	44	▲	1
2.2 Employment		45	56	▼	-1
2.2.1 Employment input		42	91	▼	-14
2.2.1.1 Hiring and firing practices (1-7 survey)	4.0	51	53	▼	-33
2.2.1.2 Worker's rights (1-7 score)	61.9	19	95	▲	14
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.2	56	54	▲	8
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		51	31	▼	-1
2.2.2.1 Women in labour force (% female-male)	84.5	77	45	▼	-11
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.4	42	71	▼	-10
2.2.2.4 Knowledge insentive employment (%)	32.3	52	39	▲	8

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	50 619	35	53	▲	1
2.2.2.6 ALP effectiveness (1-7 survey)	4.0	59	41	▼	-1
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.4	39	66	▼	-29
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.0	46	62	▼	-7
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		24	72	▲	9
2.3.1 Innovation input		21	105	▲	2
2.3.1.1 R&D spendings (% of GDP)	0.1	5	103	▼	-9
2.3.1.2 IPR score	4.8	36	85	▲	11
2.3.2 Innovation output		28	53	▲	8
2.3.2.1 Trademark applications per th. pop.	0.5	17	87	▼	-4
2.3.2.2 Patent applications per th. pop.	0.07	23	52	▼	-15
2.3.2.3 R&D journals per th. pop.	0.09	5	77	▲	5
2.3.2.4 Researchers in R&D per mln.pop.	662	9	62	▼	-8
2.3.2.5 Technicians in R&D per mln.pop.	123	6	58	▼	-7
2.3.2.6 Creative goods exports (% of goods exp.)	1.58	48	30	▲	7
2.4 Technology		63	49	△	12
2.4.1 Technology input		87	20	▲	21
2.4.1.1 ICT affordability	6.6	95	7	▲	28
2.4.1.2 ICT access index	6.8	72	45	▲	10
2.4.2 Technology output		35	99	▼	-13
2.4.2.1 ICT goods and services export (% of exp.)	2.6	19	121	●	0
2.4.2.2 Mobile broadband per 100 pop.	71.0	44	49	▼	-14
2.5 Entrepreneurship		58	53	▲	1
2.5.1 Entrepreneurship input		83	18	▲	11
2.5.1.1 Time dealing with gov. regulations (%)	5.5	81	47	▼	-2
2.5.1.2 Time to start a business (days)	5.0	91	21	▲	55
2.5.1.3 Procedures to register a business	5.0	68	38	▲	17
2.5.1.4 Cost to start a business (% GNI per cap)	0.3	96	7	●	0
2.5.2 Entrepreneurship output		36	88	▲	2
2.5.2.1 Global Entrepreneurship Index	29.7	28	60	▲	25
2.5.2.2 New corporate registrations per th. pop.	1.4	21	48	▼	-2
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	32.6	38	27	▲	12
2.5.2.5 Access to loans (1-7 survey)	3.4	49	97	▼	-37
2.6 Statistics		80	37	●	0
2.6.1 Statistical fullness (%)	0.90	80	37	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Kenya
Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		59	70	▲ 7
1.1 Demographics		94	15	▼ -3
1.1.1 Share of older population (% of total population)	2.7	94	15	▼ -3
1.2 Country Capabilities		37	87	▼ -4
1.2.1 Economic Complexity Index	-0.5	37	87	▼ -4
1.3 Economic Development		31	104	▼ -8
1.3.1 Income per capita (PPP)	3 077	4	122	▲ 2
1.3.2 Dependence on natural resources (% of GDP)	2.5	67	76	▼ -5
1.3.3 Tertiarisation of economy (% of GDP)	42.7	45	122	▼ -22
1.4 Economic Diversification		57	57	▼ -3
1.4.1 Concentration of exports	0.2	76	71	▼ -9
1.4.2 Diversity	204	37	48	▼ -2
1.5 Inequality		53	90	▲ 23
1.5.1 Income inequality	40.8	53	90	▲ 23
2. Policy Pillar		39	83	▼ -3
2.1 Education and skills		45	74	▼ -14
2.1.1 Education and skills input		41	97	● 0
2.1.1.1 Government education spendings (% of GDP)	5.2	49	40	● 0
2.1.1.2 Tertiary public education spendings (% of gov.exp)	13.1	23	117	▼ -4
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	5.8	35	108	▼ -3
2.1.1.5 Staff training (1-7 survey)	4.3	54	44	▼ -2
2.1.2 Education and skills output		55	53	▼ -10
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a	
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	4.2	53	55	▼ -7
2.1.2.4 Skilled labour supply (1-7 survey)	4.9	77	19	▲ 6
2.1.2.5 Vocational enrollment (% of students)	0.5	2	131	▲ 4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a	
2.1.2.7 Quality of vocational education (1-7 survey)	4.2	45	55	▲ 8
2.1.2.8 STEM graduates (%)	16.5	27	90	▼ -76
2.1.2.9 Digital skills (1-7 survey)	4.7	68	41	▲ 4
2.1.2.10 Critical thinking (1-7 survey)	3.7	48	46	▲ 3
2.2 Employment		45	57	▼ -24
2.2.1 Employment input		48	68	▼ -46
2.2.1.1 Hiring and firing practices (1-7 survey)	4.4	62	29	▼ -17
2.2.1.2 Worker's rights (1-7 score)	64.9	25	89	▼ -51
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.1	52	69	▲ 3
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		45	48	▲ 11
2.2.2.1 Women in labour force (% female-male)	92.0	86	12	▲ 7
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.0	55	38	▲ 4
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a	

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	8 562	6	121	● 0
2.2.2.6 ALP effectiveness (1-7 survey)	3.1	39	69	▲ 4
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	39	71	● 0
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.9	43	74	▲ 13
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		20	85	▲ 3
2.3.1 Innovation input		34	61	▲ 8
2.3.1.1 R&D spendings (% of GDP)	0.8	29	44	▼ -2
2.3.1.2 IPR score	5.0	38	80	▲ 10
2.3.2 Innovation output		6	107	● 0
2.3.2.1 Trademark applications per th. pop.	0.1	5	117	▼ -1
2.3.2.2 Patent applications per th. pop.	0.00	2	107	▼ -2
2.3.2.3 R&D journals per th. pop.	0.02	2	104	▼ -3
2.3.2.4 Researchers in R&D per mln.pop.	225	4	78	▼ -5
2.3.2.5 Technicians in R&D per mln.pop.	638	28	27	▲ 2
2.3.2.6 Creative goods exports (% of goods exp.)	0.01	2	92	▲ 3
2.4 Technology		41	105	▲ 16
2.4.1 Technology input		40	116	▼ -3
2.4.1.1 ICT affordability	4.3	56	101	▲ 5
2.4.1.2 ICT access index	2.9	22	115	▼ -7
2.4.2 Technology output		44	70	▲ 34
2.4.2.1 ICT goods and services export (% of exp.)	16.5	59	29	▲ 48
2.4.2.2 Mobile broadband per 100 pop.	26.2	17	111	▼ -3
2.5 Entrepreneurship		47	86	▲ 4
2.5.1 Entrepreneurship input		60	91	▲ 15
2.5.1.1 Time dealing with gov. regulations (%)	8.6	70	63	▼ -3
2.5.1.2 Time to start a business (days)	23.0	55	109	▲ 4
2.5.1.3 Procedures to register a business	7.0	53	70	▲ 59
2.5.1.4 Cost to start a business (% GNI per cap)	26.3	44	109	▲ 1
2.5.2 Entrepreneurship output		39	83	▼ -13
2.5.2.1 Global Entrepreneurship Index	18.4	13	100	▼ -16
2.5.2.2 New corporate registrations per th. pop.	0.3	6	82	▼ -1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	4.0	62	58	▼ -16
2.6 Statistics		59	95	● 0
2.6.1 Statistical fullness (%)	0.80	59	95	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Korea, Rep.

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**92**	**13**	▼	-3
1.1 Demographics		50	103	▼	-3
1.1.1 Share of older population (% of total population)	14.4	50	103	▼	-3
1.2 Country Capabilities		90	4	▲	2
1.2.1 Economic Complexity Index	1.9	90	4	▲	2
1.3 Economic Development		67	26	▲	3
1.3.1 Income per capita (PPP)	36 777	53	28	▲	1
1.3.2 Dependence on natural resources (% of GDP)	0.0	99	11	●	0
1.3.3 Tertiarisation of economy (% of GDP)	53.6	61	80	▼	-10
1.4 Economic Diversification		62	44	▼	-9
1.4.1 Concentration of exports	0.2	81	52	▼	-17
1.4.2 Diversity	234	43	38	▼	-3
1.5 Inequality		81	24	▲	3
1.5.1 Income inequality	31.6	81	24	▲	3
2. Policy Pillar		**81**	**15**	▲	6
2.1 Education and skills		60	33	▲	4
2.1.1 Education and skills input		60	41	▲	11
2.1.1.1 Government education spendings (% of GDP)	3.5	28	100	▼	-3
2.1.1.2 Tertiary public education spendings (% of gov.exp)	13.5	24	115	▲	3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	6 592	32	37	▲	24
2.1.1.4 Years of schooling	12.1	84	27	●	0
2.1.1.5 Staff training (1-7 survey)	4.5	60	34	▲	5
2.1.2 Education and skills output		66	28	▼	-2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	28.7	62	15	▲	4
2.1.2.2 PISA score	520	77	5	▼	-3
2.1.2.3 Skillset of graduates (1-7 survey)	4.4	59	42	▼	-3
2.1.2.4 Skilled labour supply (1-7 survey)	4.8	74	25	▲	5
2.1.2.5 Vocational enrollment (% of students)	9.6	21	74	▲	4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	14.5	50	34	▼	-3
2.1.2.7 Quality of vocational education (1-7 survey)	4.6	56	31	▲	15
2.1.2.8 STEM graduates (%)	29.3	52	20	▼	-9
2.1.2.9 Digital skills (1-7 survey)	5.0	77	27	▼	-3
2.1.2.10 Critical thinking (1-7 survey)	3.1	33	88	▲	14
2.2 Employment		34	98	▲	5
2.2.1 Employment input		40	99	▲	8
2.2.1.1 Hiring and firing practices (1-7 survey)	3.7	42	80	▲	11
2.2.1.2 Worker's rights (1-7 score)	58.8	12	106	▲	3
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.7	42	102	▲	12
2.2.1.4 Tax wedge (% of labour cost)	23.0	72	6	▼	-1
2.2.1.5 ALP spendings (% of GDP)	0.6	21	23	▲	2
2.2.2 Employment output		34	87	▼	-11
2.2.2.1 Women in labour force (% female-male)	72.0	62	91	▲	4
2.2.2.2 Gender pay gap (% of employees)	34.6	1	43	●	0
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.2	59	35	▼	-6
2.2.2.4 Knowledge insentive employment (%)	21.6	34	69	▼	-7

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	70 802	48	32	▲	3
2.2.2.6 ALP effectiveness (1-7 survey)	4.5	70	29	▲	6
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.6	14	129	●	0
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.0	47	60	▲	46
2.2.2.9 Earnings quality (PPP)	9.6	23	24	●	0
2.2.2.10 Quality of the working environment (%)	38.7	28	37	▼	-3
2.3 Innovation		82	9	▲	8
2.3.1 Innovation input		82	15	▲	10
2.3.1.1 R&D spendings (% of GDP)	4.6	100	1	●	0
2.3.1.2 IPR score	6.4	63	33	▲	80
2.3.2 Innovation output		83	7	▲	1
2.3.2.1 Trademark applications per th. pop.	3.5	100	1	▲	9
2.3.2.2 Patent applications per th. pop.	3.97	100	1	●	0
2.3.2.3 R&D journals per th. pop.	1.22	62	23	▲	1
2.3.2.4 Researchers in R&D per mln.pop.	7 514	96	4	▲	2
2.3.2.5 Technicians in R&D per mln.pop.	1 254	54	14	▲	2
2.3.2.6 Creative goods exports (% of goods exp.)	1.81	53	28	▼	-2
2.4 Technology		100	1	▲	3
2.4.1 Technology input		94	7	▲	2
2.4.1.1 ICT affordability	5.8	81	46	▲	38
2.4.1.2 ICT access index	8.9	98	2	▼	-1
2.4.2 Technology output		95	2	▲	2
2.4.2.1 ICT goods and services export (% of exp.)	25.2	84	13	▲	7
2.4.2.2 Mobile broadband per 100 pop.	111.5	69	14	▼	-10
2.5 Entrepreneurship		76	17	▲	8
2.5.1 Entrepreneurship input		88	13	▼	-1
2.5.1.1 Time dealing with gov. regulations (%)	0.1	100	1	●	0
2.5.1.2 Time to start a business (days)	8.0	85	43	▼	-13
2.5.1.3 Procedures to register a business	3.0	84	7	▲	5
2.5.1.4 Cost to start a business (% GNI per cap)	14.6	54	91	▼	-1
2.5.2 Entrepreneurship output		66	22	▲	12
2.5.2.1 Global Entrepreneurship Index	54.2	61	22	▲	5
2.5.2.2 New corporate registrations per th. pop.	1.9	26	41	▲	4
2.5.2.3 Venture capital investments (% of GDP)	0.08	86	4	▲	3
2.5.2.4 SME outstanding loans (% of loans)	80.2	93	2	▲	2
2.5.2.5 Access to loans (1-7 survey)	3.5	50	90	▲	26
2.6 Statistics		100	1	●	0
2.6.1 Statistical fullness (%)	1.00	100	1	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Kuwait

Global Labour Resilience Index 2020

72

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Note: the score of the Inequality sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.
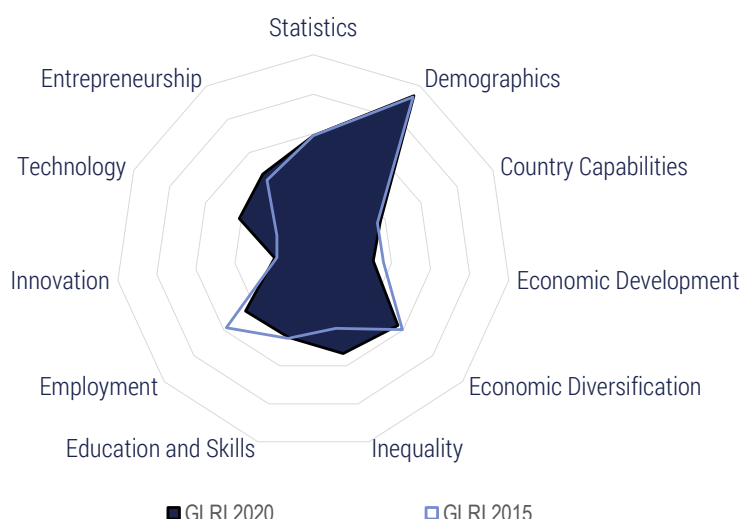
Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		56	79	▲	25
1.1 Demographics		95	12	▽	-9
1.1.1 Share of older population (% of total population)	2.5	95	12	▽	-9
1.2 Country Capabilities		44	73	▽	-11
1.2.1 Economic Complexity Index	-0.2	44	73	▽	-11
1.3 Economic Development		50	57	△	24
1.3.1 Income per capita (PPP)	65 515	94	7	▽	-6
1.3.2 Dependence on natural resources (% of GDP)	37.1	3	144	△	1
1.3.3 Tertiarisation of economy (% of GDP)	59.2	70	47	△	82
1.4 Economic Diversification		24	127	△	7
1.4.1 Concentration of exports	0.5	42	124	△	11
1.4.2 Diversity	39	5	132	△	6
1.5 Inequality		n/a	n/a		
1.5.1 Income inequality	n/a	n/a	n/a		
2. Policy Pillar		46	71	▽	-4
2.1 Education and skills		41	86	△	7
2.1.1 Education and skills input		47	82	△	6
2.1.1.1 Government education spendings (% of GDP)	3.8	32	92	▽	-3
2.1.1.2 Tertiary public education spendings (% of gov.exp)	32.6	66	12	△	1
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	7.2	46	97	△	1
2.1.1.5 Staff training (1-7 survey)	3.8	42	66	△	16
2.1.2 Education and skills output		43	94	△	13
2.1.2.1 Tertiary attainment rate (% of pop 25+)	11.1	25	65	△	2
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.6	37	105	△	18
2.1.2.4 Skilled labour supply (1-7 survey)	4.0	52	80	△	15
2.1.2.5 Vocational enrollment (% of students)	2.4	6	111	△	6
2.1.2.6 Vocational enrollment of 15-24 olds (%)	1.0	4	101	▽	-3
2.1.2.7 Quality of vocational education (1-7 survey)	3.8	35	87	△	9
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	4.2	56	65	△	4
2.1.2.10 Critical thinking (1-7 survey)	3.3	38	70	△	20
2.2 Employment		55	30	△	8
2.2.1 Employment input		55	38	△	51
2.2.1.1 Hiring and firing practices (1-7 survey)	4.0	53	47	△	37
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.0	51	74	△	14
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		54	27	▽	-5
2.2.2.1 Women in labour force (% female-male)	67.4	56	101	●	0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.1	37	91	▽	-36
2.2.2.4 Knowledge insentive employment (%)	18.7	30	81	▽	-1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	116 025	79	8	▽	-2
2.2.2.6 ALP effectiveness (1-7 survey)	3.6	50	56	△	6
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.5	43	55	△	4
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.3	53	39	▽	-31
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		33	50	△	32
2.3.1 Innovation input		25	87	▽	-21
2.3.1.1 R&D spendings (% of GDP)	0.1	3	115	▽	-32
2.3.1.2 IPR score	5.5	47	60	▽	-12
2.3.2 Innovation output		41	37	△	53
2.3.2.1 Trademark applications per th. pop.	3.2	99	10	△	82
2.3.2.2 Patent applications per th. pop.	n/a	n/a	n/a		
2.3.2.3 R&D journals per th. pop.	0.18	10	58	▽	-6
2.3.2.4 Researchers in R&D per mln.pop.	492	7	69	△	17
2.3.2.5 Technicians in R&D per mln.pop.	50	3	75	△	14
2.3.2.6 Creative goods exports (% of goods exp.)	0.09	5	69	▽	-5
2.4 Technology		51	83	▽	-45
2.4.1 Technology input		65	75	▽	-33
2.4.1.1 ICT affordability	4.8	64	87	▽	-16
2.4.1.2 ICT access index	6.0	61	64	▽	-24
2.4.2 Technology output		36	94	▽	-42
2.4.2.1 ICT goods and services export (% of exp.)	3.6	22	103	▽	-77
2.4.2.2 Mobile broadband per 100 pop.	66.8	42	56	△	33
2.5 Entrepreneurship		58	55	△	9
2.5.1 Entrepreneurship input		56	103	△	6
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	35.4	31	126	▽	-16
2.5.1.3 Procedures to register a business	7.0	53	70	△	54
2.5.1.4 Cost to start a business (% GNI per cap)	1.7	83	35	△	9
2.5.2 Entrepreneurship output		63	28	△	17
2.5.2.1 Global Entrepreneurship Index	42.8	46	37	▽	-2
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.4	70	37	△	36
2.6 Statistics		49	121	●	0
2.6.1 Statistical fullness (%)	0.75	49	121	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
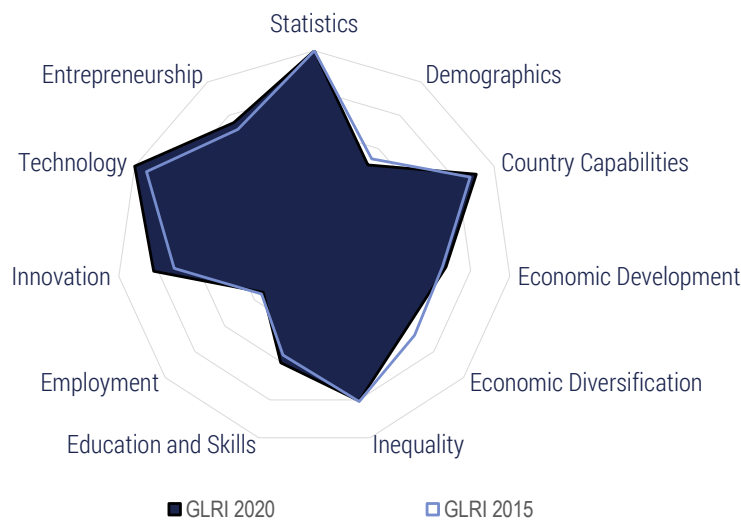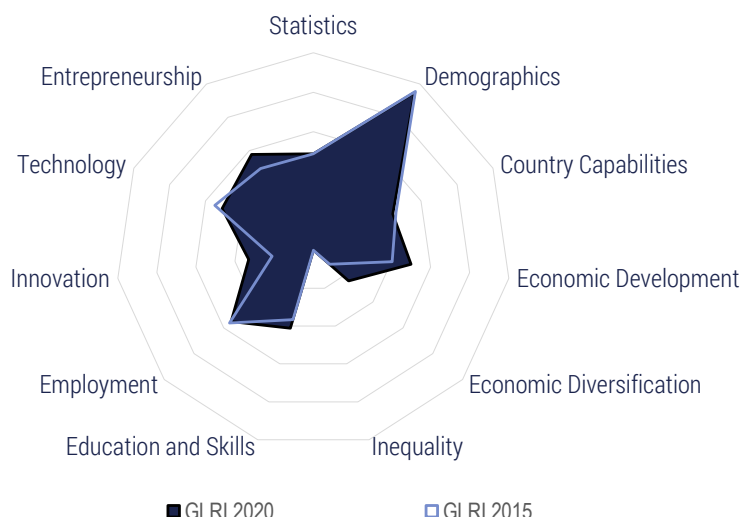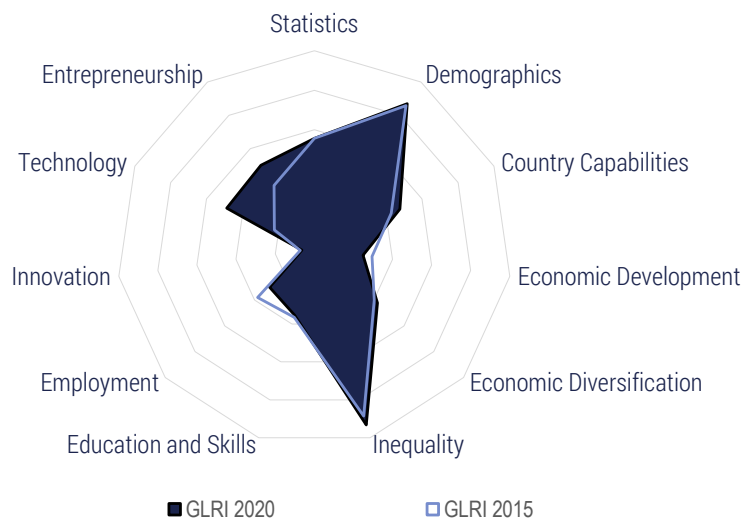

- ■ GLRI 2020
- ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		69	55	▲	2
1.1 Demographics		87	47	▽	-2
1.1.1 Share of older population (% of total population)	4.7	87	47	▽	-2
1.2 Country Capabilities		48	63	▲	5
1.2.1 Economic Complexity Index	0.0	48	63	▲	5
1.3 Economic Development		25	114	▽	-3
1.3.1 Income per capita (PPP)	3 447	5	119	▽	-2
1.3.2 Dependence on natural resources (% of GDP)	8.5	40	108	▽	-6
1.3.3 Tertiarisation of economy (% of GDP)	49.8	56	102	▽	-7
1.4 Economic Diversification		42	91	▲	3
1.4.1 Concentration of exports	0.4	58	103	▲	4
1.4.2 Diversity	147	26	73	▽	-3
1.5 Inequality		93	8	▲	7
1.5.1 Income inequality	27.3	93	8	▲	7
2. Policy Pillar		33	102	▲	9
2.1 Education and skills		35	100	▽	-6
2.1.1 Education and skills input		43	93	▽	-22
2.1.1.1 Government education spendings (% of GDP)	6.1	59	24	▽	-11
2.1.1.2 Tertiary public education spendings (% of gov.exp)	3.0	1	139	▽	-19
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	11.0	76	46	▽	-6
2.1.1.5 Staff training (1-7 survey)	3.3	25	124	▽	-1
2.1.2 Education and skills output		36	115	▽	-3
2.1.2.1 Tertiary attainment rate (% of pop 25+)	16.2	35	47	▽	-3
2.1.2.2 PISA score	325	1	78	●	0
2.1.2.3 Skillset of graduates (1-7 survey)	3.3	30	128	▲	6
2.1.2.4 Skilled labour supply (1-7 survey)	3.5	40	110	▽	-3
2.1.2.5 Vocational enrollment (% of students)	8.1	18	83	▽	-13
2.1.2.6 Vocational enrollment of 15-24 olds (%)	5.8	21	64	▲	13
2.1.2.7 Quality of vocational education (1-7 survey)	3.5	30	106	▲	4
2.1.2.8 STEM graduates (%)	20.8	35	69	▲	16
2.1.2.9 Digital skills (1-7 survey)	3.9	47	81	▽	-3
2.1.2.10 Critical thinking (1-7 survey)	3.0	31	97	▽	-5
2.2 Employment		30	111	▽	-18
2.2.1 Employment input		46	76	▽	-29
2.2.1.1 Hiring and firing practices (1-7 survey)	3.7	44	74	▽	-44
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.9	46	88	▽	-7
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		22	131	▲	3
2.2.2.1 Women in labour force (% female-male)	63.4	51	109	▽	-1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.4	22	128	▲	12
2.2.2.4 Knowledge insentive employment (%)	17.9	29	85	▽	-2

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	9 167	6	119	▲	1
2.2.2.6 ALP effectiveness (1-7 survey)	2.8	31	93	▽	-1
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.1	30	100	▽	-12
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.6	36	95	▲	6
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		6	133	▽	-3
2.3.1 Innovation input		4	132	▽	-3
2.3.1.1 R&D spendings (% of GDP)	0.1	4	109	▽	-10
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		8	97	▲	1
2.3.2.1 Trademark applications per th. pop.	0.5	17	88	▽	-4
2.3.2.2 Patent applications per th. pop.	0.02	9	89	▲	7
2.3.2.3 R&D journals per th. pop.	0.02	2	106	▲	6
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.15	8	59	●	0
2.4 Technology		49	88	▲	29
2.4.1 Technology input		66	71	▲	37
2.4.1.1 ICT affordability	6.1	87	25	▲	83
2.4.1.2 ICT access index	4.4	41	94	▲	3
2.4.2 Technology output		31	107	▲	6
2.4.2.1 ICT goods and services export (% of exp.)	5.4	27	87	▽	-5
2.4.2.2 Mobile broadband per 100 pop.	46.1	29	90	▲	43
2.5 Entrepreneurship		50	72	▲	39
2.5.1 Entrepreneurship input		69	68	▽	-2
2.5.1.1 Time dealing with gov. regulations (%)	12.0	58	80	▲	1
2.5.1.2 Time to start a business (days)	10.0	81	57	▽	-15
2.5.1.3 Procedures to register a business	4.0	76	18	▽	-6
2.5.1.4 Cost to start a business (% GNI per cap)	2.1	81	41	▽	-1
2.5.2 Entrepreneurship output		35	96	▲	36
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a		
2.5.2.2 New corporate registrations per th. pop.	0.8	12	68	▽	-2
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.7	54	80	▲	47
2.6 Statistics		56	100	●	0
2.6.1 Statistical fullness (%)	0.78	56	100	●	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics · Demographics · Entrepreneurship · Country Capabilities · Technology · Economic Development · Innovation · Economic Diversification · Employment · Inequality · Education and Skills
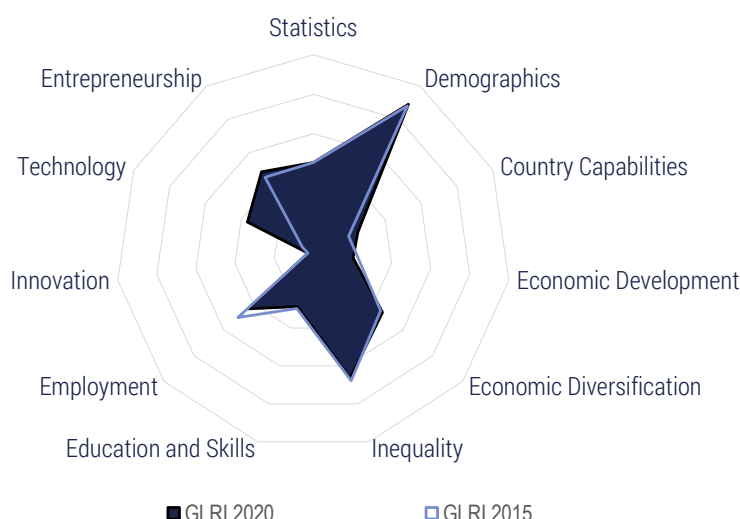
■ GLRI 2020　　□ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**48**	**98**	▼	-1
1.1 Demographics		89	40	▲	1
1.1.1 Share of older population (% of total population)	4.1	89	40	▲	1
1.2 Country Capabilities		25	110	▲	1
1.2.1 Economic Complexity Index	-1.1	25	110	▲	1
1.3 Economic Development		20	124	▲	2
1.3.1 Income per capita (PPP)	6 614	10	104	▲	2
1.3.2 Dependence on natural resources (% of GDP)	10.2	36	112	●	0
1.3.3 Tertiarisation of economy (% of GDP)	41.6	43	128	▼	-9
1.4 Economic Diversification		46	82	●	0
1.4.1 Concentration of exports	0.2	75	74	▲	3
1.4.2 Diversity	106	18	90	▼	-2
1.5 Inequality		66	65	▼	-2
1.5.1 Income inequality	36.4	66	65	▼	-2
2. Policy Pillar		**28**	**118**	▲	7
2.1 Education and skills		29	120	▼	-7
2.1.1 Education and skills input		26	127	▼	-9
2.1.1.1 Government education spendings (% of GDP)	2.9	22	112	▼	-9
2.1.1.2 Tertiary public education spendings (% of gov.exp)	13.8	25	111	▲	3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	3.7	39	79	▼	-9
2.1.2 Education and skills output		40	102	▼	-8
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.9	46	73	▼	-8
2.1.2.4 Skilled labour supply (1-7 survey)	3.8	48	93	▼	-16
2.1.2.5 Vocational enrollment (% of students)	1.0	3	126	▲	1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.4	2	111	▼	-1
2.1.2.7 Quality of vocational education (1-7 survey)	3.6	32	98	▼	-17
2.1.2.8 STEM graduates (%)	22.5	39	57	▲	55
2.1.2.9 Digital skills (1-7 survey)	3.9	48	79	▼	-7
2.1.2.10 Critical thinking (1-7 survey)	3.2	34	85	▼	-29
2.2 Employment		44	69	▼	-13
2.2.1 Employment input		43	89	▼	-10
2.2.1.1 Hiring and firing practices (1-7 survey)	3.6	50	92	▼	-35
2.2.1.2 Worker's rights (1-7 score)	60.8	16	99	▼	-5
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.1	54	61	▼	-13
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		47	41	▼	-7
2.2.2.1 Women in labour force (% female-male)	96.3	91	7	▼	-2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.7	50	50	▼	-4
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	12 810	9	109	▲	2
2.2.2.6 ALP effectiveness (1-7 survey)	2.9	33	84	▼	-26
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.6	46	53	▼	-39
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.5	58	27	▲	4
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		3	139	●	0
2.3.1 Innovation input		2	136	●	0
2.3.1.1 R&D spendings (% of GDP)	0.0	2	120	▲	3
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		4	114	▼	-2
2.3.2.1 Trademark applications per th. pop.	0.1	5	115	▼	-6
2.3.2.2 Patent applications per th. pop.	n/a	n/a	n/a		
2.3.2.3 R&D journals per th. pop.	0.01	2	114	▼	-4
2.3.2.4 Researchers in R&D per mln.pop.	16	1	116	▼	-1
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	n/a	n/a	n/a		
2.4 Technology		37	111	▲	26
2.4.1 Technology input		45	111	▲	13
2.4.1.1 ICT affordability	5.0	67	80	▲	38
2.4.1.2 ICT access index	2.9	22	115	●	0
2.4.2 Technology output		30	109	▲	31
2.4.2.1 ICT goods and services export (% of exp.)	7.4	32	74	▲	64
2.4.2.2 Mobile broadband per 100 pop.	34.7	22	100	▲	17
2.5 Entrepreneurship		48	79	▲	1
2.5.1 Entrepreneurship input		66	77	▲	23
2.5.1.1 Time dealing with gov. regulations (%)	0.8	98	3	▲	45
2.5.1.2 Time to start a business (days)	174.0	1	137	●	0
2.5.1.3 Procedures to register a business	10.0	29	123	▼	-31
2.5.1.4 Cost to start a business (% GNI per cap)	3.5	75	49	▲	2
2.5.2 Entrepreneurship output		35	95	▼	-29
2.5.2.1 Global Entrepreneurship Index	17.8	13	103	▼	-35
2.5.2.2 New corporate registrations per th. pop.	0.2	3	95	▼	-1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.8	58	76	▼	-38
2.6 Statistics		45	124	●	0
2.6.1 Statistical fullness (%)	0.73	45	124	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
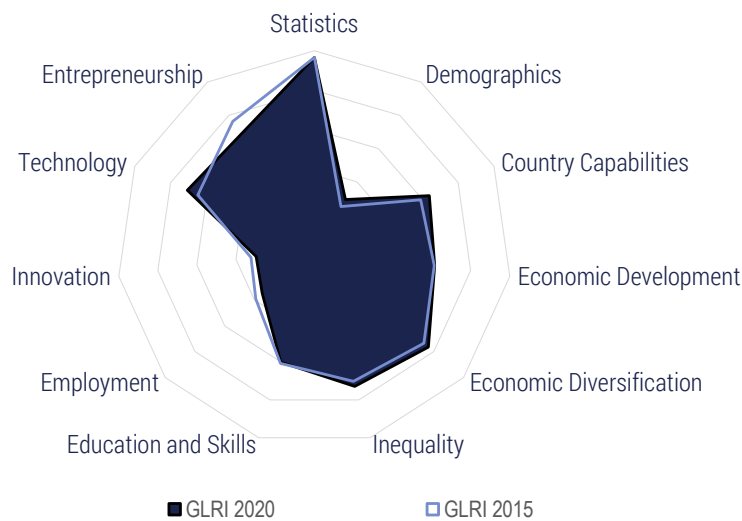
■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**72**	**47**	▲	5
1.1 Demographics		29	135	▲	2
1.1.1 Share of older population (% of total population)	20.0	29	135	▲	2
1.2 Country Capabilities		64	34	▲	3
1.2.1 Economic Complexity Index	0.7	64	34	▲	3
1.3 Economic Development		62	37	▽	-1
1.3.1 Income per capita (PPP)	26 437	38	45	▲	5
1.3.2 Dependence on natural resources (% of GDP)	0.9	84	43	▽	-2
1.3.3 Tertiarisation of economy (% of GDP)	63.5	76	29	▽	-3
1.4 Economic Diversification		76	22	▲	2
1.4.1 Concentration of exports	0.1	96	10	▽	-1
1.4.2 Diversity	305	57	24	▲	4
1.5 Inequality		73	51	▲	2
1.5.1 Income inequality	34.2	73	51	▲	2
2. Policy Pillar		**62**	**36**	▽	-4
2.1 Education and skills		60	34	▽	-4
2.1.1 Education and skills input		63	37	▽	-7
2.1.1.1 Government education spendings (% of GDP)	4.7	43	61	▽	-51
2.1.1.2 Tertiary public education spendings (% of gov.exp)	16.0	30	95	▽	-13
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	6 286	31	38	▽	-15
2.1.1.4 Years of schooling	13.1	92	13	▽	-6
2.1.1.5 Staff training (1-7 survey)	4.2	52	51	▲	6
2.1.2 Education and skills output		63	37	▽	-1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	30.0	65	14	▽	-5
2.1.2.2 PISA score	487	64	26	▽	-2
2.1.2.3 Skillset of graduates (1-7 survey)	4.1	50	67	▲	2
2.1.2.4 Skilled labour supply (1-7 survey)	3.8	48	94	▲	4
2.1.2.5 Vocational enrollment (% of students)	20.4	44	35	▽	-3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	16.7	57	27	●	0
2.1.2.7 Quality of vocational education (1-7 survey)	3.9	38	80	▲	15
2.1.2.8 STEM graduates (%)	20.9	35	68	▲	3
2.1.2.9 Digital skills (1-7 survey)	4.7	70	39	▲	15
2.1.2.10 Critical thinking (1-7 survey)	3.5	44	58	▲	14
2.2 Employment		35	96	▽	-5
2.2.1 Employment input		33	117	▲	4
2.2.1.1 Hiring and firing practices (1-7 survey)	3.5	38	88	▽	-48
2.2.1.2 Worker's rights (1-7 score)	85.6	69	25	▲	3
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.7	41	105	▽	-28
2.2.1.4 Tax wedge (% of labour cost)	42.3	26	27	▲	3
2.2.1.5 ALP spendings (% of GDP)	0.6	21	23	▲	4
2.2.2 Employment output		43	59	▽	-14
2.2.2.1 Women in labour force (% female-male)	81.5	73	57	▽	-1
2.2.2.2 Gender pay gap (% of employees)	21.1	30	39	▽	-4
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.4	22	126	▽	-24
2.2.2.4 Knowledge insentive employment (%)	39.6	63	24	▽	-3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	55 844	38	48	▲	3
2.2.2.6 ALP effectiveness (1-7 survey)	3.9	57	46	▽	-3
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.7	52	41	▲	7
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.1	23	124	▽	-13
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	60.5	52	27	▲	3
2.3 Innovation		30	58	▽	-10
2.3.1 Innovation input		35	59	▽	-6
2.3.1.1 R&D spendings (% of GDP)	0.5	19	63	▽	-11
2.3.1.2 IPR score	5.7	51	54	▽	-5
2.3.2 Innovation output		24	60	▽	-9
2.3.2.1 Trademark applications per th. pop.	1.6	50	32	▽	-6
2.3.2.2 Patent applications per th. pop.	0.05	17	63	▽	-22
2.3.2.3 R&D journals per th. pop.	0.65	34	37	▲	1
2.3.2.4 Researchers in R&D per mln.pop.	1 786	23	42	▽	-2
2.3.2.5 Technicians in R&D per mln.pop.	391	18	41	▽	-3
2.3.2.6 Creative goods exports (% of goods exp.)	0.14	8	60	▲	2
2.4 Technology		71	30	▽	-4
2.4.1 Technology input		88	18	▽	-2
2.4.1.1 ICT affordability	6.3	89	21	▽	-5
2.4.1.2 ICT access index	7.3	78	30	●	0
2.4.2 Technology output		49	55	▽	-8
2.4.2.1 ICT goods and services export (% of exp.)	8.4	36	62	▲	3
2.4.2.2 Mobile broadband per 100 pop.	77.0	48	42	▽	-14
2.5 Entrepreneurship		69	29	▽	-13
2.5.1 Entrepreneurship input		83	21	▲	1
2.5.1.1 Time dealing with gov. regulations (%)	5.2	82	42	●	0
2.5.1.2 Time to start a business (days)	5.5	90	24	▲	31
2.5.1.3 Procedures to register a business	4.0	76	18	▽	-6
2.5.1.4 Cost to start a business (% GNI per cap)	1.8	83	37	▽	-4
2.5.2 Entrepreneurship output		57	35	▽	-16
2.5.2.1 Global Entrepreneurship Index	40.5	43	41	▽	-15
2.5.2.2 New corporate registrations per th. pop.	5.4	74	17	▽	-16
2.5.2.3 Venture capital investments (% of GDP)	0.00	4	32	▽	-2
2.5.2.4 SME outstanding loans (% of loans)	76.1	88	4	▽	-1
2.5.2.5 Access to loans (1-7 survey)	3.5	50	92	▲	2
2.6 Statistics		97	10	●	0
2.6.1 Statistical fullness (%)	0.98	97	10	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Lebanon

Global Labour Resilience Index 2020

GLRI 2015 Rank 52 ▲

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**85**	**22**	▽	-6
1.1 Demographics		72	83	▲	2
1.1.1 Share of older population (% of total population)	8.7	72	83	▲	2
1.2 Country Capabilities		53	55	▽	-5
1.2.1 Economic Complexity Index	0.2	53	55	▽	-5
1.3 Economic Development		66	30	▽	-5
1.3.1 Income per capita (PPP)	11 607	17	83	▽	-11
1.3.2 Dependence on natural resources (% of GDP)	0.0	100	4	●	0
1.3.3 Tertiarisation of economy (% of GDP)	74.7	93	5	●	0
1.4 Economic Diversification		64	39	▽	-10
1.4.1 Concentration of exports	0.1	91	27	▽	-2
1.4.2 Diversity	205	38	47	▽	-17
1.5 Inequality		80	26	▲	2
1.5.1 Income inequality	31.8	80	26	▲	2
2. Policy Pillar		**42**	**76**	▲	6
2.1 Education and skills		50	52	▽	-2
2.1.1 Education and skills input		43	95	▽	-9
2.1.1.1 Government education spendings (% of GDP)	2.5	17	128	▽	-4
2.1.1.2 Tertiary public education spendings (% of gov.exp)	28.7	58	20	▲	5
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	8.1	53	91	▽	-11
2.1.1.5 Staff training (1-7 survey)	3.7	38	81	▽	-12
2.1.2 Education and skills output		65	31	▲	2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	377	21	71	▽	-1
2.1.2.3 Skillset of graduates (1-7 survey)	4.9	71	24	▲	1
2.1.2.4 Skilled labour supply (1-7 survey)	4.8	76	21	▲	1
2.1.2.5 Vocational enrollment (% of students)	15.5	34	52	▲	7
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	3.6	30	102	▽	-12
2.1.2.8 STEM graduates (%)	23.4	40	48	●	0
2.1.2.9 Digital skills (1-7 survey)	5.1	81	21	▽	-1
2.1.2.10 Critical thinking (1-7 survey)	4.3	64	25	▽	-2
2.2 Employment		30	112	▽	-7
2.2.1 Employment input		45	81	▽	-13
2.2.1.1 Hiring and firing practices (1-7 survey)	3.9	49	60	▽	-16
2.2.1.2 Worker's rights (1-7 score)	71.1	38	59	▲	15
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.9	45	91	▲	1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		22	130	▽	-5
2.2.2.1 Women in labour force (% female-male)	33.1	14	135	▲	1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.8	29	110	▲	6
2.2.2.4 Knowledge insentive employment (%)	31.8	51	42	▽	-3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	39 902	27	63	▽	-4
2.2.2.6 ALP effectiveness (1-7 survey)	2.0	13	125	▽	-8
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.1	31	99	▽	-16
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.3	53	43	▲	9
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		19	88	▲	3
2.3.1 Innovation input		28	78	▲	10
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	4.3	28	108	▽	-1
2.3.2 Innovation output		10	92	▽	-3
2.3.2.1 Trademark applications per th. pop.	0.2	6	112	▲	1
2.3.2.2 Patent applications per th. pop.	0.04	16	68	▽	-9
2.3.2.3 R&D journals per th. pop.	0.20	11	56	▲	2
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.08	5	73	▽	-1
2.4 Technology		60	61	▲	33
2.4.1 Technology input		61	86	▲	9
2.4.1.1 ICT affordability	4.0	52	109	▽	-13
2.4.1.2 ICT access index	6.3	66	57	▲	9
2.4.2 Technology output		57	35	▲	59
2.4.2.1 ICT goods and services export (% of exp.)	14.5	53	34	▲	26
2.4.2.2 Mobile broadband per 100 pop.	67.2	42	55	▲	69
2.5 Entrepreneurship		60	42	▲	5
2.5.1 Entrepreneurship input		68	71	▽	-8
2.5.1.1 Time dealing with gov. regulations (%)	4.1	86	33	▲	2
2.5.1.2 Time to start a business (days)	15.0	71	84	▽	-18
2.5.1.3 Procedures to register a business	8.0	45	92	▽	-17
2.5.1.4 Cost to start a business (% GNI per cap)	42.0	37	121	▽	-3
2.5.2 Entrepreneurship output		56	38	▲	10
2.5.2.1 Global Entrepreneurship Index	31.5	31	56	▽	-9
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.4	71	35	▲	26
2.6 Statistics		52	112	●	0
2.6.1 Statistical fullness (%)	0.76	52	112	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
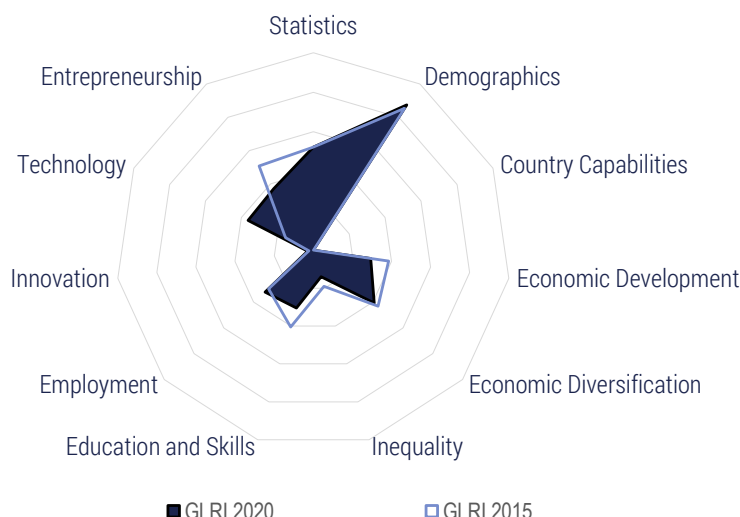
- ■ GLRI 2020
- ☐ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**34**	**129**	▼	-13
1.1 Demographics		87	45	▲	3
1.1.1 Share of older population (% of total population)	4.5	87	45	▲	3
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		29	106	▼	-19
1.3.1 Income per capita (PPP)	2 865	4	124	▼	-1
1.3.2 Dependence on natural resources (% of GDP)	5.9	49	97	▼	-14
1.3.3 Tertiarisation of economy (% of GDP)	52.5	60	85	▼	-24
1.4 Economic Diversification		41	97	▼	-11
1.4.1 Concentration of exports	0.3	69	85	▼	-9
1.4.2 Diversity	78	13	107	▼	-8
1.5 Inequality		14	130	▼	-2
1.5.1 Income inequality	54.2	14	130	▼	-2
2. Policy Pillar		**25**	**125**	▼	-7
2.1 Education and skills		30	112	▼	-28
2.1.1 Education and skills input		32	114	▼	-73
2.1.1.1 Government education spendings (% of GDP)	6.5	64	16	▼	-15
2.1.1.2 Tertiary public education spendings (% of gov.exp)	7.4	11	134	▼	-127
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	5.5	33	109	▼	-3
2.1.1.5 Staff training (1-7 survey)	3.5	31	105	▲	13
2.1.2 Education and skills output		38	108	▲	13
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.9	44	82	▲	46
2.1.2.4 Skilled labour supply (1-7 survey)	3.4	37	115	▲	14
2.1.2.5 Vocational enrollment (% of students)	2.1	5	117	▼	-2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	1.3	5	93	▼	-2
2.1.2.7 Quality of vocational education (1-7 survey)	3.4	27	116	●	0
2.1.2.8 STEM graduates (%)	15.4	25	103	▲	5
2.1.2.9 Digital skills (1-7 survey)	3.5	36	112	▲	6
2.1.2.10 Critical thinking (1-7 survey)	3.7	48	45	▲	19
2.2 Employment		32	103	▲	16
2.2.1 Employment input		45	84	▲	27
2.2.1.1 Hiring and firing practices (1-7 survey)	3.5	47	97	▼	-13
2.2.1.2 Worker's rights (1-7 score)	77.3	52	43	▲	14
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.5	36	109	▲	10
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		27	116	▼	-7
2.2.2.1 Women in labour force (% female-male)	79.9	71	65	●	0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.2	38	87	▲	1
2.2.2.4 Knowledge insentive employment (%)	6.8	11	111	▲	2

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	8 775	6	120	▼	-1
2.2.2.6 ALP effectiveness (1-7 survey)	3.9	57	45	▲	7
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.3	4	142	▼	-23
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.5	33	103	▼	-52
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		3	138	▲	3
2.3.1 Innovation input		2	134	▲	3
2.3.1.1 R&D spendings (% of GDP)	0.0	2	119	▲	6
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		4	113	▲	1
2.3.2.1 Trademark applications per th. pop.	0.4	15	97	▼	-8
2.3.2.2 Patent applications per th. pop.	0.00	1	115	▲	2
2.3.2.3 R&D journals per th. pop.	0.01	2	117	▲	7
2.3.2.4 Researchers in R&D per mln.pop.	23	1	112	▲	6
2.3.2.5 Technicians in R&D per mln.pop.	7	1	103	▲	1
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	116	▲	2
2.4 Technology		36	112	▲	16
2.4.1 Technology input		47	109	▲	28
2.4.1.1 ICT affordability	5.0	68	79	▲	58
2.4.1.2 ICT access index	3.0	24	111	▲	8
2.4.2 Technology output		28	114	▼	-30
2.4.2.1 ICT goods and services export (% of exp.)	5.9	28	86	▼	-31
2.4.2.2 Mobile broadband per 100 pop.	36.9	23	99	▲	11
2.5 Entrepreneurship		37	123	▼	-68
2.5.1 Entrepreneurship input		72	54	▲	7
2.5.1.1 Time dealing with gov. regulations (%)	2.7	91	21	▲	25
2.5.1.2 Time to start a business (days)	29.0	44	118	▼	-17
2.5.1.3 Procedures to register a business	7.0	53	70	▼	-15
2.5.1.4 Cost to start a business (% GNI per cap)	7.7	63	72	▼	-1
2.5.2 Entrepreneurship output		8	142	▼	-69
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a		
2.5.2.2 New corporate registrations per th. pop.	0.9	14	63	▼	-6
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	1.5	4	144	▼	-95
2.6 Statistics		52	112	●	0
2.6.1 Statistical fullness (%)	0.76	52	112	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Liberia

Global Labour Resilience Index 2020

109

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- Statistics
- Entrepreneurship
- Technology
- Innovation
- Employment
- Education and Skills
- Inequality
- Demographics
- Country Capabilities
- Economic Development
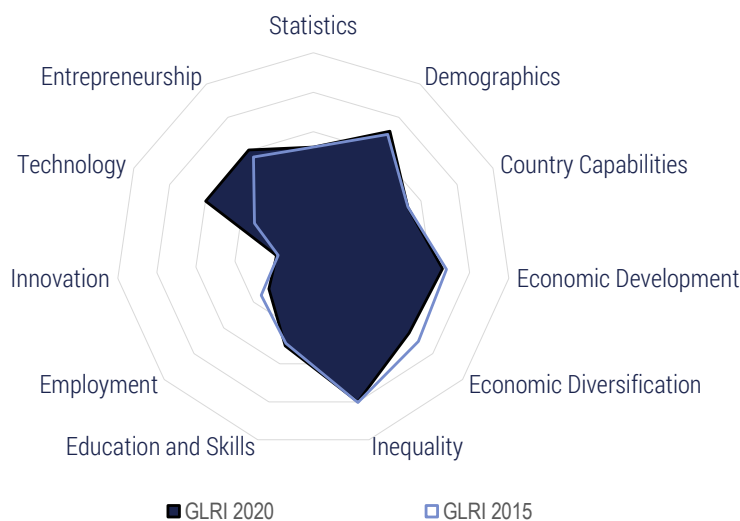- Economic Diversification

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		44	109	●	0
1.1 Demographics		93	25	▲	1
1.1.1 Share of older population (% of total population)	3.1	93	25	▲	1
1.2 Country Capabilities		33	96	▼	-5
1.2.1 Economic Complexity Index	-0.7	33	96	▼	-5
1.3 Economic Development		14	137	●	0
1.3.1 Income per capita (PPP)	1 161	2	143	▼	-2
1.3.2 Dependence on natural resources (% of GDP)	25.2	13	140	▼	-1
1.3.3 Tertiarisation of economy (% of GDP)	50.0	56	101	▲	3
1.4 Economic Diversification		29	118	▼	-4
1.4.1 Concentration of exports	0.4	54	113	▼	-7
1.4.2 Diversity	32	4	137	▼	-9
1.5 Inequality		70	52	▲	12
1.5.1 Income inequality	35.3	70	52	▲	12
2. Policy Pillar		32	103	▼	-19
2.1 Education and skills		35	103	▲	5
2.1.1 Education and skills input		37	105	▲	6
2.1.1.1 Government education spendings (% of GDP)	2.3	15	131	▲	5
2.1.1.2 Tertiary public education spendings (% of gov.exp)	31.6	64	17	▲	3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	3.7	38	82	▲	2
2.1.2 Education and skills output		41	101	▲	8
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.5	36	109	▲	15
2.1.2.4 Skilled labour supply (1-7 survey)	3.7	45	98	▲	13
2.1.2.5 Vocational enrollment (% of students)	7.4	16	87	▼	-4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	3.3	25	121	▲	4
2.1.2.8 STEM graduates (%)	32.3	58	12	▼	-2
2.1.2.9 Digital skills (1-7 survey)	3.2	29	122	▲	10
2.1.2.10 Critical thinking (1-7 survey)	3.1	32	93	▼	-15
2.2 Employment		44	66	▲	1
2.2.1 Employment input		58	29	▲	23
2.2.1.1 Hiring and firing practices (1-7 survey)	3.8	54	70	▼	-23
2.2.1.2 Worker's rights (1-7 score)	77.3	52	43	▲	2
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.2	56	56	▲	23
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		33	92	▼	-15
2.2.2.1 Women in labour force (% female-male)	95.0	90	8	▲	3
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.5	46	55	▲	5
2.2.2.4 Knowledge insentive employment (%)	9.3	15	106	▼	-2

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	2 396	2	143	▼	-3
2.2.2.6 ALP effectiveness (1-7 survey)	2.7	27	102	▼	-9
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.0	26	111	▼	-34
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.6	35	97	▼	-74
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		17	94	▼	-24
2.3.1 Innovation input		32	66	▼	-24
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	4.6	32	99	▼	-37
2.3.2 Innovation output		2	123	▲	1
2.3.2.1 Trademark applications per th. pop.	0.1	3	124	▼	-4
2.3.2.2 Patent applications per th. pop.	0.01	3	103	▼	-2
2.3.2.3 R&D journals per th. pop.	0.00	1	134	▲	4
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	n/a	n/a	n/a		
2.4 Technology		42	104	▼	-62
2.4.1 Technology input		21	135	▼	-48
2.4.1.1 ICT affordability	3.1	35	127	▼	-124
2.4.1.2 ICT access index	1.9	9	133	▲	5
2.4.2 Technology output		63	25	▼	-2
2.4.2.1 ICT goods and services export (% of exp.)	83.6	100	1	●	0
2.4.2.2 Mobile broadband per 100 pop.	6.6	5	140	▼	-8
2.5 Entrepreneurship		46	92	▼	-5
2.5.1 Entrepreneurship input		72	58	▼	-5
2.5.1.1 Time dealing with gov. regulations (%)	5.4	82	45	▲	18
2.5.1.2 Time to start a business (days)	18.0	65	99	▼	-87
2.5.1.3 Procedures to register a business	5.0	68	38	▼	-19
2.5.1.4 Cost to start a business (% GNI per cap)	15.7	52	94	▲	1
2.5.2 Entrepreneurship output		25	128	▼	-13
2.5.2.1 Global Entrepreneurship Index	15.7	10	110	▼	-9
2.5.2.2 New corporate registrations per th. pop.	0.0	1	114	●	0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.1	41	114	▼	-24
2.6 Statistics		42	130	●	0
2.6.1 Statistical fullness (%)	0.71	42	130	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Lithuania

Global Labour Resilience Index 2020

35

GLRI 2015 Rank 40 ▲

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics · Demographics · Country Capabilities · Economic Development · Economic Diversification · Inequality · Education and Skills · Employment · Innovation · Technology · Entrepreneurship

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**75**	**40**	▲ 10
1.1 Demographics		32	126	▲ 6
1.1.1 Share of older population (% of total population)	19.2	32	126	▲ 6
1.2 Country Capabilities		69	28	▲ 3
1.2.1 Economic Complexity Index	0.9	69	28	▲ 3
1.3 Economic Development		66	31	▲ 2
1.3.1 Income per capita (PPP)	31 065	45	37	▲ 4
1.3.2 Dependence on natural resources (% of GDP)	0.3	92	29	▼ -1
1.3.3 Tertiarisation of economy (% of GDP)	61.1	73	37	▲ 4
1.4 Economic Diversification		79	19	▲ 9
1.4.1 Concentration of exports	0.1	92	26	▲ 29
1.4.2 Diversity	357	67	17	▲ 4
1.5 Inequality		63	68	▼ -16
1.5.1 Income inequality	37.4	63	68	▼ -16
2. Policy Pillar		**63**	**34**	▲ 7
2.1 Education and skills		62	31	▼ -3
2.1.1 Education and skills input		68	30	▼ -4
2.1.1.1 Government education spendings (% of GDP)	4.0	35	79	▼ -16
2.1.1.2 Tertiary public education spendings (% of gov.exp)	20.5	40	75	▼ -51
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	6 077	30	39	▼ -4
2.1.1.4 Years of schooling	13.3	93	8	▲ 7
2.1.1.5 Staff training (1-7 survey)	4.6	64	29	▲ 1
2.1.2 Education and skills output		60	43	▼ -4
2.1.2.1 Tertiary attainment rate (% of pop 25+)	34.5	74	5	▲ 9
2.1.2.2 PISA score	480	61	30	▲ 2
2.1.2.3 Skillset of graduates (1-7 survey)	3.6	37	106	▼ -18
2.1.2.4 Skilled labour supply (1-7 survey)	3.3	34	120	▼ -3
2.1.2.5 Vocational enrollment (% of students)	9.9	22	71	▲ 1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	9.3	32	50	▼ -4
2.1.2.7 Quality of vocational education (1-7 survey)	4.0	41	72	▼ -8
2.1.2.8 STEM graduates (%)	25.7	45	34	▲ 12
2.1.2.9 Digital skills (1-7 survey)	4.8	73	31	▼ -1
2.1.2.10 Critical thinking (1-7 survey)	3.5	43	59	● 0
2.2 Employment		38	81	▲ 28
2.2.1 Employment input		33	119	▲ 11
2.2.1.1 Hiring and firing practices (1-7 survey)	3.6	41	84	▲ 28
2.2.1.2 Worker's rights (1-7 score)	90.7	80	14	▼ -1
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.1	25	130	▼ -2
2.2.1.4 Tax wedge (% of labour cost)	40.6	30	22	● 0
2.2.1.5 ALP spendings (% of GDP)	0.5	17	30	● 0
2.2.2 Employment output		49	39	▲ 14
2.2.2.1 Women in labour force (% female-male)	84.5	77	42	▲ 1
2.2.2.2 Gender pay gap (% of employees)	12.5	61	24	▼ -6
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.6	25	118	▲ 9
2.2.2.4 Knowledge insentive employment (%)	42.6	68	20	▲ 2

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	61 553	42	41	▲ 2
2.2.2.6 ALP effectiveness (1-7 survey)	4.1	60	39	▲ 3
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.6	48	47	▲ 23
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.0	21	128	▼ -12
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	30.8	51	29	▲ 8
2.3 Innovation		39	38	▲ 3
2.3.1 Innovation input		48	35	▲ 6
2.3.1.1 R&D spendings (% of GDP)	0.9	32	39	▼ -5
2.3.1.2 IPR score	6.4	62	34	▲ 10
2.3.2 Innovation output		31	48	▼ -4
2.3.2.1 Trademark applications per th. pop.	1.5	48	35	▼ -3
2.3.2.2 Patent applications per th. pop.	0.05	16	67	▼ -1
2.3.2.3 R&D journals per th. pop.	0.78	40	33	▲ 1
2.3.2.4 Researchers in R&D per mln.pop.	3 013	39	28	● 0
2.3.2.5 Technicians in R&D per mln.pop.	463	21	32	▲ 2
2.3.2.6 Creative goods exports (% of goods exp.)	0.42	19	43	▲ 1
2.4 Technology		69	33	▲ 29
2.4.1 Technology input		85	23	▼ -6
2.4.1.1 ICT affordability	6.0	85	32	▼ -18
2.4.1.2 ICT access index	7.2	77	35	● 0
2.4.2 Technology output		49	57	▲ 64
2.4.2.1 ICT goods and services export (% of exp.)	8.2	35	66	▲ 44
2.4.2.2 Mobile broadband per 100 pop.	76.8	48	43	▲ 40
2.5 Entrepreneurship		62	37	▲ 7
2.5.1 Entrepreneurship input		83	20	▲ 4
2.5.1.1 Time dealing with gov. regulations (%)	6.0	79	50	▲ 1
2.5.1.2 Time to start a business (days)	5.5	90	24	▲ 12
2.5.1.3 Procedures to register a business	4.0	76	18	▲ 20
2.5.1.4 Cost to start a business (% GNI per cap)	0.6	92	13	▼ -2
2.5.2 Entrepreneurship output		45	61	▲ 1
2.5.2.1 Global Entrepreneurship Index	51.1	57	27	▼ -3
2.5.2.2 New corporate registrations per th. pop.	2.3	32	36	▼ -4
2.5.2.3 Venture capital investments (% of GDP)	0.01	7	28	▼ -12
2.5.2.4 SME outstanding loans (% of loans)	40.2	47	20	▲ 22
2.5.2.5 Access to loans (1-7 survey)	4.1	64	52	▲ 54
2.6 Statistics		97	10	● 0
2.6.1 Statistical fullness (%)	0.98	97	10	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
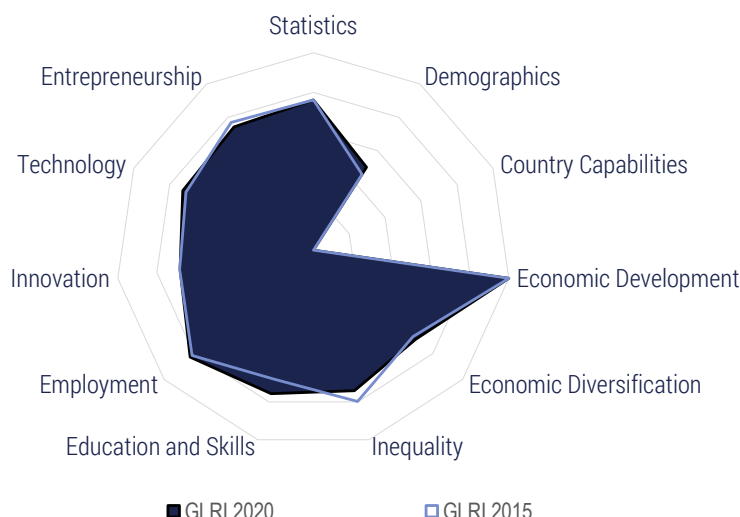
- ■ GLRI 2020
- ☐ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.
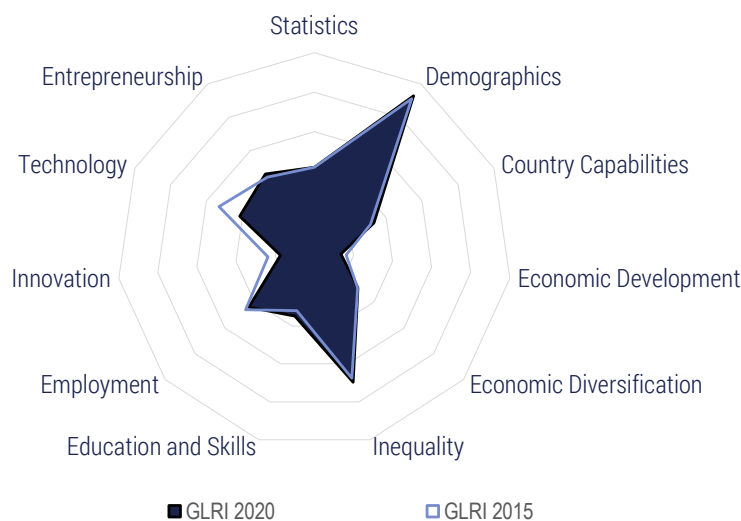
Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**99**	**5**	▽	-3
1.1 Demographics		50	104	▲	7
1.1.1 Share of older population (% of total population)	14.5	50	104	▲	7
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		100	1	⚫	0
1.3.1 Income per capita (PPP)	93 734	100	1	⚫	0
1.3.2 Dependence on natural resources (% of GDP)	0.0	100	7	▲	3
1.3.3 Tertiarisation of economy (% of GDP)	79.2	100	1	⚫	0
1.4 Economic Diversification		69	32	▲	5
1.4.1 Concentration of exports	0.1	93	22	▲	2
1.4.2 Diversity	241	44	36	▲	6
1.5 Inequality		74	46	▽	-17
1.5.1 Income inequality	33.8	74	46	▽	-17
2. Policy Pillar		**81**	**18**	▽	-1
2.1 Education and skills		76	19	▲	4
2.1.1 Education and skills input		77	20	▲	8
2.1.1.1 Government education spendings (% of GDP)	4.0	34	84	▽	-4
2.1.1.2 Tertiary public education spendings (% of gov.exp)	13.1	23	116	▲	23
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	13.6	96	6	▽	-5
2.1.1.5 Staff training (1-7 survey)	5.5	91	3	▲	1
2.1.2 Education and skills output		78	16	▲	4
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	477	60	33	▽	-7
2.1.2.3 Skillset of graduates (1-7 survey)	5.0	74	18	▲	5
2.1.2.4 Skilled labour supply (1-7 survey)	4.3	60	60	⚫	0
2.1.2.5 Vocational enrollment (% of students)	33.3	71	17	▲	3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	22.4	76	12	⚫	0
2.1.2.7 Quality of vocational education (1-7 survey)	5.2	68	12	▲	4
2.1.2.8 STEM graduates (%)	17.9	30	84	▲	4
2.1.2.9 Digital skills (1-7 survey)	5.2	82	20	▲	7
2.1.2.10 Critical thinking (1-7 survey)	4.2	60	30	⚫	0
2.2 Employment		83	6	⚫	0
2.2.1 Employment input		55	41	▲	26
2.2.1.1 Hiring and firing practices (1-7 survey)	3.9	50	54	▲	45
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	5.6	95	2	⚫	0
2.2.1.4 Tax wedge (% of labour cost)	38.2	35	19	▽	-1
2.2.1.5 ALP spendings (% of GDP)	1.4	46	12	▲	1
2.2.2 Employment output		99	2	⚫	0
2.2.2.1 Women in labour force (% female-male)	85.3	78	37	▲	31
2.2.2.2 Gender pay gap (% of employees)	3.4	93	2	▲	3
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	5.4	85	6	▲	2
2.2.2.4 Knowledge insentive employment (%)	62.3	100	1	▲	1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	216 165	100	1	⚫	0
2.2.2.6 ALP effectiveness (1-7 survey)	5.4	91	5	▽	-1
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.7	83	7	▲	14
2.2.2.8 Impact of taxes on workers (1-7 survey)	5.1	73	8	▽	-1
2.2.2.9 Earnings quality (PPP)	28.7	98	2	⚫	0
2.2.2.10 Quality of the working environment (%)	23.1	73	7	▲	11
2.3 Innovation		68	20	▽	-1
2.3.1 Innovation input		70	21	▽	-1
2.3.1.1 R&D spendings (% of GDP)	1.3	45	29	▽	-1
2.3.1.2 IPR score	8.3	93	9	▽	-2
2.3.2 Innovation output		66	18	⚫	0
2.3.2.1 Trademark applications per th. pop.	n/a	n/a	n/a		
2.3.2.2 Patent applications per th. pop.	1.10	100	1	▲	14
2.3.2.3 R&D journals per th. pop.	1.35	68	18	⚫	0
2.3.2.4 Researchers in R&D per mln.pop.	4 682	60	15	▽	-2
2.3.2.5 Technicians in R&D per mln.pop.	3 128	100	1	⚫	0
2.3.2.6 Creative goods exports (% of goods exp.)	0.04	3	82	▽	-3
2.4 Technology		73	23	▽	-6
2.4.1 Technology input		94	8	⚫	0
2.4.1.1 ICT affordability	6.0	85	34	▲	15
2.4.1.2 ICT access index	8.5	93	7	⚫	0
2.4.2 Technology output		46	63	▽	-28
2.4.2.1 ICT goods and services export (% of exp.)	4.3	24	97	▽	-13
2.4.2.2 Mobile broadband per 100 pop.	90.2	56	28	▽	-18
2.5 Entrepreneurship		74	21	▽	-7
2.5.1 Entrepreneurship input		74	49	▽	-16
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	16.5	68	90	▽	-19
2.5.1.3 Procedures to register a business	5.0	68	38	▽	-19
2.5.1.4 Cost to start a business (% GNI per cap)	1.7	83	35	▽	-3
2.5.2 Entrepreneurship output		77	10	▲	3
2.5.2.1 Global Entrepreneurship Index	58.2	66	18	▲	4
2.5.2.2 New corporate registrations per th. pop.	10.2	100	1	⚫	0
2.5.2.3 Venture capital investments (% of GDP)	0.03	31	18	▲	8
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	5.0	84	15	▽	-3
2.6 Statistics		76	43	⚫	0
2.6.1 Statistical fullness (%)	0.88	76	43	⚫	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
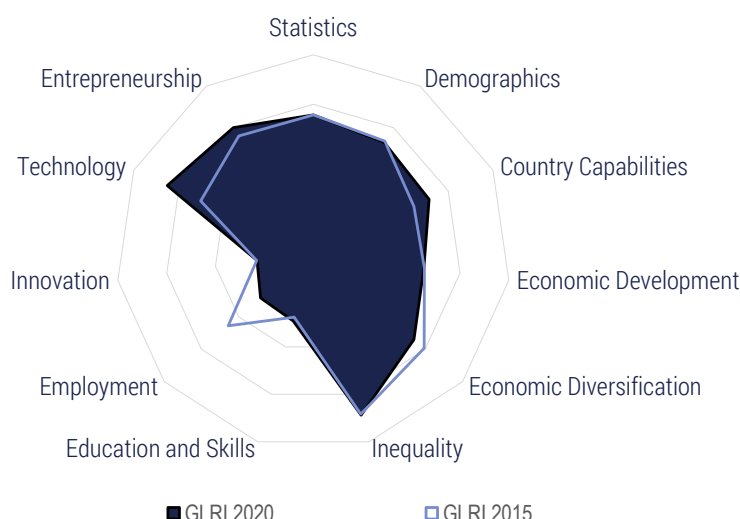
- ■ GLRI 2020
- ☐ GLRI 2015

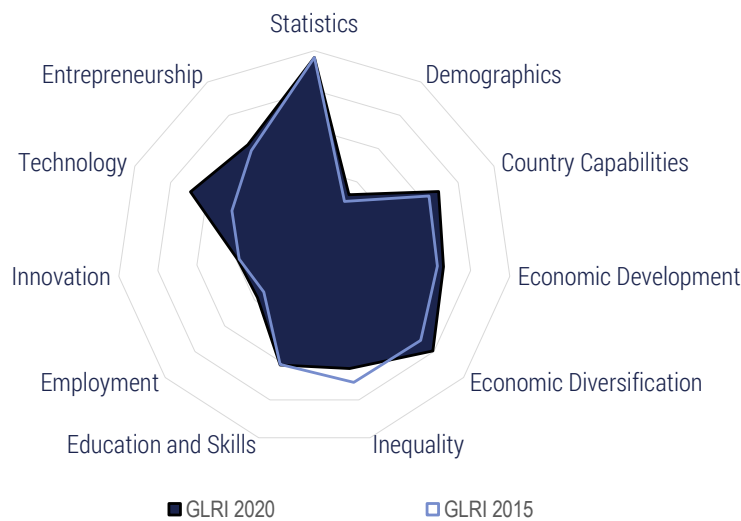## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**59**	**69**	▲	1
1.1 Demographics		53	100	▲	1
1.1.1 Share of older population (% of total population)	13.7	53	100	▲	1
1.2 Country Capabilities		52	58	▲	6
1.2.1 Economic Complexity Index	0.1	52	58	▲	6
1.3 Economic Development		45	74	▼	-7
1.3.1 Income per capita (PPP)	13 483	19	74	▲	3
1.3.2 Dependence on natural resources (% of GDP)	1.9	72	70	▼	-1
1.3.3 Tertiarisation of economy (% of GDP)	55.1	64	72	▼	-4
1.4 Economic Diversification		54	62	▼	-7
1.4.1 Concentration of exports	0.2	78	63	▼	-13
1.4.2 Diversity	168	30	63	▼	-3
1.5 Inequality		69	57	▲	3
1.5.1 Income inequality	35.6	69	57	▲	3
2. Policy Pillar		**40**	**79**	▼	-6
2.1 Education and skills		29	119	▼	-1
2.1.1 Education and skills input		26	126	▼	-2
2.1.1.1 Government education spendings (% of GDP)	3.3	27	104	▼	-4
2.1.1.2 Tertiary public education spendings (% of gov.exp)	15.0	27	103	▲	5
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	7.1	46	98	▼	-3
2.1.1.5 Staff training (1-7 survey)	3.0	17	131	▲	1
2.1.2 Education and skills output		41	98	▲	3
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	400	30	65	▲	7
2.1.2.3 Skillset of graduates (1-7 survey)	3.5	34	113	▼	-23
2.1.2.4 Skilled labour supply (1-7 survey)	3.3	34	126	●	0
2.1.2.5 Vocational enrollment (% of students)	29.6	63	20	▲	2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	15.9	54	29	▲	1
2.1.2.7 Quality of vocational education (1-7 survey)	3.1	20	127	▲	1
2.1.2.8 STEM graduates (%)	20.0	34	74	▼	-21
2.1.2.9 Digital skills (1-7 survey)	3.6	39	104	▼	-1
2.1.2.10 Critical thinking (1-7 survey)	2.7	21	118	▲	4
2.2 Employment		28	118	▼	-48
2.2.1 Employment input		42	94	▼	-66
2.2.1.1 Hiring and firing practices (1-7 survey)	3.7	43	78	▼	-32
2.2.1.2 Worker's rights (1-7 score)	73.2	43	53	▼	-38
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.7	40	106	▼	-5
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		23	127	▼	-7
2.2.2.1 Women in labour force (% female-male)	63.3	51	110	▼	-10
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.4	22	124	▲	2
2.2.2.4 Knowledge insentive employment (%)	26.3	42	52	▲	1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	2 872	2	138	●	0
2.2.2.6 ALP effectiveness (1-7 survey)	3.1	38	72	▲	4
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.6	12	131	▼	-34
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.1	49	54	▼	-15
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		23	78	▼	-7
2.3.1 Innovation input		23	95	▼	-14
2.3.1.1 R&D spendings (% of GDP)	0.4	13	75	▼	-9
2.3.1.2 IPR score	4.7	33	96	▼	-20
2.3.2 Innovation output		23	64	▲	4
2.3.2.1 Trademark applications per th. pop.	n/a	n/a	n/a		
2.3.2.2 Patent applications per th. pop.	n/a	n/a	n/a		
2.3.2.3 R&D journals per th. pop.	n/a	n/a	n/a		
2.3.2.4 Researchers in R&D per mln.pop.	729	10	55	●	0
2.3.2.5 Technicians in R&D per mln.pop.	92	5	62	▲	12
2.3.2.6 Creative goods exports (% of goods exp.)	0.95	34	34	▲	1
2.4 Technology		65	42	▲	5
2.4.1 Technology input		76	47	▲	26
2.4.1.1 ICT affordability	5.9	84	37	▲	58
2.4.1.2 ICT access index	6.0	62	62	▼	-12
2.4.2 Technology output		51	45	●	0
2.4.2.1 ICT goods and services export (% of exp.)	13.7	51	37	▼	-4
2.4.2.2 Mobile broadband per 100 pop.	56.2	35	73	▼	-8
2.5 Entrepreneurship		60	44	▲	4
2.5.1 Entrepreneurship input		71	62	▼	-13
2.5.1.1 Time dealing with gov. regulations (%)	10.3	64	73	▲	3
2.5.1.2 Time to start a business (days)	15.0	71	84	▼	-18
2.5.1.3 Procedures to register a business	6.0	61	56	▼	-18
2.5.1.4 Cost to start a business (% GNI per cap)	0.1	98	3	▼	-1
2.5.2 Entrepreneurship output		53	43	▲	11
2.5.2.1 Global Entrepreneurship Index	29.1	28	62	▼	-7
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.3	69	39	▲	23
2.6 Statistics		56	100	●	0
2.6.1 Statistical fullness (%)	0.78	56	100	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**41**	**117**	▼	**-18**
1.1 Demographics		**93**	**21**	▼	**-2**
1.1.1 Share of older population (% of total population)	3.0	93	21	▼	-2
1.2 Country Capabilities		**20**	**115**	▼	**-5**
1.2.1 Economic Complexity Index	-1.3	20	115	▼	-5
1.3 Economic Development		**19**	**126**	▼	**-13**
1.3.1 Income per capita (PPP)	1 453	2	139	●	0
1.3.2 Dependence on natural resources (% of GDP)	10.3	36	113	▼	-10
1.3.3 Tertiarisation of economy (% of GDP)	44.1	47	118	▼	-25
1.4 Economic Diversification		**50**	**71**	▼	**-1**
1.4.1 Concentration of exports	0.2	79	56	▲	8
1.4.2 Diversity	124	22	82	▼	-8
1.5 Inequality		**48**	**97**	▼	**-2**
1.5.1 Income inequality	42.6	48	97	▼	-2
2. Policy Pillar		**12**	**142**	▼	**-3**
2.1 Education and skills		**18**	**136**	▲	**3**
2.1.1 Education and skills input		14	138	▲	3
2.1.1.1 Government education spendings (% of GDP)	2.8	21	120	▲	8
2.1.1.2 Tertiary public education spendings (% of gov.exp)	15.2	28	101	▲	6
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	n/a	n/a	n/a		
2.1.2 Education and skills output		32	119	▼	-6
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.6	38	101	▼	-2
2.1.2.4 Skilled labour supply (1-7 survey)	n/a	n/a	n/a		
2.1.2.5 Vocational enrollment (% of students)	2.3	6	112	▲	7
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.7	3	105	▼	-4
2.1.2.7 Quality of vocational education (1-7 survey)	n/a	n/a	n/a		
2.1.2.8 STEM graduates (%)	23.0	39	53	▲	20
2.1.2.9 Digital skills (1-7 survey)	n/a	n/a	n/a		
2.1.2.10 Critical thinking (1-7 survey)	n/a	n/a	n/a		
2.2 Employment		**36**	**92**	▼	**-38**
2.2.1 Employment input		45	79	▼	-61
2.2.1.1 Hiring and firing practices (1-7 survey)	3.7	44	69	▼	-35
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	n/a	n/a	n/a		
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		32	97	▲	3
2.2.2.1 Women in labour force (% female-male)	93.6	88	11	▼	-4
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.0	34	97	▼	-5
2.2.2.4 Knowledge insentive employment (%)	3.5	5	118	▲	1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	2 701	2	140	▼	-1
2.2.2.6 ALP effectiveness (1-7 survey)	n/a	n/a	n/a		
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.1	31	97	▼	-34
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.0	46	63	▲	32
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		**7**	**131**	▼	**-6**
2.3.1 Innovation input		12	123	▼	-7
2.3.1.1 R&D spendings (% of GDP)	0.0	1	125	▼	-20
2.3.1.2 IPR score	4.0	23	114	▼	-7
2.3.2 Innovation output		2	126	▼	-1
2.3.2.1 Trademark applications per th. pop.	0.1	3	123	▲	1
2.3.2.2 Patent applications per th. pop.	0.00	2	111	▲	2
2.3.2.3 R&D journals per th. pop.	0.00	1	132	▼	-4
2.3.2.4 Researchers in R&D per mln.pop.	31	1	108	▼	-12
2.3.2.5 Technicians in R&D per mln.pop.	11	1	96	▼	-5
2.3.2.6 Creative goods exports (% of goods exp.)	0.02	2	89	▼	-1
2.4 Technology		**1**	**145**	▼	**-7**
2.4.1 Technology input		1	145	▼	-12
2.4.1.1 ICT affordability	1.0	1	144	▼	-20
2.4.1.2 ICT access index	1.7	6	138	▼	-3
2.4.2 Technology output		10	142	▼	-8
2.4.2.1 ICT goods and services export (% of exp.)	2.1	17	133	▼	-15
2.4.2.2 Mobile broadband per 100 pop.	10.5	7	133	▼	-3
2.5 Entrepreneurship		**35**	**128**	▼	**-2**
2.5.1 Entrepreneurship input		52	116	▲	4
2.5.1.1 Time dealing with gov. regulations (%)	20.8	28	107	▼	-3
2.5.1.2 Time to start a business (days)	8.0	85	43	▲	6
2.5.1.3 Procedures to register a business	5.0	68	38	▲	54
2.5.1.4 Cost to start a business (% GNI per cap)	n/a	n/a	n/a		
2.5.2 Entrepreneurship output		23	131	▼	-20
2.5.2.1 Global Entrepreneurship Index	14.0	8	115	▼	-2
2.5.2.2 New corporate registrations per th. pop.	0.0	1	108	▼	-5
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.0	39	118	▼	-39
2.6 Statistics		**32**	**136**	●	**0**
2.6.1 Statistical fullness (%)	0.66	32	136	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Malawi

Global Labour Resilience Index 2020

123

GLRI 2015 Rank 124 ⬆

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics · Demographics · Entrepreneurship · Country Capabilities · Technology · Economic Development · Innovation · Economic Diversification · Employment · Inequality · Education and Skills

■ GLRI 2020   ☐ GLRI 2015

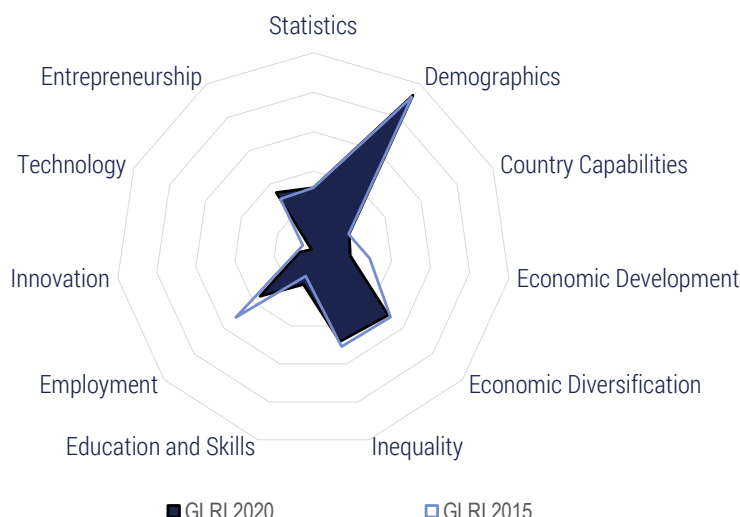## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**34**	**127**	▲	2
1.1 Demographics		93	19	▲	4
1.1.1 Share of older population (% of total population)	2.9	93	19	▲	4
1.2 Country Capabilities		35	93	▲	8
1.2.1 Economic Complexity Index	-0.6	35	93	▲	8
1.3 Economic Development		24	116	▽	-1
1.3.1 Income per capita (PPP)	1 163	2	142	●	0
1.3.2 Dependence on natural resources (% of GDP)	9.6	37	111	▽	-5
1.3.3 Tertiarisation of economy (% of GDP)	52.4	60	87	▲	7
1.4 Economic Diversification		21	131	▽	-19
1.4.1 Concentration of exports	0.6	32	132	▽	-14
1.4.2 Diversity	64	10	113	▽	-9
1.5 Inequality		42	109	▲	1
1.5.1 Income inequality	44.7	42	109	▲	1
2. Policy Pillar		**28**	**120**	▽	-7
2.1 Education and skills		25	127	▽	-10
2.1.1 Education and skills input		30	120	▽	-18
2.1.1.1 Government education spendings (% of GDP)	4.0	35	78	▽	-39
2.1.1.2 Tertiary public education spendings (% of gov.exp)	23.1	45	52	▽	-25
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	13 291	64	11	▲	1
2.1.1.4 Years of schooling	2.7	11	124	▽	-3
2.1.1.5 Staff training (1-7 survey)	3.6	35	95	▽	-23
2.1.2 Education and skills output		30	126	▲	5
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.4	32	124	▲	2
2.1.2.4 Skilled labour supply (1-7 survey)	3.9	49	88	▲	18
2.1.2.5 Vocational enrollment (% of students)	0.7	2	128	▲	3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	3.4	27	117	▲	15
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	3.0	23	129	▲	2
2.1.2.10 Critical thinking (1-7 survey)	2.9	27	108	▲	4
2.2 Employment		45	58	●	0
2.2.1 Employment input		49	66	▽	-9
2.2.1.1 Hiring and firing practices (1-7 survey)	3.7	43	76	▽	-18
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.1	51	73	▲	11
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		44	51	▲	1
2.2.2.1 Women in labour force (% female-male)	88.8	82	23	▲	4
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.2	38	88	▽	-18
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	58 687	40	46	▲	3
2.2.2.6 ALP effectiveness (1-7 survey)	2.4	21	112	▲	10
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.9	24	115	▽	-21
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.9	43	73	▲	26
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		17	91	▽	-13
2.3.1 Innovation input		33	64	▽	-19
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	4.7	33	95	▽	-26
2.3.2 Innovation output		2	130	▽	-1
2.3.2.1 Trademark applications per th. pop.	0.1	3	125	●	0
2.3.2.2 Patent applications per th. pop.	0.00	1	129	▽	-10
2.3.2.3 R&D journals per th. pop.	0.01	2	116	▽	-2
2.3.2.4 Researchers in R&D per mln.pop.	48	1	97	▲	1
2.3.2.5 Technicians in R&D per mln.pop.	58	3	73	▽	-2
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	121	▲	2
2.4 Technology		27	129	▲	7
2.4.1 Technology input		10	142	▲	2
2.4.1.1 ICT affordability	2.0	17	141	▲	1
2.4.1.2 ICT access index	1.7	7	136	●	0
2.4.2 Technology output		48	58	▲	34
2.4.2.1 ICT goods and services export (% of exp.)	20.5	70	19	▲	42
2.4.2.2 Mobile broadband per 100 pop.	18.5	12	123	▽	-20
2.5 Entrepreneurship		36	125	▽	-13
2.5.1 Entrepreneurship input		60	90	▽	-4
2.5.1.1 Time dealing with gov. regulations (%)	5.0	83	41	▽	-11
2.5.1.2 Time to start a business (days)	37.0	28	128	▽	-7
2.5.1.3 Procedures to register a business	7.0	53	70	▲	42
2.5.1.4 Cost to start a business (% GNI per cap)	44.6	36	124	▽	-3
2.5.2 Entrepreneurship output		17	137	▽	-15
2.5.2.1 Global Entrepreneurship Index	12.2	5	124	▲	1
2.5.2.2 New corporate registrations per th. pop.	0.0	1	110	▽	-3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	2.6	29	132	▽	-43
2.6 Statistics		52	112	●	0
2.6.1 Statistical fullness (%)	0.76	52	112	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Malaysia

Global Labour Resilience Index 2020

GLRI 2015 Rank 31 ⬆

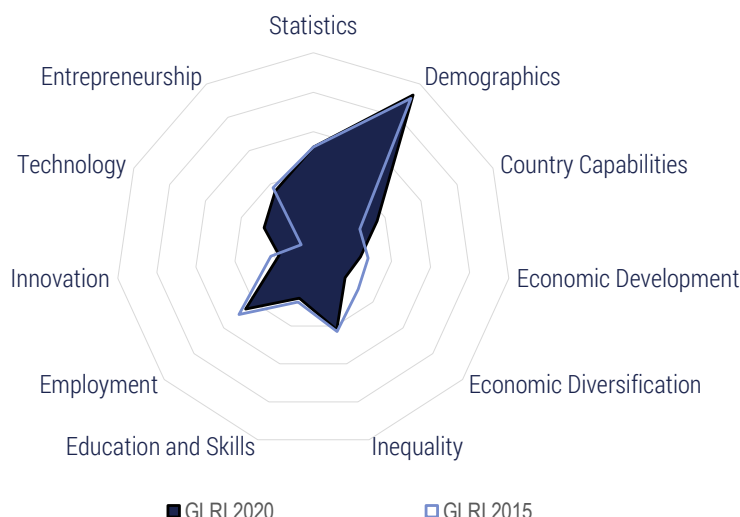## Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
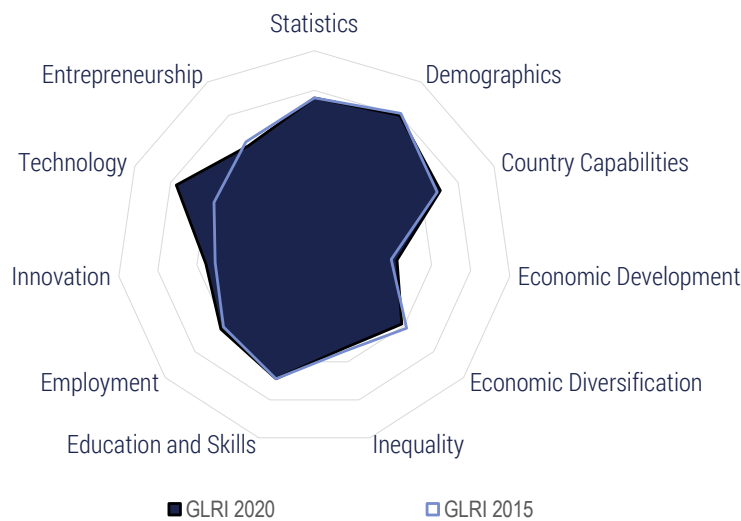
- GLRI 2020
- GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**72**	**48**	▼ -10
1.1 Demographics		80	66	▼ -2
1.1.1 Share of older population (% of total population)	6.5	80	66	▼ -2
1.2 Country Capabilities		70	26	▼ -1
1.2.1 Economic Complexity Index	1.0	70	26	▼ -1
1.3 Economic Development		42	78	▲ 6
1.3.1 Income per capita (PPP)	28 176	41	43	▲ 2
1.3.2 Dependence on natural resources (% of GDP)	6.3	47	100	▲ 4
1.3.3 Tertiarisation of economy (% of GDP)	52.0	59	89	▲ 3
1.4 Economic Diversification		59	51	▼ -5
1.4.1 Concentration of exports	0.2	78	61	▼ -9
1.4.2 Diversity	214	39	45	▲ 5
1.5 Inequality		53	91	▼ -2
1.5.1 Income inequality	41.0	53	91	▼ -2
2. Policy Pillar		**70**	**25**	▲ 3
2.1 Education and skills		69	23	▼ -3
2.1.1 Education and skills input		71	25	▼ -7
2.1.1.1 Government education spendings (% of GDP)	4.7	43	59	▼ -23
2.1.1.2 Tertiary public education spendings (% of gov.exp)	21.3	41	68	▼ -47
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	10.4	71	56	▲ 3
2.1.1.5 Staff training (1-7 survey)	5.4	85	4	▲ 5
2.1.2 Education and skills output		70	22	▲ 3
2.1.2.1 Tertiary attainment rate (% of pop 25+)	11.3	25	64	▼ -4
2.1.2.2 PISA score	431	42	45	▲ 11
2.1.2.3 Skillset of graduates (1-7 survey)	5.3	82	6	▲ 2
2.1.2.4 Skilled labour supply (1-7 survey)	5.3	87	4	▲ 2
2.1.2.5 Vocational enrollment (% of students)	11.0	24	66	▲ 10
2.1.2.6 Vocational enrollment of 15-24 olds (%)	5.0	18	69	▼ -3
2.1.2.7 Quality of vocational education (1-7 survey)	5.3	70	9	▲ 2
2.1.2.8 STEM graduates (%)	40.8	74	7	▲ 5
2.1.2.9 Digital skills (1-7 survey)	5.4	88	10	▲ 2
2.1.2.10 Critical thinking (1-7 survey)	4.7	74	16	▼ -2
2.2 Employment		63	17	▲ 9
2.2.1 Employment input		67	21	▲ 14
2.2.1.1 Hiring and firing practices (1-7 survey)	5.0	80	8	▲ 15
2.2.1.2 Worker's rights (1-7 score)	70.1	36	70	▲ 4
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.6	66	29	▲ 11
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		54	25	▲ 6
2.2.2.1 Women in labour force (% female-male)	65.7	54	103	▲ 6
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	5.0	77	12	▲ 7
2.2.2.4 Knowledge insentive employment (%)	25.2	40	54	▼ -3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	33 072	23	75	▲ 5
2.2.2.6 ALP effectiveness (1-7 survey)	5.0	81	11	● 0
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.4	74	14	▲ 4
2.2.2.8 Impact of taxes on workers (1-7 survey)	5.0	72	10	▼ -1
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		55	27	▲ 2
2.3.1 Innovation input		58	30	▲ 2
2.3.1.1 R&D spendings (% of GDP)	1.4	52	23	▲ 9
2.3.1.2 IPR score	6.5	63	32	▼ -1
2.3.2 Innovation output		53	29	▲ 2
2.3.2.1 Trademark applications per th. pop.	1.3	42	43	▲ 1
2.3.2.2 Patent applications per th. pop.	0.22	74	22	▼ -1
2.3.2.3 R&D journals per th. pop.	0.64	33	38	▲ 2
2.3.2.4 Researchers in R&D per mln.pop.	2 358	31	35	▲ 4
2.3.2.5 Technicians in R&D per mln.pop.	259	12	49	▲ 4
2.3.2.6 Creative goods exports (% of goods exp.)	2.29	60	24	▲ 3
2.4 Technology		77	16	▲ 19
2.4.1 Technology input		67	69	▼ -23
2.4.1.1 ICT affordability	4.7	63	90	▼ -39
2.4.1.2 ICT access index	6.4	67	56	▼ -2
2.4.2 Technology output		81	7	▲ 39
2.4.2.1 ICT goods and services export (% of exp.)	21.8	74	17	▲ 8
2.4.2.2 Mobile broadband per 100 pop.	91.7	57	25	▲ 50
2.5 Entrepreneurship		62	38	▼ -2
2.5.1 Entrepreneurship input		75	46	▲ 5
2.5.1.1 Time dealing with gov. regulations (%)	3.1	90	24	▲ 40
2.5.1.2 Time to start a business (days)	13.5	74	79	▼ -39
2.5.1.3 Procedures to register a business	9.0	37	112	▼ -74
2.5.1.4 Cost to start a business (% GNI per cap)	5.4	69	58	▲ 3
2.5.2 Entrepreneurship output		52	45	▼ -10
2.5.2.1 Global Entrepreneurship Index	32.7	32	55	▼ -6
2.5.2.2 New corporate registrations per th. pop.	1.5	21	46	▼ -2
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	50.6	59	15	▲ 1
2.5.2.5 Access to loans (1-7 survey)	4.7	78	19	▼ -15
2.6 Statistics		76	43	● 0
2.6.1 Statistical fullness (%)	0.88	76	43	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**43**	**112**	▲ 20
1.1 Demographics		95	11	▲ 4
1.1.1 Share of older population (% of total population)	2.5	95	11	▲ 4
1.2 Country Capabilities		37	88	▲ 35
1.2.1 Economic Complexity Index	-0.5	37	88	▲ 35
1.3 Economic Development		14	135	⬤ 0
1.3.1 Income per capita (PPP)	2 056	3	131	▲ 1
1.3.2 Dependence on natural resources (% of GDP)	11.4	33	116	▽ -1
1.3.3 Tertiarisation of economy (% of GDP)	37.5	37	136	▽ -3
1.4 Economic Diversification		13	135	⬤ 0
1.4.1 Concentration of exports	0.7	10	139	▽ -2
1.4.2 Diversity	90	15	98	▲ 30
1.5 Inequality		76	39	▽ -1
1.5.1 Income inequality	33.0	76	39	▽ -1
2. Policy Pillar		**25**	**128**	▽ -43
2.1 Education and skills		25	128	▽ -5
2.1.1 Education and skills input		18	135	▽ -3
2.1.1.1 Government education spendings (% of GDP)	3.1	24	109	▽ -7
2.1.1.2 Tertiary public education spendings (% of gov.exp)	21.7	42	63	▲ 25
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	3 549	18	60	▲ 10
2.1.1.4 Years of schooling	1.9	5	128	▽ -2
2.1.1.5 Staff training (1-7 survey)	3.7	37	86	▽ -12
2.1.2 Education and skills output		41	99	▽ -12
2.1.2.1 Tertiary attainment rate (% of pop 25+)	2.2	6	91	▲ 3
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	3.9	44	79	▽ -4
2.1.2.4 Skilled labour supply (1-7 survey)	4.0	54	70	▽ -13
2.1.2.5 Vocational enrollment (% of students)	12.2	27	61	▲ 3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	3.5	13	75	▽ -4
2.1.2.7 Quality of vocational education (1-7 survey)	3.9	39	77	▲ 1
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a	
2.1.2.9 Digital skills (1-7 survey)	3.8	45	87	▽ -17
2.1.2.10 Critical thinking (1-7 survey)	3.6	45	56	▽ -16
2.2 Employment		45	59	▽ -25
2.2.1 Employment input		46	77	▽ -41
2.2.1.1 Hiring and firing practices (1-7 survey)	3.9	50	57	▽ -6
2.2.1.2 Worker's rights (1-7 score)	71.1	38	59	▽ -26
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.9	46	86	▽ -17
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		47	46	▽ -3
2.2.2.1 Women in labour force (% female-male)	75.8	66	77	▲ 7
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.1	37	92	▽ -23
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a	

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	92 795	64	20	▲ 11
2.2.2.6 ALP effectiveness (1-7 survey)	3.1	38	71	▽ -18
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.8	19	123	▽ -72
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.7	38	91	▲ 29
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		12	116	▽ -16
2.3.1 Innovation input		23	96	▽ -24
2.3.1.1 R&D spendings (% of GDP)	0.3	11	82	▽ -28
2.3.1.2 IPR score	4.7	34	91	▽ -15
2.3.2 Innovation output		1	142	⬤ 0
2.3.2.1 Trademark applications per th. pop.	0.0	1	133	⬤ 0
2.3.2.2 Patent applications per th. pop.	0.00	1	126	▲ 1
2.3.2.3 R&D journals per th. pop.	0.00	1	129	▲ 2
2.3.2.4 Researchers in R&D per mln.pop.	33	1	107	▲ 2
2.3.2.5 Technicians in R&D per mln.pop.	24	2	90	▽ -2
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	122	▽ -1
2.4 Technology		17	138	▽ -18
2.4.1 Technology input		16	140	▽ -5
2.4.1.1 ICT affordability	2.3	23	139	▽ -8
2.4.1.2 ICT access index	2.2	12	129	▲ 4
2.4.2 Technology output		24	124	▽ -57
2.4.2.1 ICT goods and services export (% of exp.)	6.7	31	79	▽ -41
2.4.2.2 Mobile broadband per 100 pop.	24.4	16	114	▲ 4
2.5 Entrepreneurship		28	139	▽ -82
2.5.1 Entrepreneurship input		31	141	▽ -101
2.5.1.1 Time dealing with gov. regulations (%)	27.5	4	111	▽ -94
2.5.1.2 Time to start a business (days)	11.0	79	63	▽ -19
2.5.1.3 Procedures to register a business	5.0	68	38	▽ -19
2.5.1.4 Cost to start a business (% GNI per cap)	58.4	31	129	▽ -2
2.5.2 Entrepreneurship output		31	107	▽ -12
2.5.2.1 Global Entrepreneurship Index	15.9	10	109	▲ 2
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a	
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	3.4	48	99	▽ -27
2.6 Statistics		62	79	⬤ 0
2.6.1 Statistical fullness (%)	0.81	62	79	⬤ 0

Malta

Global Labour Resilience Index 2020

GLRI 2015 Rank 34 ●

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
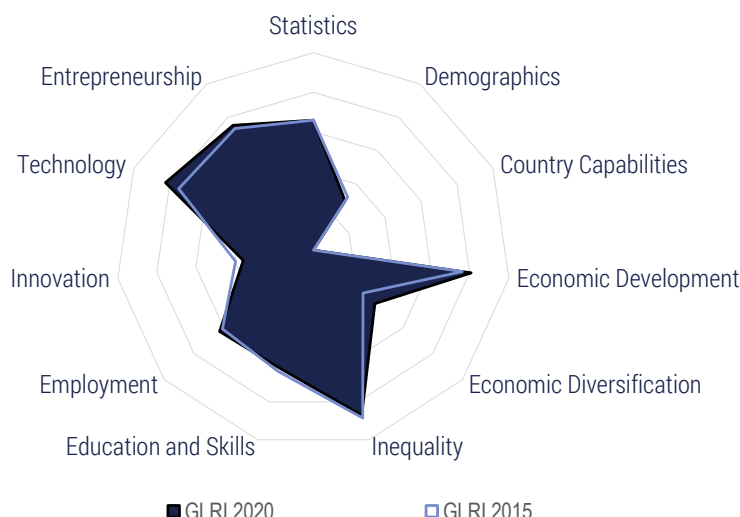
■ GLRI 2020   □ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.
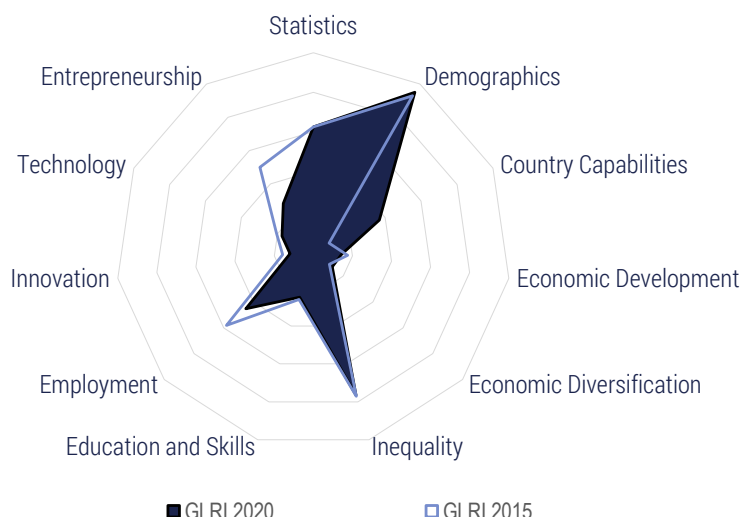
Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		70	53	▲	3
1.1 Demographics		30	134	▽	-9
1.1.1 Share of older population (% of total population)	19.9	30	134	▽	-9
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		81	7	▲	3
1.3.1 Income per capita (PPP)	38 147	55	26	▲	7
1.3.2 Dependence on natural resources (% of GDP)	0.0	100	1	●	0
1.3.3 Tertiarisation of economy (% of GDP)	75.0	94	3	▲	3
1.4 Economic Diversification		41	95	▲	10
1.4.1 Concentration of exports	0.3	66	92	▲	13
1.4.2 Diversity	97	17	94	▲	13
1.5 Inequality		87	19	▽	-4
1.5.1 Income inequality	29.4	87	19	▽	-4
2. Policy Pillar		67	30	▽	-3
2.1 Education and skills		62	29	▽	-3
2.1.1 Education and skills input		71	24	▽	-4
2.1.1.1 Government education spendings (% of GDP)	5.3	49	37	▽	-32
2.1.1.2 Tertiary public education spendings (% of gov.exp)	25.3	50	38	▲	47
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	18 009	87	5	▲	1
2.1.1.4 Years of schooling	11.3	78	37	▲	2
2.1.1.5 Staff training (1-7 survey)	4.3	54	43	▽	-10
2.1.2 Education and skills output		57	49	▽	-7
2.1.2.1 Tertiary attainment rate (% of pop 25+)	18.4	40	42	▲	8
2.1.2.2 PISA score	459	53	39	●	0
2.1.2.3 Skillset of graduates (1-7 survey)	4.9	71	25	▲	3
2.1.2.4 Skilled labour supply (1-7 survey)	3.7	45	97	▽	-19
2.1.2.5 Vocational enrollment (% of students)	9.0	20	77	▲	5
2.1.2.6 Vocational enrollment of 15-24 olds (%)	11.1	38	44	▽	-2
2.1.2.7 Quality of vocational education (1-7 survey)	4.5	52	39	▽	-15
2.1.2.8 STEM graduates (%)	18.0	30	81	▽	-45
2.1.2.9 Digital skills (1-7 survey)	4.8	72	36	▽	-13
2.1.2.10 Critical thinking (1-7 survey)	4.0	56	37	▽	-8
2.2 Employment		63	16	▲	11
2.2.1 Employment input		68	18	▲	13
2.2.1.1 Hiring and firing practices (1-7 survey)	4.1	56	41	▲	29
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.6	67	26	▲	3
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		54	28	▲	8
2.2.2.1 Women in labour force (% female-male)	65.4	54	106	▲	13
2.2.2.2 Gender pay gap (% of employees)	9.0	73	17	▽	-6
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.5	66	22	▲	2
2.2.2.4 Knowledge insentive employment (%)	39.3	63	25	▲	8

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	14 733	10	106	▽	-2
2.2.2.6 ALP effectiveness (1-7 survey)	4.8	77	18	▽	-2
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.1	65	24	▲	1
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.9	68	15	▲	30
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		36	44	▽	-5
2.3.1 Innovation input		44	41	▽	-8
2.3.1.1 R&D spendings (% of GDP)	0.5	20	57	▽	-14
2.3.1.2 IPR score	6.7	67	28	▽	-5
2.3.2 Innovation output		28	52	▽	-3
2.3.2.1 Trademark applications per th. pop.	2.4	76	17	●	0
2.3.2.2 Patent applications per th. pop.	0.01	4	102	▽	-28
2.3.2.3 R&D journals per th. pop.	0.66	34	36	▲	1
2.3.2.4 Researchers in R&D per mln.pop.	2 075	27	39	▽	-4
2.3.2.5 Technicians in R&D per mln.pop.	755	33	23	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	0.05	4	78	▽	-9
2.4 Technology		82	12	▲	2
2.4.1 Technology input		78	44	▽	-15
2.4.1.1 ICT affordability	4.8	65	86	▽	-13
2.4.1.2 ICT access index	7.9	86	22	▲	3
2.4.2 Technology output		79	10	▽	-1
2.4.2.1 ICT goods and services export (% of exp.)	25.3	85	12	▲	5
2.4.2.2 Mobile broadband per 100 pop.	71.4	45	47	▽	-27
2.5 Entrepreneurship		75	18	▲	4
2.5.1 Entrepreneurship input		60	94	▲	25
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	16.0	69	88	▲	31
2.5.1.3 Procedures to register a business	8.0	45	92	▲	20
2.5.1.4 Cost to start a business (% GNI per cap)	7.3	64	68	▲	12
2.5.2 Entrepreneurship output		93	3	▽	-1
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a		
2.5.2.2 New corporate registrations per th. pop.	10.7	100	1	●	0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.4	70	38	▽	-25
2.6 Statistics		66	71	●	0
2.6.1 Statistical fullness (%)	0.83	66	71	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**39**	**119**	▲	**16**
1.1 Demographics		93	27	▲	1
1.1.1 Share of older population (% of total population)	3.2	93	27	▲	1
1.2 Country Capabilities		14	120	▲	4
1.2.1 Economic Complexity Index	-1.6	14	120	▲	4
1.3 Economic Development		9	142	▲	1
1.3.1 Income per capita (PPP)	3 724	5	118	▼	-3
1.3.2 Dependence on natural resources (% of GDP)	24.1	14	139	▲	2
1.3.3 Tertiarisation of economy (% of GDP)	38.1	38	133	▲	3
1.4 Economic Diversification		35	103	▲	22
1.4.1 Concentration of exports	0.3	66	91	▲	26
1.4.2 Diversity	33	4	136	▲	3
1.5 Inequality		78	34	▲	21
1.5.1 Income inequality	32.6	78	34	▲	21
2. Policy Pillar		**20**	**135**	▼	**-2**
2.1 Education and skills		13	141	▲	1
2.1.1 Education and skills input		5	144	▲	1
2.1.1.1 Government education spendings (% of GDP)	2.6	19	126	▼	-14
2.1.1.2 Tertiary public education spendings (% of gov.exp)	17.7	33	87	▲	37
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	2.4	1	137	●	0
2.1.2 Education and skills output		32	120	▲	9
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	2.9	20	133	▲	3
2.1.2.4 Skilled labour supply (1-7 survey)	3.7	44	100	▲	31
2.1.2.5 Vocational enrollment (% of students)	0.5	2	132	▼	-7
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.1	1	117	▼	-6
2.1.2.7 Quality of vocational education (1-7 survey)	3.5	28	111	▼	-27
2.1.2.8 STEM graduates (%)	30.2	54	16	▲	50
2.1.2.9 Digital skills (1-7 survey)	3.9	47	82	▼	-9
2.1.2.10 Critical thinking (1-7 survey)	2.4	15	129	▲	2
2.2 Employment		17	136	▲	3
2.2.1 Employment input		25	132	▼	-24
2.2.1.1 Hiring and firing practices (1-7 survey)	3.1	36	126	▼	-35
2.2.1.2 Worker's rights (1-7 score)	61.9	19	95	▼	-21
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.6	40	107	▲	1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		23	129	▲	14
2.2.2.1 Women in labour force (% female-male)	46.1	30	131	▼	-1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.3	21	131	▲	1
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	47 244	32	57	▲	5
2.2.2.6 ALP effectiveness (1-7 survey)	2.2	16	114	▲	9
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.2	35	84	▲	55
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.2	51	50	▲	87
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		13	111	▼	-21
2.3.1 Innovation input		25	88	▼	-25
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	4.2	25	112	▼	-26
2.3.2 Innovation output		2	134	▼	-2
2.3.2.1 Trademark applications per th. pop.	0.0	2	127	●	0
2.3.2.2 Patent applications per th. pop.	n/a	n/a	n/a		
2.3.2.3 R&D journals per th. pop.	0.00	1	130	●	0
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	133	▲	1
2.4 Technology		49	84	▼	-11
2.4.1 Technology input		26	126	▼	-10
2.4.1.1 ICT affordability	3.3	39	122	▼	-20
2.4.1.2 ICT access index	2.3	14	126	▼	-2
2.4.2 Technology output		73	16	▲	5
2.4.2.1 ICT goods and services export (% of exp.)	51.7	100	1	●	0
2.4.2.2 Mobile broadband per 100 pop.	30.2	19	107	▼	-2
2.5 Entrepreneurship		30	137	▼	-18
2.5.1 Entrepreneurship input		56	102	▼	-30
2.5.1.1 Time dealing with gov. regulations (%)	17.2	40	97	▼	-49
2.5.1.2 Time to start a business (days)	6.0	89	29	▲	53
2.5.1.3 Procedures to register a business	4.0	76	18	▲	74
2.5.1.4 Cost to start a business (% GNI per cap)	19.3	49	101	●	0
2.5.2 Entrepreneurship output		11	141	▼	-3
2.5.2.1 Global Entrepreneurship Index	13.2	7	120	▼	-4
2.5.2.2 New corporate registrations per th. pop.	0.3	5	88	▲	17
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	2.1	17	140	▼	-11
2.6 Statistics		42	130	●	0
2.6.1 Statistical fullness (%)	0.71	42	130	●	0

Whiteshield Partners
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   ☐ GLRI 2015

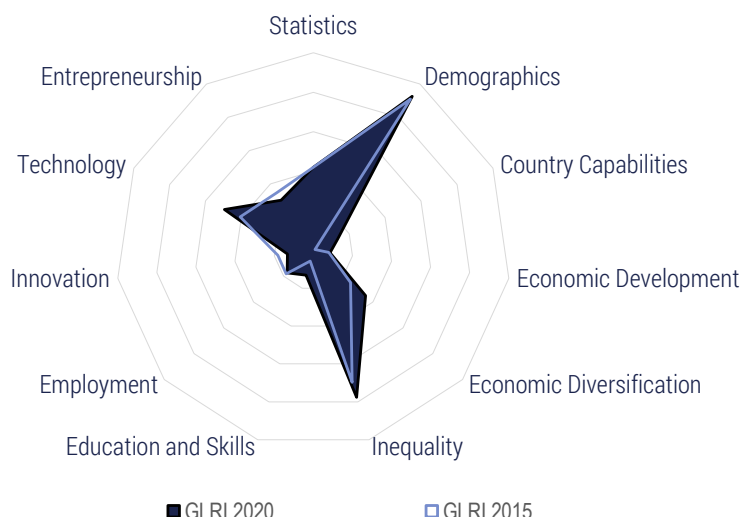## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**70**	**54**	▽	-6
1.1 Demographics		61	94	▽	-6
1.1.1 Share of older population (% of total population)	11.5	61	94	▽	-6
1.2 Country Capabilities		47	64	△	2
1.2.1 Economic Complexity Index	0.0	47	64	△	2
1.3 Economic Development		67	28	△	2
1.3.1 Income per capita (PPP)	21 075	30	54	△	3
1.3.2 Dependence on natural resources (% of GDP)	0.0	100	5	●	0
1.3.3 Tertiarisation of economy (% of GDP)	67.4	82	18	△	9
1.4 Economic Diversification		53	63	△	1
1.4.1 Concentration of exports	0.2	78	62	△	11
1.4.2 Diversity	162	29	66	△	-2
1.5 Inequality		68	59	▽	-2
1.5.1 Income inequality	35.8	68	59	▽	-2
2. Policy Pillar		**52**	**50**	▽	-4
2.1 Education and skills		47	59	△	16
2.1.1 Education and skills input		55	48	△	33
2.1.1.1 Government education spendings (% of GDP)	4.8	44	54	△	39
2.1.1.2 Tertiary public education spendings (% of gov.exp)	6.4	8	135	▽	-1
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	11.2	77	40	△	34
2.1.1.5 Staff training (1-7 survey)	4.4	58	38	▽	-7
2.1.2 Education and skills output		47	78	▽	-6
2.1.2.1 Tertiary attainment rate (% of pop 25+)	10.8	24	66	▽	-5
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	4.3	55	51	△	11
2.1.2.4 Skilled labour supply (1-7 survey)	4.0	52	78	▽	-9
2.1.2.5 Vocational enrollment (% of students)	9.6	21	73	▽	-8
2.1.2.6 Vocational enrollment of 15-24 olds (%)	1.5	6	91	▽	-21
2.1.2.7 Quality of vocational education (1-7 survey)	4.4	50	45	△	3
2.1.2.8 STEM graduates (%)	23.3	40	49	△	1
2.1.2.9 Digital skills (1-7 survey)	4.5	62	50	●	0
2.1.2.10 Critical thinking (1-7 survey)	3.4	40	66	▽	-5
2.2 Employment		49	49	△	4
2.2.1 Employment input		55	40	●	0
2.2.1.1 Hiring and firing practices (1-7 survey)	4.4	64	24	△	35
2.2.1.2 Worker's rights (1-7 score)	71.1	38	59	▽	-21
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.1	52	67	△	4
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		43	55	△	7
2.2.2.1 Women in labour force (% female-male)	62.6	50	111	△	5
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.9	53	41	△	26
2.2.2.4 Knowledge insentive employment (%)	20.4	33	74	△	18

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	40 163	27	62	△	5
2.2.2.6 ALP effectiveness (1-7 survey)	3.7	52	52	▽	-15
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.7	51	43	▽	-8
2.2.2.8 Impact of taxes on workers (1-7 survey)	5.1	72	9	△	2
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		25	68	△	4
2.3.1 Innovation input		37	54	△	10
2.3.1.1 R&D spendings (% of GDP)	0.4	14	73	△	20
2.3.1.2 IPR score	6.2	59	38	▽	-2
2.3.2 Innovation output		14	81	△	1
2.3.2.1 Trademark applications per th. pop.	1.7	53	29	△	2
2.3.2.2 Patent applications per th. pop.	0.02	6	98	●	0
2.3.2.3 R&D journals per th. pop.	0.12	7	70	△	4
2.3.2.4 Researchers in R&D per mln.pop.	778	11	54	△	21
2.3.2.5 Technicians in R&D per mln.pop.	54	3	74	▽	-2
2.3.2.6 Creative goods exports (% of goods exp.)	0.04	3	84	△	1
2.4 Technology		49	90	▽	-41
2.4.1 Technology input		71	58	▽	-20
2.4.1.1 ICT affordability	5.5	76	63	▽	-51
2.4.1.2 ICT access index	5.9	60	65	▽	-4
2.4.2 Technology output		26	121	▽	-48
2.4.2.1 ICT goods and services export (% of exp.)	1.6	16	138	▽	-72
2.4.2.2 Mobile broadband per 100 pop.	51.7	32	79	▽	-13
2.5 Entrepreneurship		82	7	△	5
2.5.1 Entrepreneurship input		77	43	△	2
2.5.1.1 Time dealing with gov. regulations (%)	9.4	68	67	△	3
2.5.1.2 Time to start a business (days)	5.0	91	21	●	0
2.5.1.3 Procedures to register a business	4.0	76	18	△	1
2.5.1.4 Cost to start a business (% GNI per cap)	1.0	88	22	△	11
2.5.2 Entrepreneurship output		89	6	△	2
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a		
2.5.2.2 New corporate registrations per th. pop.	6.9	96	11	△	3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.2	66	44	▽	-19
2.6 Statistics		66	71	●	0
2.6.1 Statistical fullness (%)	0.83	66	71	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Mexico

Global Labour Resilience Index 2020

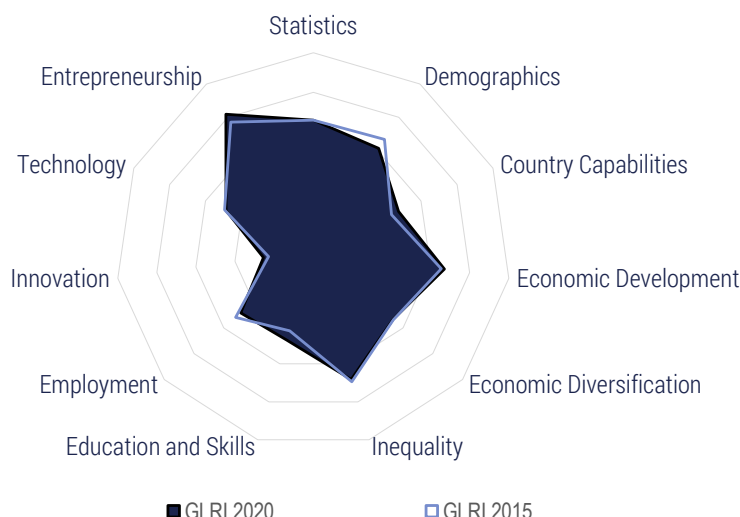## Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**72**	**46**	▼ -4
1.1 Demographics		78	72	▼ -3
1.1.1 Share of older population (% of total population)	7.1	78	72	▼ -3
1.2 Country Capabilities		70	27	▼ -3
1.2.1 Economic Complexity Index	1.0	70	27	▼ -3
1.3 Economic Development		48	63	▲ 2
1.3.1 Income per capita (PPP)	18 102	26	59	▼ -1
1.3.2 Dependence on natural resources (% of GDP)	2.9	64	79	▲ 8
1.3.3 Tertiarisation of economy (% of GDP)	60.2	71	42	▼ -5
1.4 Economic Diversification		63	41	▲ 1
1.4.1 Concentration of exports	0.1	89	32	▲ 1
1.4.2 Diversity	200	37	49	▼ -7
1.5 Inequality		46	104	▲ 5
1.5.1 Income inequality	43.4	46	104	▲ 5
2. Policy Pillar		**48**	**62**	▲ 4
2.1 Education and skills		45	73	▼ -8
2.1.1 Education and skills input		48	77	▼ -3
2.1.1.1 Government education spendings (% of GDP)	4.9	45	51	▲ 11
2.1.1.2 Tertiary public education spendings (% of gov.exp)	21.1	41	71	▼ -7
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	7 570	37	30	▼ -8
2.1.1.4 Years of schooling	8.9	60	78	▼ -2
2.1.1.5 Staff training (1-7 survey)	3.8	40	74	▲ 1
2.1.2 Education and skills output		50	69	▼ -1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	16.0	35	50	▼ -2
2.1.2.2 PISA score	416	37	54	▼ -2
2.1.2.3 Skillset of graduates (1-7 survey)	4.1	51	62	▲ 5
2.1.2.4 Skilled labour supply (1-7 survey)	4.3	60	58	▼ -3
2.1.2.5 Vocational enrollment (% of students)	26.8	57	26	▲ 3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	12.4	43	39	● 0
2.1.2.7 Quality of vocational education (1-7 survey)	4.2	45	57	▼ -2
2.1.2.8 STEM graduates (%)	25.2	44	39	▼ -19
2.1.2.9 Digital skills (1-7 survey)	3.8	45	85	▲ 4
2.1.2.10 Critical thinking (1-7 survey)	3.0	29	101	▲ 3
2.2 Employment		26	126	▼ -8
2.2.1 Employment input		37	106	▼ -6
2.2.1.1 Hiring and firing practices (1-7 survey)	3.4	35	94	▲ 1
2.2.1.2 Worker's rights (1-7 score)	56.7	8	110	▼ -13
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.3	59	48	▼ -6
2.2.1.4 Tax wedge (% of labour cost)	19.7	79	3	● 0
2.2.1.5 ALP spendings (% of GDP)	0.0	1	34	● 0
2.2.2 Employment output		25	122	▼ -11
2.2.2.1 Women in labour force (% female-male)	55.5	42	124	▼ -2
2.2.2.2 Gender pay gap (% of employees)	14.0	56	27	▲ 1
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.5	45	56	▲ 18
2.2.2.4 Knowledge insentive employment (%)	19.5	31	79	▲ 3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	13 898	9	107	▲ 1
2.2.2.6 ALP effectiveness (1-7 survey)	2.5	24	107	▼ -13
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.4	41	60	▼ -19
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.5	34	99	▼ -2
2.2.2.9 Earnings quality (PPP)	4.0	1	34	● 0
2.2.2.10 Quality of the working environment (%)	28.9	56	22	▼ -6
2.3 Innovation		34	48	▲ 2
2.3.1 Innovation input		30	73	▼ -3
2.3.1.1 R&D spendings (% of GDP)	0.5	18	66	▼ -6
2.3.1.2 IPR score	5.2	42	70	▼ -5
2.3.2 Innovation output		38	41	● 0
2.3.2.1 Trademark applications per th. pop.	1.1	35	52	▲ 9
2.3.2.2 Patent applications per th. pop.	0.14	46	33	▲ 2
2.3.2.3 R&D journals per th. pop.	0.12	7	72	▼ -1
2.3.2.4 Researchers in R&D per mln.pop.	244	4	76	▼ -5
2.3.2.5 Technicians in R&D per mln.pop.	133	7	57	▲ 1
2.3.2.6 Creative goods exports (% of goods exp.)	2.05	57	25	▲ 5
2.4 Technology		55	71	▲ 28
2.4.1 Technology input		67	68	▲ 7
2.4.1.1 ICT affordability	5.7	79	52	▲ 11
2.4.1.2 ICT access index	5.2	51	75	▼ -1
2.4.2 Technology output		42	77	▲ 48
2.4.2.1 ICT goods and services export (% of exp.)	8.4	36	63	▲ 50
2.4.2.2 Mobile broadband per 100 pop.	58.8	37	68	▲ 13
2.5 Entrepreneurship		43	107	▼ -2
2.5.1 Entrepreneurship input		56	101	▼ -2
2.5.1.1 Time dealing with gov. regulations (%)	13.6	53	86	● 0
2.5.1.2 Time to start a business (days)	8.4	84	49	▼ -14
2.5.1.3 Procedures to register a business	8.0	45	92	▼ -37
2.5.1.4 Cost to start a business (% GNI per cap)	17.0	51	97	▲ 1
2.5.2 Entrepreneurship output		34	103	▼ -4
2.5.2.1 Global Entrepreneurship Index	26.4	24	70	▲ 1
2.5.2.2 New corporate registrations per th. pop.	0.4	6	81	▲ 4
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	34.8	40	26	▲ 2
2.5.2.5 Access to loans (1-7 survey)	3.8	56	78	▲ 14
2.6 Statistics		97	10	● 0
2.6.1 Statistical fullness (%)	0.98	97	10	● 0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
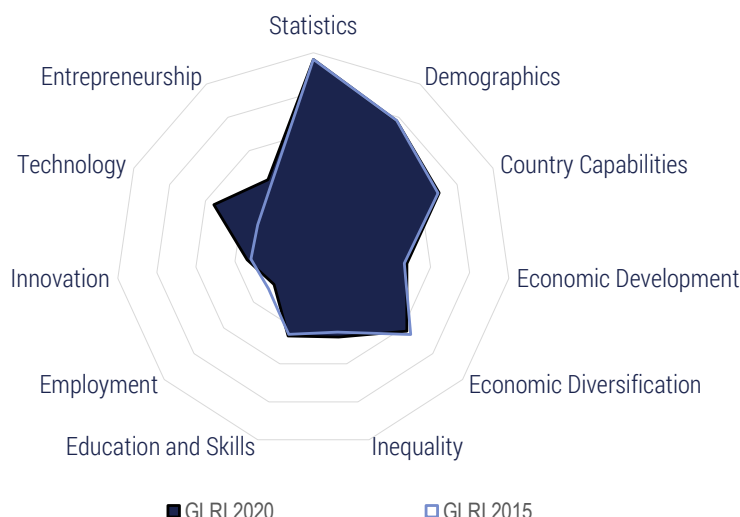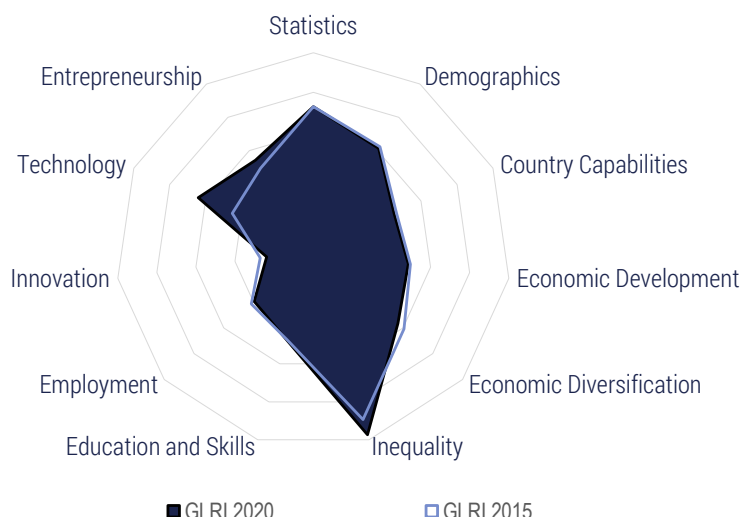

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		74	42	▽	-6
1.1 Demographics		61	95	▽	-1
1.1.1 Share of older population (% of total population)	11.5	61	95	▽	-1
1.2 Country Capabilities		45	72	▽	-11
1.2.1 Economic Complexity Index	-0.2	45	72	▽	-11
1.3 Economic Development		49	62	▽	-7
1.3.1 Income per capita (PPP)	6 490	9	106	▽	-1
1.3.2 Dependence on natural resources (% of GDP)	0.3	93	25	●	0
1.3.3 Tertiarisation of economy (% of GDP)	53.3	61	82	▽	-4
1.4 Economic Diversification		57	56	▽	-7
1.4.1 Concentration of exports	0.2	82	48	▽	-11
1.4.2 Diversity	173	31	60	▽	-1
1.5 Inequality		97	3	▲	10
1.5.1 Income inequality	25.9	97	3	▲	10
2. Policy Pillar		49	60	▽	-1
2.1 Education and skills		47	58	▽	-4
2.1.1 Education and skills input		55	50	▽	-4
2.1.1.1 Government education spendings (% of GDP)	6.7	66	12	▽	-8
2.1.1.2 Tertiary public education spendings (% of gov.exp)	14.7	27	106	▽	-10
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	11.7	81	30	▽	-1
2.1.1.5 Staff training (1-7 survey)	3.4	29	114	▲	8
2.1.2 Education and skills output		47	74	▲	3
2.1.2.1 Tertiary attainment rate (% of pop 25+)	20.1	44	37	▽	-2
2.1.2.2 PISA score	424	40	48	▲	3
2.1.2.3 Skillset of graduates (1-7 survey)	3.5	34	114	▽	-5
2.1.2.4 Skilled labour supply (1-7 survey)	3.2	30	132	▽	-5
2.1.2.5 Vocational enrollment (% of students)	13.6	30	58	▲	5
2.1.2.6 Vocational enrollment of 15-24 olds (%)	10.3	36	46	▲	15
2.1.2.7 Quality of vocational education (1-7 survey)	3.4	27	114	▽	-2
2.1.2.8 STEM graduates (%)	23.5	40	46	▽	-6
2.1.2.9 Digital skills (1-7 survey)	4.4	62	55	▽	-3
2.1.2.10 Critical thinking (1-7 survey)	3.3	38	72	▲	1
2.2 Employment		40	77	▲	7
2.2.1 Employment input		48	72	▽	-10
2.2.1.1 Hiring and firing practices (1-7 survey)	3.5	39	85	▽	-7
2.2.1.2 Worker's rights (1-7 score)	79.4	56	38	▽	-5
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.8	44	97	▲	1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		36	83	▲	12
2.2.2.1 Women in labour force (% female-male)	85.2	78	39	▽	-6
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	1.9	11	142	●	0
2.2.2.4 Knowledge insentive employment (%)	28.7	46	46	▲	3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	30 671	21	79	▲	3
2.2.2.6 ALP effectiveness (1-7 survey)	2.9	33	83	▲	8
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	39	69	▲	7
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.4	30	112	▲	20
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		24	73	▽	-13
2.3.1 Innovation input		17	115	▽	-7
2.3.1.1 R&D spendings (% of GDP)	0.3	11	81	▽	-5
2.3.1.2 IPR score	4.0	22	115	▽	-2
2.3.2 Innovation output		31	47	▽	-8
2.3.2.1 Trademark applications per th. pop.	1.3	40	44	▽	-16
2.3.2.2 Patent applications per th. pop.	0.03	11	79	▲	8
2.3.2.3 R&D journals per th. pop.	0.08	5	78	▲	2
2.3.2.4 Researchers in R&D per mln.pop.	724	10	56	▽	-3
2.3.2.5 Technicians in R&D per mln.pop.	71	4	67	▽	-3
2.3.2.6 Creative goods exports (% of goods exp.)	1.81	53	27	▽	-4
2.4 Technology		64	45	▲	18
2.4.1 Technology input		81	38	▲	7
2.4.1.1 ICT affordability	6.1	87	27	▽	-3
2.4.1.2 ICT access index	6.5	68	52	▲	11
2.4.2 Technology output		44	69	▲	14
2.4.2.1 ICT goods and services export (% of exp.)	10.5	41	52	▲	5
2.4.2.2 Mobile broadband per 100 pop.	55.5	35	74	▲	20
2.5 Entrepreneurship		54	63	●	0
2.5.1 Entrepreneurship input		80	32	▲	14
2.5.1.1 Time dealing with gov. regulations (%)	6.8	77	56	▲	2
2.5.1.2 Time to start a business (days)	4.0	93	13	▲	12
2.5.1.3 Procedures to register a business	3.0	84	7	▲	48
2.5.1.4 Cost to start a business (% GNI per cap)	5.6	68	60	▲	1
2.5.2 Entrepreneurship output		33	105	▽	-16
2.5.2.1 Global Entrepreneurship Index	21.2	17	86	▽	-33
2.5.2.2 New corporate registrations per th. pop.	1.3	19	51	▽	-1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.2	44	108	▽	-6
2.6 Statistics		73	51	●	0
2.6.1 Statistical fullness (%)	0.86	73	51	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

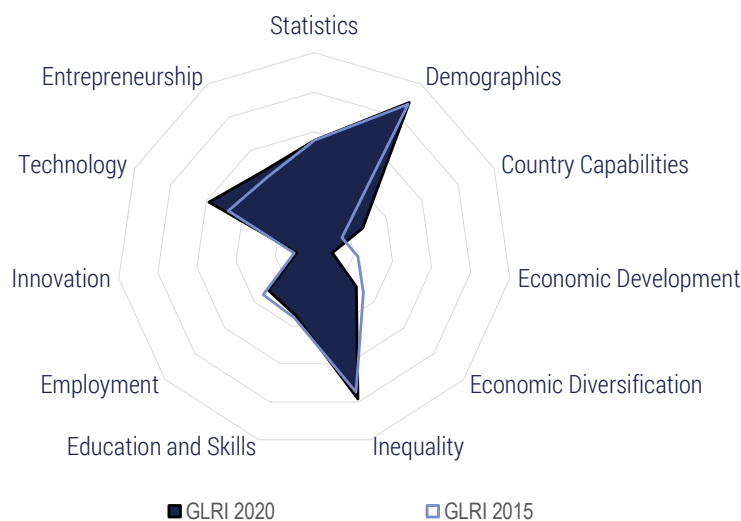## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		41	114	▲ 1
1.1 Demographics		89	41	▲ 1
1.1.1 Share of older population (% of total population)	4.1	89	41	▲ 1
1.2 Country Capabilities		27	106	▲ 14
1.2.1 Economic Complexity Index	-1.0	27	106	▲ 14
1.3 Economic Development		9	141	▼ -14
1.3.1 Income per capita (PPP)	12 209	18	79	● 0
1.3.2 Dependence on natural resources (% of GDP)	40.5	1	145	▼ -16
1.3.3 Tertiarisation of economy (% of GDP)	40.0	41	131	▼ -19
1.4 Economic Diversification		28	121	▼ -14
1.4.1 Concentration of exports	0.4	48	117	▼ -19
1.4.2 Diversity	57	9	119	▲ 5
1.5 Inequality		78	31	▲ 14
1.5.1 Income inequality	32.3	78	31	▲ 14
2. Policy Pillar		35	92	▼ -4
2.1 Education and skills		34	104	▼ -8
2.1.1 Education and skills input		38	104	▼ -6
2.1.1.1 Government education spendings (% of GDP)	4.1	36	76	▼ -21
2.1.1.2 Tertiary public education spendings (% of gov.exp)	6.4	8	136	▼ -36
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	629	4	74	▼ -2
2.1.1.4 Years of schooling	10.1	69	65	▼ -11
2.1.1.5 Staff training (1-7 survey)	3.6	35	92	▲ 11
2.1.2 Education and skills output		39	105	▼ -6
2.1.2.1 Tertiary attainment rate (% of pop 25+)	23.7	51	27	▼ -6
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	3.4	33	119	▼ -11
2.1.2.4 Skilled labour supply (1-7 survey)	2.6	16	136	● 0
2.1.2.5 Vocational enrollment (% of students)	10.1	22	70	▼ -1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	5.9	21	62	▲ 2
2.1.2.7 Quality of vocational education (1-7 survey)	3.5	29	107	▲ 6
2.1.2.8 STEM graduates (%)	25.3	44	36	▲ 38
2.1.2.9 Digital skills (1-7 survey)	3.7	43	92	▲ 4
2.1.2.10 Critical thinking (1-7 survey)	2.8	25	113	▲ 5
2.2 Employment		31	110	▼ -3
2.2.1 Employment input		32	120	▼ -6
2.2.1.1 Hiring and firing practices (1-7 survey)	3.7	42	79	▼ -24
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a	
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.2	27	125	▲ 7
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		37	79	▼ -5
2.2.2.1 Women in labour force (% female-male)	79.9	71	66	▼ -8
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.5	24	120	▲ 5
2.2.2.4 Knowledge insentive employment (%)	25.0	40	56	▲ 17

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	47 508	32	56	● 0
2.2.2.6 ALP effectiveness (1-7 survey)	2.8	31	92	▼ -2
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.2	35	83	▲ 24
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.1	24	121	▼ -46
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		9	125	▼ -4
2.3.1 Innovation input		5	127	▼ -2
2.3.1.1 R&D spendings (% of GDP)	0.1	5	101	▼ -13
2.3.1.2 IPR score	n/a	n/a	n/a	
2.3.2 Innovation output		13	82	▼ -1
2.3.2.1 Trademark applications per th. pop.	1.2	37	50	▲ 23
2.3.2.2 Patent applications per th. pop.	0.07	25	51	▼ -4
2.3.2.3 R&D journals per th. pop.	0.04	3	91	▼ -8
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a	
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	105	▲ 6
2.4 Technology		59	66	▼ -10
2.4.1 Technology input		76	48	▲ 6
2.4.1.1 ICT affordability	6.7	97	4	▲ 6
2.4.1.2 ICT access index	5.0	48	79	▲ 6
2.4.2 Technology output		39	84	▼ -14
2.4.2.1 ICT goods and services export (% of exp.)	2.4	18	124	▼ -56
2.4.2.2 Mobile broadband per 100 pop.	82.0	51	35	▲ 23
2.5 Entrepreneurship		48	84	▲ 4
2.5.1 Entrepreneurship input		51	118	▼ -7
2.5.1.1 Time dealing with gov. regulations (%)	19.4	33	101	▼ -4
2.5.1.2 Time to start a business (days)	12.0	77	72	▼ -4
2.5.1.3 Procedures to register a business	8.0	45	92	▼ -37
2.5.1.4 Cost to start a business (% GNI per cap)	1.4	85	32	▼ -3
2.5.2 Entrepreneurship output		49	51	▲ 8
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a	
2.5.2.2 New corporate registrations per th. pop.	3.9	55	22	▼ -3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	2.9	37	123	▲ 16
2.6 Statistics		56	100	● 0
2.6.1 Statistical fullness (%)	0.78	56	100	● 0

Montenegro

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   ☐ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		63	61	▽	-3
1.1 Demographics		47	109	▽	-2
1.1.1 Share of older population (% of total population)	15.3	47	109	▽	-2
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		52	52	▽	-5
1.3.1 Income per capita (PPP)	17 278	25	60	▲	8
1.3.2 Dependence on natural resources (% of GDP)	1.3	77	60	▽	-26
1.3.3 Tertiarisation of economy (% of GDP)	59.1	70	50	⬤	0
1.4 Economic Diversification		48	79	▲	8
1.4.1 Concentration of exports	0.2	78	60	▲	24
1.4.2 Diversity	103	18	91	▽	-2
1.5 Inequality		80	29	▲	4
1.5.1 Income inequality	31.9	80	29	▲	4
2. Policy Pillar		51	54	▲	1
2.1 Education and skills		61	32	▲	9
2.1.1 Education and skills input		64	34	▲	5
2.1.1.1 Government education spendings (% of GDP)	n/a	n/a	n/a		
2.1.1.2 Tertiary public education spendings (% of gov.exp)	n/a	n/a	n/a		
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	11.3	78	38	▽	-7
2.1.1.5 Staff training (1-7 survey)	3.8	41	68	▲	37
2.1.2 Education and skills output		64	33	▲	16
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	422	39	52	▲	2
2.1.2.3 Skillset of graduates (1-7 survey)	3.9	46	74	▲	32
2.1.2.4 Skilled labour supply (1-7 survey)	4.0	52	81	▲	21
2.1.2.5 Vocational enrollment (% of students)	32.5	70	18	▽	-2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	21.9	75	13	▲	1
2.1.2.7 Quality of vocational education (1-7 survey)	3.9	39	76	▲	16
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	4.1	54	72	▲	4
2.1.2.10 Critical thinking (1-7 survey)	3.7	47	50	▲	13
2.2 Employment		55	31	▲	8
2.2.1 Employment input		67	20	▲	10
2.2.1.1 Hiring and firing practices (1-7 survey)	3.9	50	56	⬤	0
2.2.1.2 Worker's rights (1-7 score)	88.7	76	21	▽	-3
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.2	56	55	▲	35
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		41	63	▽	-5
2.2.2.1 Women in labour force (% female-male)	75.0	65	80	▽	-7
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.8	30	107	▽	-24
2.2.2.4 Knowledge insentive employment (%)	37.2	60	28	▲	4

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	25 768	18	86	⬤	0
2.2.2.6 ALP effectiveness (1-7 survey)	4.0	59	40	▲	8
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	37	77	▲	16
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.0	45	67	▽	-6
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		27	66	▽	-7
2.3.1 Innovation input		23	97	▽	-18
2.3.1.1 R&D spendings (% of GDP)	0.3	12	78	▽	-4
2.3.1.2 IPR score	4.7	33	97	▽	-28
2.3.2 Innovation output		31	46	⬤	0
2.3.2.1 Trademark applications per th. pop.	4.9	100	1	⬤	0
2.3.2.2 Patent applications per th. pop.	0.08	28	47	▽	-3
2.3.2.3 R&D journals per th. pop.	0.41	22	45	▲	1
2.3.2.4 Researchers in R&D per mln.pop.	714	10	57	▲	1
2.3.2.5 Technicians in R&D per mln.pop.	175	8	52	▲	9
2.3.2.6 Creative goods exports (% of goods exp.)	0.13	7	62	▲	5
2.4 Technology		54	76	▲	15
2.4.1 Technology input		75	50	▲	26
2.4.1.1 ICT affordability	5.5	76	65	▲	29
2.4.1.2 ICT access index	6.4	67	53	⬤	0
2.4.2 Technology output		32	105	⬤	0
2.4.2.1 ICT goods and services export (% of exp.)	2.7	19	116	▲	8
2.4.2.2 Mobile broadband per 100 pop.	60.7	38	66	▽	-10
2.5 Entrepreneurship		59	49	▽	-15
2.5.1 Entrepreneurship input		68	73	▽	-9
2.5.1.1 Time dealing with gov. regulations (%)	9.6	67	69	▲	2
2.5.1.2 Time to start a business (days)	12.0	77	72	▽	-23
2.5.1.3 Procedures to register a business	8.0	45	92	▽	-17
2.5.1.4 Cost to start a business (% GNI per cap)	1.5	85	34	▽	-5
2.5.2 Entrepreneurship output		54	41	▽	-11
2.5.2.1 Global Entrepreneurship Index	31.2	30	57	▽	-6
2.5.2.2 New corporate registrations per th. pop.	4.5	63	20	▽	-3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.6	52	84	▽	-51
2.6 Statistics		56	100	⬤	0
2.6.1 Statistical fullness (%)	0.78	56	100	⬤	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Morocco

Global Labour Resilience Index 2020

81

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

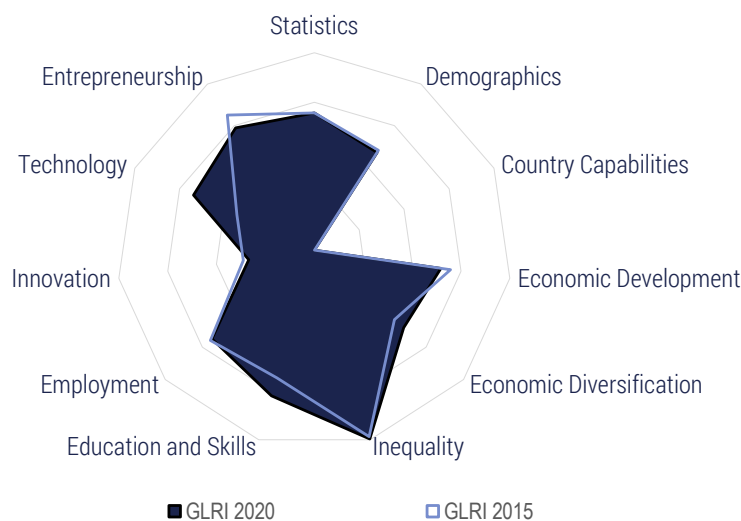## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**57**	**76**	▼	-7
1.1 Demographics		78	70	●	0
1.1.1 Share of older population (% of total population)	7.0	78	70	●	0
1.2 Country Capabilities		35	94	▼	-5
1.2.1 Economic Complexity Index	-0.6	35	94	▼	-5
1.3 Economic Development		40	84	▼	-7
1.3.1 Income per capita (PPP)	7 509	11	99	▼	-3
1.3.2 Dependence on natural resources (% of GDP)	1.6	74	64	▲	2
1.3.3 Tertiarisation of economy (% of GDP)	50.5	57	97	▼	-11
1.4 Economic Diversification		58	53	▼	-3
1.4.1 Concentration of exports	0.2	84	45	▼	-4
1.4.2 Diversity	180	33	58	●	0
1.5 Inequality		57	82	▼	-6
1.5.1 Income inequality	39.5	57	82	▼	-6
2. Policy Pillar		**39**	**82**	▲	1
2.1 Education and skills		28	121	▼	-1
2.1.1 Education and skills input		35	110	▲	5
2.1.1.1 Government education spendings (% of GDP)	5.3	49	39	▲	5
2.1.1.2 Tertiary public education spendings (% of gov.exp)	20.2	39	76	▲	3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	5 937	29	40	▼	-3
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	3.6	36	91	▲	22
2.1.2 Education and skills output		31	123	▼	-4
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	368	18	73	▲	1
2.1.2.3 Skillset of graduates (1-7 survey)	3.5	34	116	▼	-1
2.1.2.4 Skilled labour supply (1-7 survey)	3.8	47	96	▼	-2
2.1.2.5 Vocational enrollment (% of students)	8.6	19	78	▲	13
2.1.2.6 Vocational enrollment of 15-24 olds (%)	5.8	20	65	▲	19
2.1.2.7 Quality of vocational education (1-7 survey)	3.6	31	99	▼	-1
2.1.2.8 STEM graduates (%)	19.0	32	78	▼	-71
2.1.2.9 Digital skills (1-7 survey)	3.7	43	94	▼	-3
2.1.2.10 Critical thinking (1-7 survey)	2.2	9	135	▼	-3
2.2 Employment		21	135	▼	-11
2.2.1 Employment input		45	82	▼	-26
2.2.1.1 Hiring and firing practices (1-7 survey)	3.4	36	92	▼	-15
2.2.1.2 Worker's rights (1-7 score)	74.2	45	51	▼	-18
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.1	52	68	▲	27
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		8	144	▼	-2
2.2.2.1 Women in labour force (% female-male)	30.5	11	137	▼	-2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.2	39	84	▼	-35
2.2.2.4 Knowledge insentive employment (%)	6.8	11	110	●	0
2.2.2.5 Labour productivity (PPP)	2 744	2	139	▲	2
2.2.2.6 ALP effectiveness (1-7 survey)	2.1	15	121	▼	-9
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.9	24	114	▼	-24
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.2	50	51	▼	-4
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		24	71	▲	5
2.3.1 Innovation input		38	49	▲	11
2.3.1.1 R&D spendings (% of GDP)	0.7	26	49	▼	-2
2.3.1.2 IPR score	5.6	49	56	▲	6
2.3.2 Innovation output		11	87	▲	13
2.3.2.1 Trademark applications per th. pop.	0.4	12	99	●	0
2.3.2.2 Patent applications per th. pop.	0.06	21	56	▲	20
2.3.2.3 R&D journals per th. pop.	0.11	7	73	▲	4
2.3.2.4 Researchers in R&D per mln.pop.	1 069	14	49	▲	1
2.3.2.5 Technicians in R&D per mln.pop.	40	3	79	▼	-3
2.3.2.6 Creative goods exports (% of goods exp.)	0.08	5	71	▲	2
2.4 Technology		56	70	▲	1
2.4.1 Technology input		71	59	▲	5
2.4.1.1 ICT affordability	6.3	90	18	▲	11
2.4.1.2 ICT access index	4.8	46	87	▼	-3
2.4.2 Technology output		39	87	●	0
2.4.2.1 ICT goods and services export (% of exp.)	9.9	40	55	▲	12
2.4.2.2 Mobile broadband per 100 pop.	46.0	29	91	▼	-11
2.5 Entrepreneurship		59	47	▲	5
2.5.1 Entrepreneurship input		79	33	▲	3
2.5.1.1 Time dealing with gov. regulations (%)	4.6	84	36	▲	2
2.5.1.2 Time to start a business (days)	9.0	83	54	▼	-8
2.5.1.3 Procedures to register a business	4.0	76	18	▲	20
2.5.1.4 Cost to start a business (% GNI per cap)	8.0	63	74	▼	-4
2.5.2 Entrepreneurship output		42	73	▲	9
2.5.2.1 Global Entrepreneurship Index	29.2	28	61	▲	18
2.5.2.2 New corporate registrations per th. pop.	1.1	16	59	▼	-1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.8	57	77	▼	-9
2.6 Statistics		69	59	●	0
2.6.1 Statistical fullness (%)	0.85	69	59	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Mozambique

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
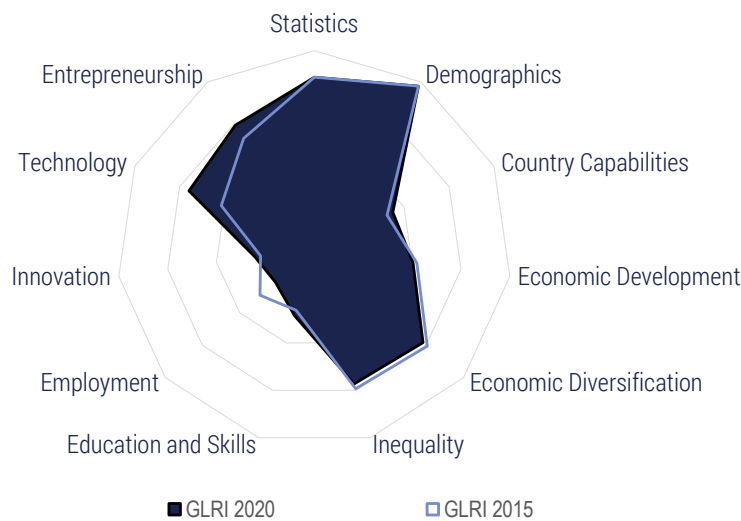

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		19	141	▼	-13
1.1 Demographics		93	29	▲	1
1.1.1 Share of older population (% of total population)	3.2	93	29	▲	1
1.2 Country Capabilities		19	116	▲	1
1.2.1 Economic Complexity Index	-1.3	19	116	▲	1
1.3 Economic Development		14	136	▼	-17
1.3.1 Income per capita (PPP)	1 180	2	141	▲	2
1.3.2 Dependence on natural resources (% of GDP)	19.5	20	131	▼	-17
1.3.3 Tertiarisation of economy (% of GDP)	46.6	51	114	▼	-30
1.4 Economic Diversification		39	98	▼	-9
1.4.1 Concentration of exports	0.3	65	93	▼	-10
1.4.2 Diversity	76	13	110	▼	-6
1.5 Inequality		15	129	▼	-17
1.5.1 Income inequality	54.0	15	129	▼	-17
2. Policy Pillar		26	123	▲	8
2.1 Education and skills		13	142	▼	-2
2.1.1 Education and skills input		20	132	▼	-1
2.1.1.1 Government education spendings (% of GDP)	6.5	63	17	●	0
2.1.1.2 Tertiary public education spendings (% of gov.exp)	13.7	25	113	▲	3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	3.1	14	121	▲	1
2.1.1.5 Staff training (1-7 survey)	2.9	14	133	▼	-2
2.1.2 Education and skills output		17	141	●	0
2.1.2.1 Tertiary attainment rate (% of pop 25+)	1.8	5	93	▼	-2
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	2.8	17	137	▼	-5
2.1.2.4 Skilled labour supply (1-7 survey)	3.3	34	125	●	0
2.1.2.5 Vocational enrollment (% of students)	9.2	20	75	▲	24
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.7	3	106	▼	-4
2.1.2.7 Quality of vocational education (1-7 survey)	3.0	18	132	▼	-1
2.1.2.8 STEM graduates (%)	9.6	13	119	▼	-1
2.1.2.9 Digital skills (1-7 survey)	2.8	17	134	▼	-5
2.1.2.10 Critical thinking (1-7 survey)	2.5	17	125	▼	-6
2.2 Employment		33	100	▼	-21
2.2.1 Employment input		37	105	▼	-33
2.2.1.1 Hiring and firing practices (1-7 survey)	3.2	29	109	▼	-28
2.2.1.2 Worker's rights (1-7 score)	81.4	60	34	▼	-14
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.2	26	127	▼	-1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		36	81	▼	-11
2.2.2.1 Women in labour force (% female-male)	97.4	93	5	▼	-2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.2	39	82	▼	-9
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	13 251	9	108	▲	7
2.2.2.6 ALP effectiveness (1-7 survey)	2.1	13	124	▲	1
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.5	12	134	▼	-7
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.9	43	72	▲	16
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		12	117	▼	-3
2.3.1 Innovation input		21	103	▼	-12
2.3.1.1 R&D spendings (% of GDP)	0.3	13	77	▼	-9
2.3.1.2 IPR score	4.5	30	105	▼	-15
2.3.2 Innovation output		2	128	▼	-2
2.3.2.1 Trademark applications per th. pop.	0.1	5	119	▼	-5
2.3.2.2 Patent applications per th. pop.	0.00	1	116	●	0
2.3.2.3 R&D journals per th. pop.	0.00	1	136	▼	-2
2.3.2.4 Researchers in R&D per mln.pop.	41	1	101	▲	5
2.3.2.5 Technicians in R&D per mln.pop.	26	2	88	▼	-13
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	134	▼	-18
2.4 Technology		33	121	▲	24
2.4.1 Technology input		40	115	▲	26
2.4.1.1 ICT affordability	4.8	64	88	▲	47
2.4.1.2 ICT access index	2.3	14	125	▲	12
2.4.2 Technology output		29	112	▲	26
2.4.2.1 ICT goods and services export (% of exp.)	3.7	22	102	▲	33
2.4.2.2 Mobile broadband per 100 pop.	49.5	31	82	▲	27
2.5 Entrepreneurship		40	116	▼	-6
2.5.1 Entrepreneurship input		63	87	▼	-30
2.5.1.1 Time dealing with gov. regulations (%)	6.5	78	52	▼	-24
2.5.1.2 Time to start a business (days)	17.0	67	95	▼	-11
2.5.1.3 Procedures to register a business	10.0	29	123	▼	-11
2.5.1.4 Cost to start a business (% GNI per cap)	18.1	50	100	▼	-1
2.5.2 Entrepreneurship output		23	130	▲	4
2.5.2.1 Global Entrepreneurship Index	14.0	8	115	▼	-11
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	2.9	37	124	▲	12
2.6 Statistics		62	79	●	0
2.6.1 Statistical fullness (%)	0.81	62	79	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Myanmar

Global Labour Resilience Index 2020

130

GLRI 2015 Rank 142 ▲

■ GLRI 2020　　　□ GLRI 2015

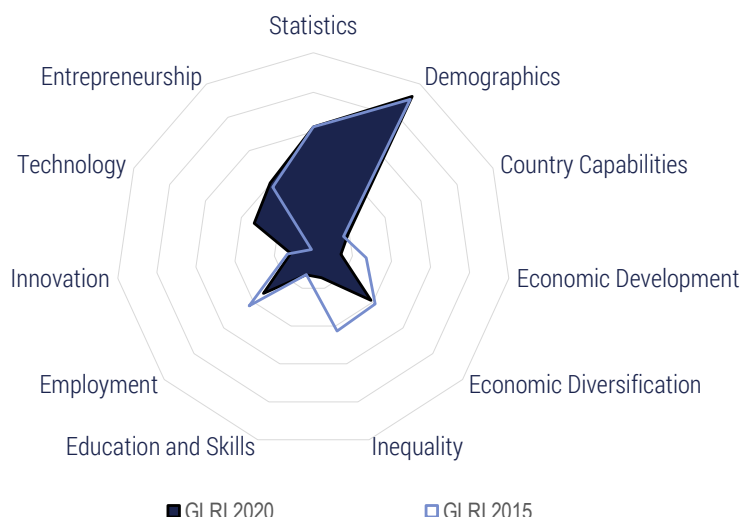## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		49	94	▲	18
1.1 Demographics		82	61	●	0
1.1.1 Share of older population (% of total population)	6.0	82	61	●	0
1.2 Country Capabilities		29	99	▲	13
1.2.1 Economic Complexity Index	-0.9	29	99	▲	13
1.3 Economic Development		24	117	▲	6
1.3.1 Income per capita (PPP)	5 922	9	107	▲	3
1.3.2 Dependence on natural resources (% of GDP)	7.1	44	105	▼	-17
1.3.3 Tertiarisation of economy (% of GDP)	43.2	46	121	▲	9
1.4 Economic Diversification		53	64	▲	19
1.4.1 Concentration of exports	0.2	78	58	▲	30
1.4.2 Diversity	156	28	71	▲	10
1.5 Inequality		61	76	▼	-5
1.5.1 Income inequality	38.1	61	76	▼	-5
2. Policy Pillar		16	139	▲	6
2.1 Education and skills		27	123	▲	5
2.1.1 Education and skills input		8	142	▲	1
2.1.1.1 Government education spendings (% of GDP)	2.2	13	133	▲	7
2.1.1.2 Tertiary public education spendings (% of gov.exp)	14.8	27	105	▼	-18
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	n/a	n/a	n/a		
2.1.2 Education and skills output		55	54	▼	-2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	n/a	n/a	n/a		
2.1.2.4 Skilled labour supply (1-7 survey)	n/a	n/a	n/a		
2.1.2.5 Vocational enrollment (% of students)	0.1	1	138	▼	-9
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.1	1	120	▼	-1
2.1.2.7 Quality of vocational education (1-7 survey)	n/a	n/a	n/a		
2.1.2.8 STEM graduates (%)	47.1	86	2	▲	1
2.1.2.9 Digital skills (1-7 survey)	n/a	n/a	n/a		
2.1.2.10 Critical thinking (1-7 survey)	n/a	n/a	n/a		
2.2 Employment		35	94	▲	44
2.2.1 Employment input		54	72	▼	-31
2.2.1.1 Hiring and firing practices (1-7 survey)	3.8	54	72	▼	-31
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	n/a	n/a	n/a		
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		25	123	▲	9
2.2.2.1 Women in labour force (% female-male)	61.7	49	114	▼	-8
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.3	19	133	▲	3
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	32 396	22	78	●	0
2.2.2.6 ALP effectiveness (1-7 survey)	n/a	n/a	n/a		
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.1	29	105	▲	23
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.8	40	82	▼	-12
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		2	141	▼	-8
2.3.1 Innovation input		2	137	▼	-9
2.3.1.1 R&D spendings (% of GDP)	0.0	2	122	▼	-26
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		3	117	▼	-2
2.3.2.1 Trademark applications per th. pop.	0.2	6	113	▼	-6
2.3.2.2 Patent applications per th. pop.	n/a	n/a	n/a		
2.3.2.3 R&D journals per th. pop.	0.00	1	140	▲	3
2.3.2.4 Researchers in R&D per mln.pop.	29	1	110	▲	2
2.3.2.5 Technicians in R&D per mln.pop.	19	2	91	▼	-35
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	113	▲	1
2.4 Technology		34	118	▲	12
2.4.1 Technology input		28	123	▲	19
2.4.1.1 ICT affordability	3.0	34	128	▲	15
2.4.1.2 ICT access index	3.0	23	113	▲	15
2.4.2 Technology output		42	79	▼	-14
2.4.2.1 ICT goods and services export (% of exp.)	17.7	62	24	▲	12
2.4.2.2 Mobile broadband per 100 pop.	14.9	10	130	▲	1
2.5 Entrepreneurship		33	131	▲	8
2.5.1 Entrepreneurship input		70	63	▲	55
2.5.1.1 Time dealing with gov. regulations (%)	0.8	98	3	▲	14
2.5.1.2 Time to start a business (days)	14.0	73	81	▲	54
2.5.1.3 Procedures to register a business	12.0	13	138	▲	4
2.5.1.4 Cost to start a business (% GNI per cap)	n/a	n/a	n/a		
2.5.2 Entrepreneurship output		1	145	●	0
2.5.2.1 Global Entrepreneurship Index	13.6	7	118	▼	-11
2.5.2.2 New corporate registrations per th. pop.	0.1	3	97	▲	1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	1.4	1	145	▼	-1
2.6 Statistics		18	139	●	0
2.6.1 Statistical fullness (%)	0.59	18	139	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

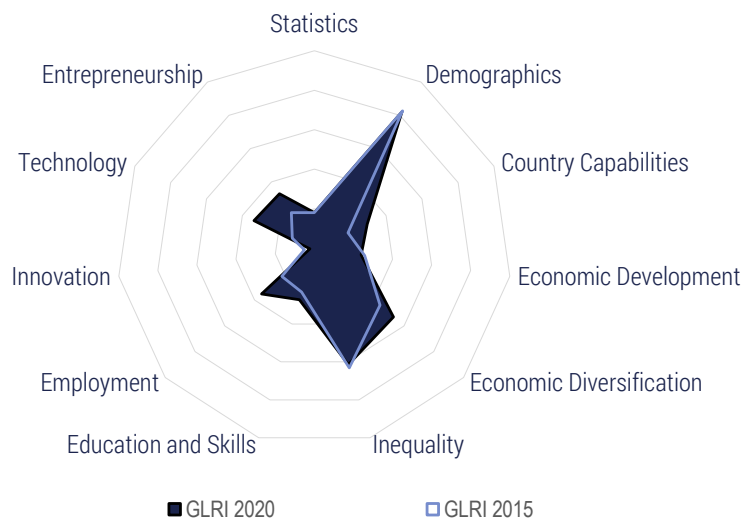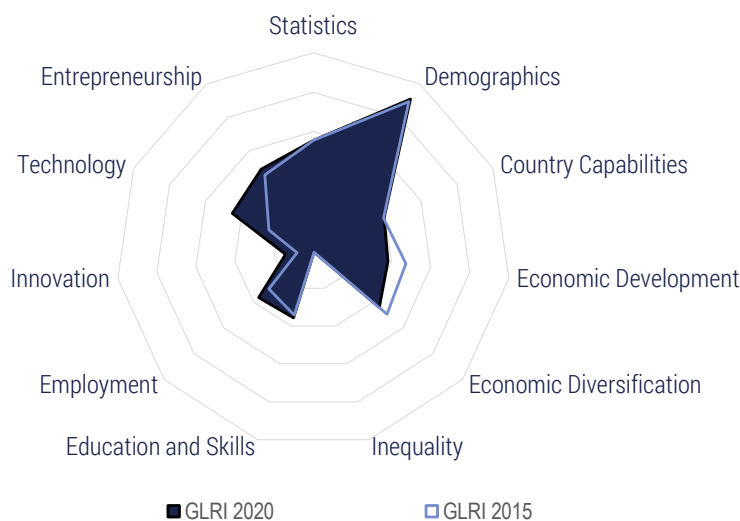## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**33**	**130**	▼	-7
1.1 Demographics		91	36	●	0
1.1.1 Share of older population (% of total population)	3.6	91	36	●	0
1.2 Country Capabilities		39	82	▼	-7
1.2.1 Economic Complexity Index	-0.4	39	82	▼	-7
1.3 Economic Development		38	87	▼	-27
1.3.1 Income per capita (PPP)	9 898	14	89	▼	-1
1.3.2 Dependence on natural resources (% of GDP)	4.6	54	89	▼	-27
1.3.3 Tertiarisation of economy (% of GDP)	57.7	68	56	▲	1
1.4 Economic Diversification		44	86	▼	-11
1.4.1 Concentration of exports	0.3	71	82	▼	-14
1.4.2 Diversity	100	17	92	▼	-9
1.5 Inequality		1	133	●	0
1.5.1 Income inequality	59.1	1	133	●	0
2. Policy Pillar		**35**	**93**	▲	17
2.1 Education and skills		36	99	●	0
2.1.1 Education and skills input		47	81	▼	-15
2.1.1.1 Government education spendings (% of GDP)	n/a	n/a	n/a		
2.1.1.2 Tertiary public education spendings (% of gov.exp)	n/a	n/a	n/a		
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	5.8	35	107	▼	-3
2.1.1.5 Staff training (1-7 survey)	4.3	55	41	▲	2
2.1.2 Education and skills output		32	118	▲	8
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.7	40	98	▲	6
2.1.2.4 Skilled labour supply (1-7 survey)	3.5	40	111	▲	2
2.1.2.5 Vocational enrollment (% of students)	0.1	1	139	▼	-1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.0	1	121	▼	-1
2.1.2.7 Quality of vocational education (1-7 survey)	3.8	36	84	▼	-5
2.1.2.8 STEM graduates (%)	12.1	18	111	▲	8
2.1.2.9 Digital skills (1-7 survey)	3.4	33	117	▼	-8
2.1.2.10 Critical thinking (1-7 survey)	3.2	35	80	▲	17
2.2 Employment		37	89	▲	32
2.2.1 Employment input		43	90	▲	36
2.2.1.1 Hiring and firing practices (1-7 survey)	3.7	44	73	▲	44
2.2.1.2 Worker's rights (1-7 score)	82.5	63	31	▲	2
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.0	21	133	▲	1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		36	82	▼	-1
2.2.2.1 Women in labour force (% female-male)	85.3	78	36	▼	-21
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.7	49	51	▲	21
2.2.2.4 Knowledge insentive employment (%)	14.6	23	96	▼	-7

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	4 393	3	133	▲	2
2.2.2.6 ALP effectiveness (1-7 survey)	2.8	31	91	▲	10
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.5	43	56	▲	46
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.3	53	42	▲	6
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		14	107	▲	21
2.3.1 Innovation input		13	121	▲	9
2.3.1.1 R&D spendings (% of GDP)	0.3	13	76	▲	24
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		16	78	▲	5
2.3.2.1 Trademark applications per th. pop.	2.3	72	18	▲	33
2.3.2.2 Patent applications per th. pop.	0.01	4	99	▼	-39
2.3.2.3 R&D journals per th. pop.	0.04	3	87	▲	2
2.3.2.4 Researchers in R&D per mln.pop.	143	3	86	▼	-2
2.3.2.5 Technicians in R&D per mln.pop.	63	4	69	▼	-2
2.3.2.6 Creative goods exports (% of goods exp.)	0.01	2	94	●	0
2.4 Technology		45	101	▲	11
2.4.1 Technology input		36	119	▼	-2
2.4.1.1 ICT affordability	3.2	37	123	▼	-4
2.4.1.2 ICT access index	3.9	35	101	▲	3
2.4.2 Technology output		55	39	▲	37
2.4.2.1 ICT goods and services export (% of exp.)	13.6	51	38	▲	49
2.4.2.2 Mobile broadband per 100 pop.	66.1	41	60	▼	-7
2.5 Entrepreneurship		49	75	▲	3
2.5.1 Entrepreneurship input		59	98	▼	-8
2.5.1.1 Time dealing with gov. regulations (%)	3.1	90	24	●	0
2.5.1.2 Time to start a business (days)	54.0	1	137	▼	-5
2.5.1.3 Procedures to register a business	10.0	29	123	▼	-11
2.5.1.4 Cost to start a business (% GNI per cap)	11.3	58	81	▼	-5
2.5.2 Entrepreneurship output		43	69	▲	10
2.5.2.1 Global Entrepreneurship Index	31.1	30	58	▲	8
2.5.2.2 New corporate registrations per th. pop.	0.7	10	72	▲	3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.9	59	68	▼	-9
2.6 Statistics		56	100	●	0
2.6.1 Statistical fullness (%)	0.78	56	100	●	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   ▢ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.
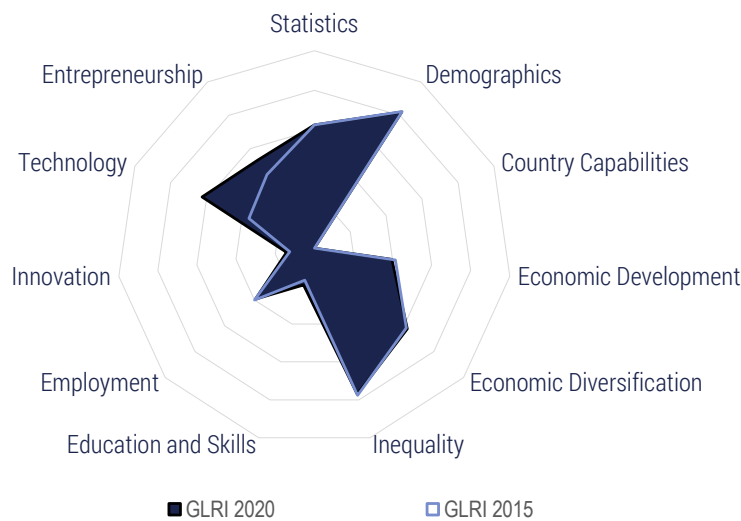
Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**82**	**28**	▽	-2
1.1 Demographics		82	62	⬤	0
1.1.1 Share of older population (% of total population)	6.0	82	62	⬤	0
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		40	85	▽	-7
1.3.1 Income per capita (PPP)	2 724	4	126	▲	2
1.3.2 Dependence on natural resources (% of GDP)	1.1	80	52	▽	-12
1.3.3 Tertiarisation of economy (% of GDP)	50.3	56	99	▲	3
1.4 Economic Diversification		62	42	△	5
1.4.1 Concentration of exports	0.1	88	37	▽	-6
1.4.2 Diversity	199	36	51	▲	9
1.5 Inequality		77	37	⬤	0
1.5.1 Income inequality	32.8	77	37	⬤	0
2. Policy Pillar		**38**	**87**	▲	15
2.1 Education and skills		19	135	⬤	0
2.1.1 Education and skills input		19	134	▲	2
2.1.1.1 Government education spendings (% of GDP)	5.2	48	44	▲	52
2.1.1.2 Tertiary public education spendings (% of gov.exp)	10.8	18	122	▲	4
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	2 746	14	68	▲	3
2.1.1.4 Years of schooling	3.5	17	120	▽	-1
2.1.1.5 Staff training (1-7 survey)	3.4	27	119	▽	-3
2.1.2 Education and skills output		30	124	▽	-1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	4.6	11	82	▽	-3
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.8	42	91	▲	3
2.1.2.4 Skilled labour supply (1-7 survey)	3.8	48	92	⬤	0
2.1.2.5 Vocational enrollment (% of students)	0.7	2	130	▲	4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	3.3	23	122	▽	-4
2.1.2.8 STEM graduates (%)	12.9	20	110	▽	-3
2.1.2.9 Digital skills (1-7 survey)	3.7	40	100	▽	-6
2.1.2.10 Critical thinking (1-7 survey)	3.1	31	94	▲	6
2.2 Employment		39	78	▲	11
2.2.1 Employment input		36	108	▽	-9
2.2.1.1 Hiring and firing practices (1-7 survey)	3.3	31	104	▲	3
2.2.1.2 Worker's rights (1-7 score)	75.3	47	49	▽	-11
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.5	35	114	▲	11
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		47	43	▲	14
2.2.2.1 Women in labour force (% female-male)	96.7	92	6	▲	3
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.6	25	117	▲	12
2.2.2.4 Knowledge insentive employment (%)	4.3	7	113	▲	1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	97 616	67	15	⬤	0
2.2.2.6 ALP effectiveness (1-7 survey)	2.8	31	94	▲	5
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.5	9	139	▲	4
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.0	45	68	▲	28
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		14	106	△	11
2.3.1 Innovation input		25	89	▲	9
2.3.1.1 R&D spendings (% of GDP)	0.3	11	80	▲	1
2.3.1.2 IPR score	4.9	38	81	▲	15
2.3.2 Innovation output		4	111	▲	2
2.3.2.1 Trademark applications per th. pop.	0.2	7	106	▽	-1
2.3.2.2 Patent applications per th. pop.	0.00	2	110	▲	12
2.3.2.3 R&D journals per th. pop.	0.02	2	102	▲	1
2.3.2.4 Researchers in R&D per mln.pop.	61	2	94	▽	-1
2.3.2.5 Technicians in R&D per mln.pop.	142	7	55	⬤	0
2.3.2.6 Creative goods exports (% of goods exp.)	0.04	3	83	▲	1
2.4 Technology		62	52	△	34
2.4.1 Technology input		56	98	▲	7
2.4.1.1 ICT affordability	6.1	86	28	▲	41
2.4.1.2 ICT access index	2.9	22	117	▲	1
2.4.2 Technology output		66	20	△	39
2.4.2.1 ICT goods and services export (% of exp.)	27.2	90	10	▲	19
2.4.2.2 Mobile broadband per 100 pop.	30.8	20	106	▲	23
2.5 Entrepreneurship		53	67	△	17
2.5.1 Entrepreneurship input		73	52	▽	-13
2.5.1.1 Time dealing with gov. regulations (%)	1.4	95	11	▽	-1
2.5.1.2 Time to start a business (days)	18.5	64	103	▽	-29
2.5.1.3 Procedures to register a business	8.0	45	92	▽	-37
2.5.1.4 Cost to start a business (% GNI per cap)	24.9	45	108	▲	1
2.5.2 Entrepreneurship output		37	86	▲	38
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a		
2.5.2.2 New corporate registrations per th. pop.	0.6	10	73	▲	11
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.9	58	72	▲	33
2.6 Statistics		62	79	⬤	0
2.6.1 Statistical fullness (%)	0.81	62	79	⬤	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
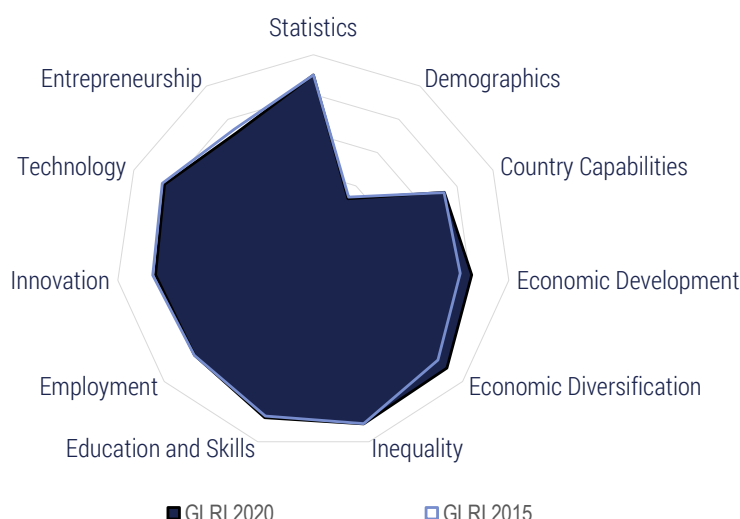
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**99**	**4**	▲	**5**
1.1 Demographics		32	127	▽	-4
1.1.1 Share of older population (% of total population)	19.2	32	127	▽	-4
1.2 Country Capabilities		73	23	▽	-3
1.2.1 Economic Complexity Index	1.1	73	23	▽	-3
1.3 Economic Development		81	6	▲	8
1.3.1 Income per capita (PPP)	49 787	72	11	●	0
1.3.2 Dependence on natural resources (% of GDP)	0.4	92	32	▲	19
1.3.3 Tertiarisation of economy (% of GDP)	69.9	86	11	▲	3
1.4 Economic Diversification		90	8	▲	4
1.4.1 Concentration of exports	0.1	96	9	▲	13
1.4.2 Diversity	440	83	7	▲	4
1.5 Inequality		91	14	▽	-3
1.5.1 Income inequality	28.2	91	14	▽	-3
2. Policy Pillar		**90**	**7**	●	0
2.1 Education and skills		87	5	▲	1
2.1.1 Education and skills input		85	9	▲	1
2.1.1.1 Government education spendings (% of GDP)	5.5	52	31	▲	3
2.1.1.2 Tertiary public education spendings (% of gov.exp)	31.9	65	14	▲	9
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	12.4	87	22	●	0
2.1.1.5 Staff training (1-7 survey)	5.4	85	5	▲	2
2.1.2 Education and skills output		91	3	●	0
2.1.2.1 Tertiary attainment rate (% of pop 25+)	31.1	67	13	▽	-2
2.1.2.2 PISA score	502	70	13	▽	-5
2.1.2.3 Skillset of graduates (1-7 survey)	5.5	87	3	▲	1
2.1.2.4 Skilled labour supply (1-7 survey)	5.0	80	13	▽	-3
2.1.2.5 Vocational enrollment (% of students)	37.5	80	9	▽	-8
2.1.2.6 Vocational enrollment of 15-24 olds (%)	23.1	79	10	▽	-4
2.1.2.7 Quality of vocational education (1-7 survey)	5.5	77	3	▲	1
2.1.2.8 STEM graduates (%)	16.6	27	89	▲	8
2.1.2.9 Digital skills (1-7 survey)	5.7	97	4	▽	-1
2.1.2.10 Critical thinking (1-7 survey)	5.3	88	7	●	0
2.2 Employment		80	7	●	0
2.2.1 Employment input		66	23	▲	16
2.2.1.1 Hiring and firing practices (1-7 survey)	4.6	70	14	▲	96
2.2.1.2 Worker's rights (1-7 score)	93.8	87	12	▽	-11
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.7	68	24	●	0
2.2.1.4 Tax wedge (% of labour cost)	37.7	37	18	▲	2
2.2.1.5 ALP spendings (% of GDP)	2.4	75	4	▲	2
2.2.2 Employment output		83	5	▲	1
2.2.2.1 Women in labour force (% female-male)	84.2	77	47	▽	-5
2.2.2.2 Gender pay gap (% of employees)	14.1	55	28	▲	3
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	5.2	80	8	▲	6
2.2.2.4 Knowledge insentive employment (%)	46.4	74	9	▽	-5

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	115 953	79	9	●	0
2.2.2.6 ALP effectiveness (1-7 survey)	5.2	86	10	●	0
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.9	90	3	▲	2
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.0	46	65	▽	-6
2.2.2.9 Earnings quality (PPP)	29.2	100	1	●	0
2.2.2.10 Quality of the working environment (%)	23.4	72	8	▽	-2
2.3 Innovation		81	11	▽	-2
2.3.1 Innovation input		83	13	▽	-1
2.3.1.1 R&D spendings (% of GDP)	2.0	72	17	●	0
2.3.1.2 IPR score	8.3	94	8	▽	-3
2.3.2 Innovation output		78	8	▽	-1
2.3.2.1 Trademark applications per th. pop.	n/a	n/a	n/a		
2.3.2.2 Patent applications per th. pop.	0.15	50	31	▽	-6
2.3.2.3 R&D journals per th. pop.	1.74	88	9	▽	-1
2.3.2.4 Researchers in R&D per mln.pop.	5 007	64	13	▲	1
2.3.2.5 Technicians in R&D per mln.pop.	2 038	87	7	▽	-1
2.3.2.6 Creative goods exports (% of goods exp.)	3.89	80	14	▽	-2
2.4 Technology		83	11	▽	-4
2.4.1 Technology input		84	29	▽	-19
2.4.1.1 ICT affordability	5.0	67	81	▽	-21
2.4.1.2 ICT access index	8.5	94	6	▲	1
2.4.2 Technology output		74	13	▽	-5
2.4.2.1 ICT goods and services export (% of exp.)	19.4	67	21	▽	-9
2.4.2.2 Mobile broadband per 100 pop.	87.8	55	32	▽	-13
2.5 Entrepreneurship		72	24	▽	-4
2.5.1 Entrepreneurship input		82	24	▽	-3
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	3.5	94	7	▽	-2
2.5.1.3 Procedures to register a business	4.0	76	18	▽	-6
2.5.1.4 Cost to start a business (% GNI per cap)	4.4	72	52	▽	-2
2.5.2 Entrepreneurship output		65	24	▽	-1
2.5.2.1 Global Entrepreneurship Index	68.1	79	11	▲	1
2.5.2.2 New corporate registrations per th. pop.	3.9	54	23	▽	-3
2.5.2.3 Venture capital investments (% of GDP)	0.04	45	11	▲	3
2.5.2.4 SME outstanding loans (% of loans)	38.3	44	22	▽	-4
2.5.2.5 Access to loans (1-7 survey)	4.3	68	42	▲	3
2.6 Statistics		90	26	●	0
2.6.1 Statistical fullness (%)	0.95	90	26	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Note: the score of the Inequality sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

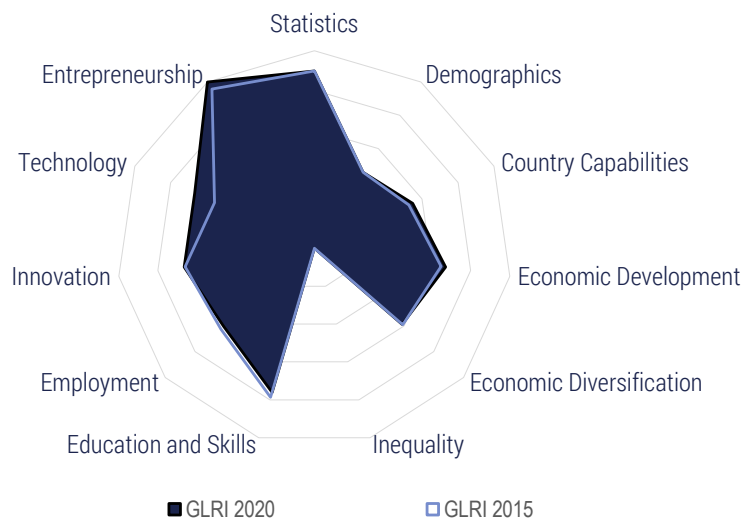## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**63**	**60**	▲	2
1.1 Demographics		46	112	▽	-2
1.1.1 Share of older population (% of total population)	15.6	46	112	▽	-2
1.2 Country Capabilities		55	47	△	2
1.2.1 Economic Complexity Index	0.3	55	47	▲	2
1.3 Economic Development		67	27	△	4
1.3.1 Income per capita (PPP)	36 354	52	29	▽	-1
1.3.2 Dependence on natural resources (% of GDP)	1.0	81	48	▲	9
1.3.3 Tertiarisation of economy (% of GDP)	65.6	79	23	▲	5
1.4 Economic Diversification		59	49	△	7
1.4.1 Concentration of exports	0.2	84	46	▲	12
1.4.2 Diversity	188	34	55	▽	-2
1.5 Inequality		n/a	n/a		
1.5.1 Income inequality	n/a	n/a	n/a		
2. Policy Pillar		**83**	**12**	▲	4
2.1 Education and skills		76	17	▽	-2
2.1.1 Education and skills input		79	14	▽	-2
2.1.1.1 Government education spendings (% of GDP)	6.4	63	18	▽	-4
2.1.1.2 Tertiary public education spendings (% of gov.exp)	23.7	47	48	●	0
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	10 282	50	18	▲	1
2.1.1.4 Years of schooling	13.1	92	12	▽	-3
2.1.1.5 Staff training (1-7 survey)	4.9	71	20	▽	-3
2.1.2 Education and skills output		76	19	▽	-5
2.1.2.1 Tertiary attainment rate (% of pop 25+)	28.1	61	17	▽	-2
2.1.2.2 PISA score	503	70	12	▲	4
2.1.2.3 Skillset of graduates (1-7 survey)	5.0	74	16	▽	-7
2.1.2.4 Skilled labour supply (1-7 survey)	4.4	63	49	▽	-22
2.1.2.5 Vocational enrollment (% of students)	14.4	31	55	▽	-6
2.1.2.6 Vocational enrollment of 15-24 olds (%)	4.8	17	71	▽	-12
2.1.2.7 Quality of vocational education (1-7 survey)	5.0	64	17	▽	-7
2.1.2.8 STEM graduates (%)	21.2	36	64	▲	6
2.1.2.9 Digital skills (1-7 survey)	5.2	83	19	▽	-8
2.1.2.10 Critical thinking (1-7 survey)	5.3	90	5	▽	-1
2.2 Employment		61	22	●	0
2.2.1 Employment input		57	32	▲	19
2.2.1.1 Hiring and firing practices (1-7 survey)	4.5	66	19	▲	35
2.2.1.2 Worker's rights (1-7 score)	84.5	67	28	▲	2
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.1	51	71	▽	-15
2.2.1.4 Tax wedge (% of labour cost)	18.4	82	2	●	0
2.2.1.5 ALP spendings (% of GDP)	0.6	20	25	▽	-3
2.2.2 Employment output		61	21	▲	2
2.2.2.1 Women in labour force (% female-male)	85.3	78	35	●	0
2.2.2.2 Gender pay gap (% of employees)	7.9	77	16	▽	-9
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.9	75	14	▲	34
2.2.2.4 Knowledge insentive employment (%)	42.9	69	18	▽	-6

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	12 109	8	110	▽	-1
2.2.2.6 ALP effectiveness (1-7 survey)	4.8	77	19	▽	-5
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.4	76	12	▽	-2
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.7	64	17	▽	-5
2.2.2.9 Earnings quality (PPP)	16.7	51	19	●	0
2.2.2.10 Quality of the working environment (%)	21.6	77	5	▽	-1
2.3 Innovation		67	22	▽	-1
2.3.1 Innovation input		72	20	▲	1
2.3.1.1 R&D spendings (% of GDP)	1.2	45	30	▲	1
2.3.1.2 IPR score	8.6	99	2	●	0
2.3.2 Innovation output		61	22	●	0
2.3.2.1 Trademark applications per th. pop.	4.8	100	1	●	0
2.3.2.2 Patent applications per th. pop.	1.26	100	1	●	0
2.3.2.3 R&D journals per th. pop.	1.53	77	12	●	0
2.3.2.4 Researchers in R&D per mln.pop.	4 052	52	24	▽	-1
2.3.2.5 Technicians in R&D per mln.pop.	1 019	44	19	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	0.13	7	63	▽	-2
2.4 Technology		67	38	▽	-2
2.4.1 Technology input		79	40	▲	3
2.4.1.1 ICT affordability	4.6	60	96	▲	5
2.4.1.2 ICT access index	8.3	92	12	▲	5
2.4.2 Technology output		50	47	▲	3
2.4.2.1 ICT goods and services export (% of exp.)	3.8	22	99	▲	2
2.4.2.2 Mobile broadband per 100 pop.	101.3	63	20	▽	-3
2.5 Entrepreneurship		100	1	▲	1
2.5.1 Entrepreneurship input		100	1	●	0
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	0.5	100	1	●	0
2.5.1.3 Procedures to register a business	1.0	100	1	●	0
2.5.1.4 Cost to start a business (% GNI per cap)	0.3	96	7	●	0
2.5.2 Entrepreneurship output		100	1	▲	3
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a		
2.5.2.2 New corporate registrations per th. pop.	11.9	100	1	●	0
2.5.2.3 Venture capital investments (% of GDP)	0.08	77	6	▲	13
2.5.2.4 SME outstanding loans (% of loans)	60.0	69	11	▲	9
2.5.2.5 Access to loans (1-7 survey)	5.7	100	1	▲	7
2.6 Statistics		90	26	●	0
2.6.1 Statistical fullness (%)	0.95	90	26	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Nicaragua

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
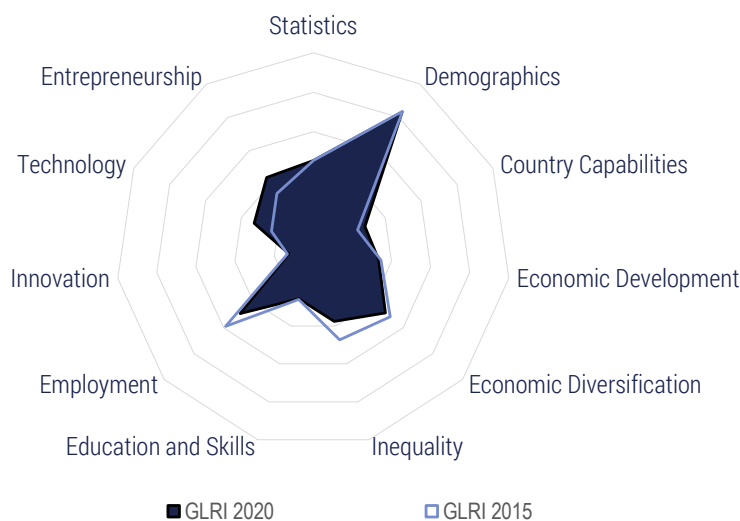
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		41	116	▼	-13
1.1 Demographics		83	59	▼	-4
1.1.1 Share of older population (% of total population)	5.7	83	59	▼	-4
1.2 Country Capabilities		29	101	▲	2
1.2.1 Economic Complexity Index	-0.9	29	101	▲	2
1.3 Economic Development		33	94	▲	6
1.3.1 Income per capita (PPP)	4 910	7	111	▼	-2
1.3.2 Dependence on natural resources (% of GDP)	3.5	60	81	●	0
1.3.3 Tertiarisation of economy (% of GDP)	50.2	56	100	▼	-2
1.4 Economic Diversification		48	76	▼	-5
1.4.1 Concentration of exports	0.2	76	70	▼	-10
1.4.2 Diversity	117	21	85	▼	-5
1.5 Inequality		38	113	▼	-8
1.5.1 Income inequality	46.2	38	113	▼	-8
2. Policy Pillar		29	114	▼	-7
2.1 Education and skills		26	126	▼	-5
2.1.1 Education and skills input		36	108	▲	1
2.1.1.1 Government education spendings (% of GDP)	4.3	39	70	▲	1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	26.0	52	33	▲	9
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	3.4	29	112	▼	-5
2.1.2 Education and skills output		24	136	▼	-3
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.3	29	131	▼	-6
2.1.2.4 Skilled labour supply (1-7 survey)	3.3	34	123	▼	-1
2.1.2.5 Vocational enrollment (% of students)	1.5	4	122	▼	-1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.6	3	107	▼	-2
2.1.2.7 Quality of vocational education (1-7 survey)	3.1	19	131	▼	-4
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	3.2	28	125	▼	-1
2.1.2.10 Critical thinking (1-7 survey)	2.6	18	121	▲	3
2.2 Employment		49	46	▼	-14
2.2.1 Employment input		80	7	▼	-6
2.2.1.1 Hiring and firing practices (1-7 survey)	4.0	58	54	▲	24
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.7	70	19	▼	-11
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		19	136	●	0
2.2.2.1 Women in labour force (% female-male)	60.6	48	119	▲	1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.0	34	99	▼	-17
2.2.2.4 Knowledge insentive employment (%)	14.8	24	94	●	0

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	2 415	2	142	▲	1
2.2.2.6 ALP effectiveness (1-7 survey)	1.7	4	134	▲	2
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.6	47	50	▲	39
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.4	31	107	▼	-26
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		13	113	▲	3
2.3.1 Innovation input		15	117	▼	-4
2.3.1.1 R&D spendings (% of GDP)	0.1	4	111	▼	-5
2.3.1.2 IPR score	4.3	26	111	▼	-10
2.3.2 Innovation output		10	93	▼	-1
2.3.2.1 Trademark applications per th. pop.	1.2	39	46	▼	-11
2.3.2.2 Patent applications per th. pop.	0.02	8	90	▲	4
2.3.2.3 R&D journals per th. pop.	0.01	1	126	▲	3
2.3.2.4 Researchers in R&D per mln.pop.	71	2	91	▼	-1
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	106	▲	6
2.4 Technology		33	120	▼	-5
2.4.1 Technology input		21	136	▼	-5
2.4.1.1 ICT affordability	1.9	17	142	▼	-3
2.4.1.2 ICT access index	3.3	27	109	▼	-3
2.4.2 Technology output		48	59	▲	2
2.4.2.1 ICT goods and services export (% of exp.)	19.4	67	22	▲	12
2.4.2.2 Mobile broadband per 100 pop.	22.8	15	116	●	0
2.5 Entrepreneurship		44	100	▲	21
2.5.1 Entrepreneurship input		56	100	▲	37
2.5.1.1 Time dealing with gov. regulations (%)	11.1	62	74	▲	28
2.5.1.2 Time to start a business (days)	14.0	73	81	▲	36
2.5.1.3 Procedures to register a business	7.0	53	70	▲	5
2.5.1.4 Cost to start a business (% GNI per cap)	65.4	29	130	▼	-1
2.5.2 Entrepreneurship output		36	91	▼	-33
2.5.2.1 Global Entrepreneurship Index	14.7	9	113	▼	-28
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.9	58	73	▼	-33
2.6 Statistics		45	124	●	0
2.6.1 Statistical fullness (%)	0.73	45	124	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Radar chart axes: Statistics, Demographics, Country Capabilities, Economic Development, Economic Diversification, Inequality, Education and Skills, Employment, Innovation, Technology, Entrepreneurship
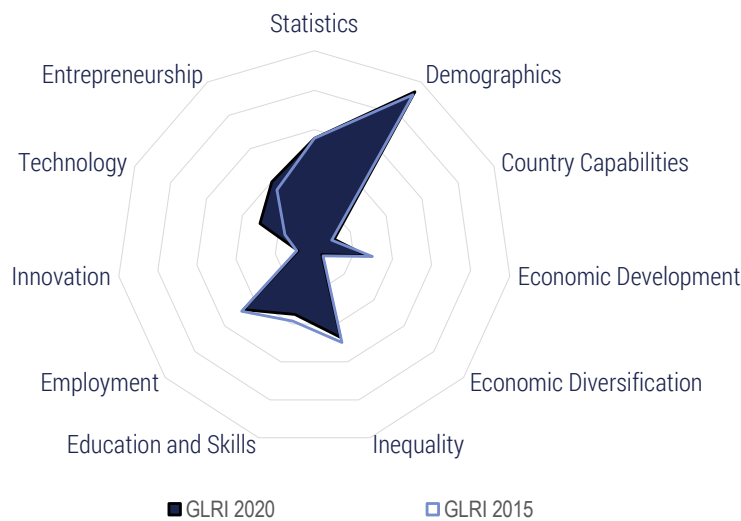
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**21**	**139**	▲ 1
1.1 Demographics		94	16	▲ 1
1.1.1 Share of older population (% of total population)	2.7	94	16	▲ 1
1.2 Country Capabilities		11	122	▽ -1
1.2.1 Economic Complexity Index	-1.7	11	122	▽ -1
1.3 Economic Development		27	111	▽ -1
1.3.1 Income per capita (PPP)	5 316	8	109	▽ -5
1.3.2 Dependence on natural resources (% of GDP)	8.7	40	109	▲ 1
1.3.3 Tertiarisation of economy (% of GDP)	52.0	59	90	▽ -9
1.4 Economic Diversification		5	141	▽ -2
1.4.1 Concentration of exports	0.8	2	142	▽ -1
1.4.2 Diversity	55	9	122	▽ -3
1.5 Inequality		47	100	▽ -2
1.5.1 Income inequality	43.0	47	100	▽ -2
2. Policy Pillar		**31**	**111**	▽ -6
2.1 Education and skills		35	101	▽ -13
2.1.1 Education and skills input		51	61	▽ -13
2.1.1.1 Government education spendings (% of GDP)	3.1	24	111	▽ -3
2.1.1.2 Tertiary public education spendings (% of gov.exp)	43.1	89	4	▽ -2
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	8.2	54	90	▽ -11
2.1.1.5 Staff training (1-7 survey)	3.7	36	88	▽ -17
2.1.2 Education and skills output		27	134	▽ -12
2.1.2.1 Tertiary attainment rate (% of pop 25+)	9.0	20	73	▽ -7
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	2.9	20	134	▽ -1
2.1.2.4 Skilled labour supply (1-7 survey)	3.8	47	95	▽ -23
2.1.2.5 Vocational enrollment (% of students)	n/a	n/a	n/a	
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a	
2.1.2.7 Quality of vocational education (1-7 survey)	2.9	16	134	▽ -1
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a	
2.1.2.9 Digital skills (1-7 survey)	3.3	31	119	▽ -4
2.1.2.10 Critical thinking (1-7 survey)	2.5	16	128	▽ -5
2.2 Employment		47	52	▲ 8
2.2.1 Employment input		53	46	▲ 7
2.2.1.1 Hiring and firing practices (1-7 survey)	4.6	69	16	▽ -7
2.2.1.2 Worker's rights (1-7 score)	60.8	16	99	▲ 12
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.5	65	32	▽ -1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		44	54	▲ 6
2.2.2.1 Women in labour force (% female-male)	84.5	77	43	▽ -7
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.5	45	59	▲ 17
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a	

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	37 711	26	69	▽ -1
2.2.2.6 ALP effectiveness (1-7 survey)	2.1	15	118	▲ 3
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.9	23	116	▽ -17
2.2.2.8 Impact of taxes on workers (1-7 survey)	5.1	74	7	▲ 29
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		8	127	▽ -3
2.3.1 Innovation input		15	119	● 0
2.3.1.1 R&D spendings (% of GDP)	0.2	8	92	▽ -2
2.3.1.2 IPR score	3.9	21	117	● 0
2.3.2 Innovation output		2	125	▽ -9
2.3.2.1 Trademark applications per th. pop.	0.1	4	121	▽ -4
2.3.2.2 Patent applications per th. pop.	0.00	3	105	▽ -1
2.3.2.3 R&D journals per th. pop.	0.02	2	103	▽ -5
2.3.2.4 Researchers in R&D per mln.pop.	39	1	104	● 0
2.3.2.5 Technicians in R&D per mln.pop.	13	2	95	▲ 1
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	107	▽ -29
2.4 Technology		30	124	● 0
2.4.1 Technology input		38	118	▲ 7
2.4.1.1 ICT affordability	4.3	57	99	▲ 24
2.4.1.2 ICT access index	2.6	18	119	▽ -5
2.4.2 Technology output		26	120	▽ -22
2.4.2.1 ICT goods and services export (% of exp.)	8.1	35	69	▲ 19
2.4.2.2 Mobile broadband per 100 pop.	21.8	14	120	▽ -41
2.5 Entrepreneurship		40	117	▽ -1
2.5.1 Entrepreneurship input		65	83	▲ 1
2.5.1.1 Time dealing with gov. regulations (%)	7.5	74	59	▽ -7
2.5.1.2 Time to start a business (days)	10.9	79	62	▲ 42
2.5.1.3 Procedures to register a business	8.0	45	92	▽ -17
2.5.1.4 Cost to start a business (% GNI per cap)	28.8	43	111	▲ 2
2.5.2 Entrepreneurship output		20	133	▽ -3
2.5.2.1 Global Entrepreneurship Index	19.7	15	93	▽ -13
2.5.2.2 New corporate registrations per th. pop.	0.4	6	79	● 0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	2.6	29	133	▽ -2
2.6 Statistics		56	100	● 0
2.6.1 Statistical fullness (%)	0.78	56	100	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Norway

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
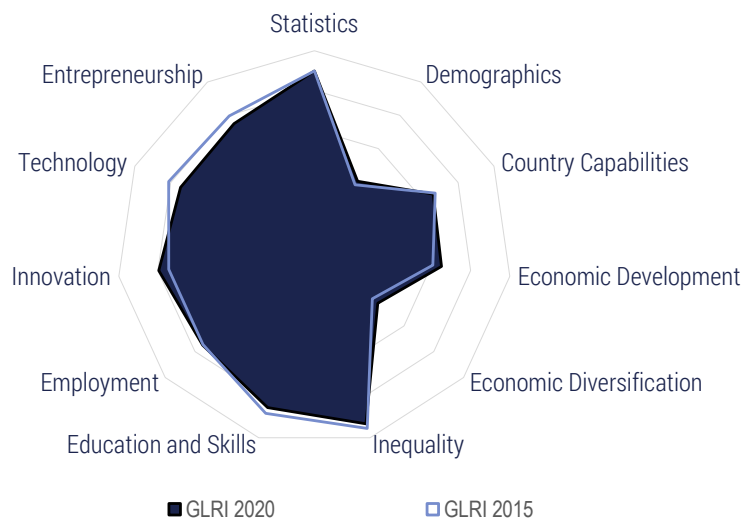
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		74	43	▲	1
1.1 Demographics		40	117	▲	3
1.1.1 Share of older population (% of total population)	17.0	40	117	▲	3
1.2 Country Capabilities		66	32	▽	-6
1.2.1 Economic Complexity Index	0.8	66	32	▽	-6
1.3 Economic Development		65	33	▲	5
1.3.1 Income per capita (PPP)	65 441	94	8	▽	-2
1.3.2 Dependence on natural resources (% of GDP)	5.9	49	99	▲	2
1.3.3 Tertiarisation of economy (% of GDP)	55.6	64	69	▲	10
1.4 Economic Diversification		42	90	▲	6
1.4.1 Concentration of exports	0.4	59	101	▲	1
1.4.2 Diversity	143	26	74	▲	8
1.5 Inequality		93	9	▽	-5
1.5.1 Income inequality	27.5	93	9	▽	-5
2. Policy Pillar		87	9	▽	-1
2.1 Education and skills		84	7	▽	-2
2.1.1 Education and skills input		88	5	●	0
2.1.1.1 Government education spendings (% of GDP)	8.0	81	2	▲	6
2.1.1.2 Tertiary public education spendings (% of gov.exp)	26.7	53	30	▲	8
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	13.0	91	15	▽	-2
2.1.1.5 Staff training (1-7 survey)	5.1	78	13	▽	-10
2.1.2 Education and skills output		82	11	▽	-7
2.1.2.1 Tertiary attainment rate (% of pop 25+)	28.1	61	18	▽	-2
2.1.2.2 PISA score	497	68	20	▲	3
2.1.2.3 Skillset of graduates (1-7 survey)	5.0	73	21	▽	-4
2.1.2.4 Skilled labour supply (1-7 survey)	5.2	86	5	▽	-3
2.1.2.5 Vocational enrollment (% of students)	28.2	60	24	▽	-1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	17.8	61	23	▽	-2
2.1.2.7 Quality of vocational education (1-7 survey)	5.2	68	10	▽	-2
2.1.2.8 STEM graduates (%)	22.1	38	59	▲	8
2.1.2.9 Digital skills (1-7 survey)	5.3	85	12	▽	-10
2.1.2.10 Critical thinking (1-7 survey)	4.8	77	15	▽	-6
2.2 Employment		75	9	▲	2
2.2.1 Employment input		49	60	▲	36
2.2.1.1 Hiring and firing practices (1-7 survey)	3.7	44	72	▲	50
2.2.1.2 Worker's rights (1-7 score)	97.9	96	6	▽	-5
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.2	56	57	▲	2
2.2.1.4 Tax wedge (% of labour cost)	35.8	41	16	●	0
2.2.1.5 ALP spendings (% of GDP)	1.1	34	16	▲	3
2.2.2 Employment output		92	4	▽	-1
2.2.2.1 Women in labour force (% female-male)	90.4	84	16	▲	2
2.2.2.2 Gender pay gap (% of employees)	7.1	80	14	▽	-4
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	5.1	78	11	▽	-4
2.2.2.4 Knowledge insentive employment (%)	50.7	81	4	▲	6

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	130 246	89	6	▲	1
2.2.2.6 ALP effectiveness (1-7 survey)	5.2	86	9	▽	-3
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.7	83	8	▽	-4
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.8	40	81	▽	-55
2.2.2.9 Earnings quality (PPP)	28.2	96	4	●	0
2.2.2.10 Quality of the working environment (%)	13.8	100	1	●	0
2.3 Innovation		80	14	▲	2
2.3.1 Innovation input		86	12	▲	3
2.3.1.1 R&D spendings (% of GDP)	2.1	76	16	▲	6
2.3.1.2 IPR score	8.5	96	4	●	0
2.3.2 Innovation output		72	11	▲	2
2.3.2.1 Trademark applications per th. pop.	2.9	93	13	▽	-1
2.3.2.2 Patent applications per th. pop.	0.39	100	1	●	0
2.3.2.3 R&D journals per th. pop.	2.02	100	1	●	0
2.3.2.4 Researchers in R&D per mln.pop.	6 478	83	8	●	0
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.14	8	61	▽	-4
2.4 Technology		74	20	▽	-10
2.4.1 Technology input		95	6	▽	-2
2.4.1.1 ICT affordability	6.1	87	26	▽	-4
2.4.1.2 ICT access index	8.5	93	7	▽	-2
2.4.2 Technology output		49	56	▽	-44
2.4.2.1 ICT goods and services export (% of exp.)	3.0	20	112	▽	-50
2.4.2.2 Mobile broadband per 100 pop.	101.8	63	19	▽	-11
2.5 Entrepreneurship		75	19	▽	-10
2.5.1 Entrepreneurship input		87	14	●	0
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	4.0	93	13	▽	-1
2.5.1.3 Procedures to register a business	4.0	76	18	▲	1
2.5.1.4 Cost to start a business (% GNI per cap)	0.9	89	20	▽	-2
2.5.2 Entrepreneurship output		65	23	▽	-8
2.5.2.1 Global Entrepreneurship Index	56.6	64	19	▽	-5
2.5.2.2 New corporate registrations per th. pop.	5.3	73	18	▽	-5
2.5.2.3 Venture capital investments (% of GDP)	0.02	23	23	▽	-2
2.5.2.4 SME outstanding loans (% of loans)	38.0	44	23	●	0
2.5.2.5 Access to loans (1-7 survey)	5.1	88	10	●	0
2.6 Statistics		90	26	●	0
2.6.1 Statistical fullness (%)	0.95	90	26	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics · Demographics · Entrepreneurship · Country Capabilities · Technology · Economic Development · Innovation · Economic Diversification · Employment · Inequality · Education and Skills
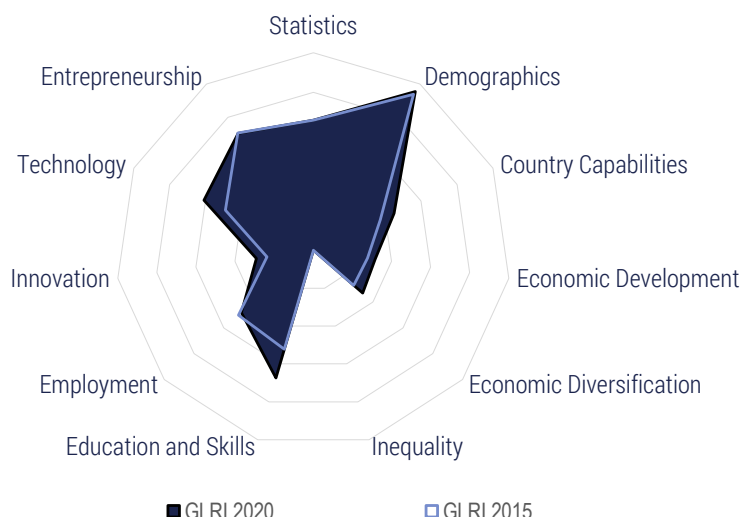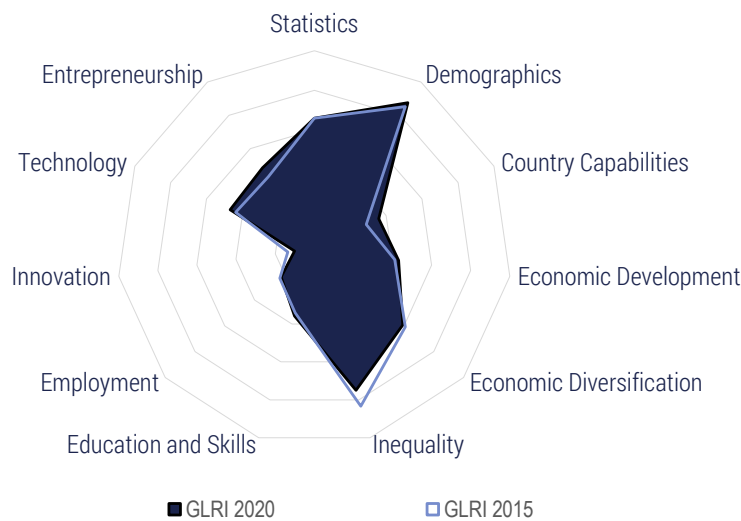
■ GLRI 2020   □ GLRI 2015

Note: the score of the Inequality sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**52**	**88**	▲ 29
1.1 Demographics		96	5	▲ 3
1.1.1 Share of older population (% of total population)	2.4	96	5	▲ 3
1.2 Country Capabilities		45	71	▲ 8
1.2.1 Economic Complexity Index	-0.2	45	71	▲ 8
1.3 Economic Development		32	101	▲ 15
1.3.1 Income per capita (PPP)	36 831	53	27	▼ -6
1.3.2 Dependence on natural resources (% of GDP)	23.5	15	137	▲ 5
1.3.3 Tertiarisation of economy (% of GDP)	46.6	51	113	▲ 19
1.4 Economic Diversification		33	111	▲ 10
1.4.1 Concentration of exports	0.4	47	118	▲ 3
1.4.2 Diversity	108	19	89	▲ 22
1.5 Inequality		n/a	n/a	
1.5.1 Income inequality	n/a	n/a	n/a	
2. Policy Pillar		**57**	**42**	▲ 3
2.1 Education and skills		67	24	▲ 19
2.1.1 Education and skills input		74	22	▲ 12
2.1.1.1 Government education spendings (% of GDP)	6.8	68	11	▲ 41
2.1.1.2 Tertiary public education spendings (% of gov.exp)	28.7	58	21	▲ 15
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	31 148	100	1	● 0
2.1.1.4 Years of schooling	9.6	64	70	▲ 13
2.1.1.5 Staff training (1-7 survey)	4.4	59	35	▲ 10
2.1.2 Education and skills output		65	30	▲ 40
2.1.2.1 Tertiary attainment rate (% of pop 25+)	12.5	27	59	▼ -6
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	4.5	62	38	▲ 40
2.1.2.4 Skilled labour supply (1-7 survey)	4.3	62	54	▲ 58
2.1.2.5 Vocational enrollment (% of students)	0.4	2	133	▲ 6
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.4	2	110	▲ 11
2.1.2.7 Quality of vocational education (1-7 survey)	4.7	58	25	▲ 57
2.1.2.8 STEM graduates (%)	46.1	84	3	▲ 3
2.1.2.9 Digital skills (1-7 survey)	4.9	76	28	● 0
2.1.2.10 Critical thinking (1-7 survey)	4.9	78	14	▲ 33
2.2 Employment		48	50	▲ 7
2.2.1 Employment input		50	54	▲ 33
2.2.1.1 Hiring and firing practices (1-7 survey)	4.3	60	32	▲ 13
2.2.1.2 Worker's rights (1-7 score)	71.1	38	59	▼ -9
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.9	46	89	▲ 44
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		47	44	▼ -15
2.2.2.1 Women in labour force (% female-male)	34.9	17	133	▲ 1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.2	60	34	▼ -22
2.2.2.4 Knowledge insentive employment (%)	24.3	39	60	▼ -5

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	69 365	47	34	▼ -11
2.2.2.6 ALP effectiveness (1-7 survey)	4.5	70	28	▲ 13
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.4	75	13	▲ 2
2.2.2.8 Impact of taxes on workers (1-7 survey)	5.3	78	5	● 0
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		29	60	▲ 9
2.3.1 Innovation input		35	60	▼ -6
2.3.1.1 R&D spendings (% of GDP)	0.2	8	90	▲ 5
2.3.1.2 IPR score	6.3	61	36	▼ -7
2.3.2 Innovation output		23	61	▲ 24
2.3.2.1 Trademark applications per th. pop.	2.7	87	16	▲ 77
2.3.2.2 Patent applications per th. pop.	0.08	27	48	● 0
2.3.2.3 R&D journals per th. pop.	0.16	9	63	▼ -2
2.3.2.4 Researchers in R&D per mln.pop.	244	4	77	▲ 8
2.3.2.5 Technicians in R&D per mln.pop.	43	3	76	▼ -3
2.3.2.6 Creative goods exports (% of goods exp.)	0.01	2	95	▼ -2
2.4 Technology		61	58	▼ -8
2.4.1 Technology input		66	70	▼ -23
2.4.1.1 ICT affordability	4.6	61	95	▼ -62
2.4.1.2 ICT access index	6.4	67	55	▲ 3
2.4.2 Technology output		53	43	▲ 26
2.4.2.1 ICT goods and services export (% of exp.)	7.2	32	76	▲ 43
2.4.2.2 Mobile broadband per 100 pop.	91.3	57	27	▼ -6
2.5 Entrepreneurship		70	26	● 0
2.5.1 Entrepreneurship input		81	26	▲ 22
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a	
2.5.1.2 Time to start a business (days)	4.3	92	17	▲ 21
2.5.1.3 Procedures to register a business	4.0	76	18	▲ 37
2.5.1.4 Cost to start a business (% GNI per cap)	4.0	73	51	▼ -3
2.5.2 Entrepreneurship output		62	29	▼ -7
2.5.2.1 Global Entrepreneurship Index	46.9	51	31	▲ 6
2.5.2.2 New corporate registrations per th. pop.	1.5	21	47	▲ 7
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	4.7	77	22	▼ -17
2.6 Statistics		66	71	● 0
2.6.1 Statistical fullness (%)	0.83	66	71	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**71**	**51**	▽ -5
1.1 Demographics		88	43	△ 6
1.1.1 Share of older population (% of total population)	4.5	88	43	△ 6
1.2 Country Capabilities		36	92	△ 4
1.2.1 Economic Complexity Index	-0.6	36	92	△ 4
1.3 Economic Development		43	77	△ 3
1.3.1 Income per capita (PPP)	4 928	7	110	△ 1
1.3.2 Dependence on natural resources (% of GDP)	1.1	81	50	△ 14
1.3.3 Tertiarisation of economy (% of GDP)	53.5	61	81	△ 2
1.4 Economic Diversification		59	47	△ 1
1.4.1 Concentration of exports	0.2	80	53	△ 4
1.4.2 Diversity	212	39	46	△ 3
1.5 Inequality		75	42	▽ -20
1.5.1 Income inequality	33.5	75	42	▽ -20
2. Policy Pillar		**33**	**100**	▽ -6
2.1 Education and skills		36	97	△ 3
2.1.1 Education and skills input		33	112	● 0
2.1.1.1 Government education spendings (% of GDP)	2.9	22	113	△ 9
2.1.1.2 Tertiary public education spendings (% of gov.exp)	22.1	43	59	▽ -43
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	5.0	29	114	▽ -1
2.1.1.5 Staff training (1-7 survey)	4.0	45	61	△ 29
2.1.2 Education and skills output		46	79	△ 14
2.1.2.1 Tertiary attainment rate (% of pop 25+)	7.4	17	76	▽ -6
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	4.3	55	50	△ 32
2.1.2.4 Skilled labour supply (1-7 survey)	4.2	59	61	△ 7
2.1.2.5 Vocational enrollment (% of students)	3.3	8	107	● 0
2.1.2.6 Vocational enrollment of 15-24 olds (%)	1.1	5	100	▽ -1
2.1.2.7 Quality of vocational education (1-7 survey)	3.8	35	88	△ 6
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a	
2.1.2.9 Digital skills (1-7 survey)	4.1	54	73	▽ -2
2.1.2.10 Critical thinking (1-7 survey)	3.8	50	41	△ 9
2.2 Employment		22	132	△ 2
2.2.1 Employment input		37	104	▽ -9
2.2.1.1 Hiring and firing practices (1-7 survey)	4.1	55	43	▽ -11
2.2.1.2 Worker's rights (1-7 score)	59.8	14	103	● 0
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.9	46	87	△ 9
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		18	138	△ 1
2.2.2.1 Women in labour force (% female-male)	29.3	10	140	▽ -1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.5	44	63	△ 44
2.2.2.4 Knowledge insentive employment (%)	19.5	31	78	▽ -1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	15 430	10	103	△ 3
2.2.2.6 ALP effectiveness (1-7 survey)	3.9	57	44	△ 7
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.9	25	113	▽ -10
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.6	37	94	▽ -15
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		10	122	▽ -11
2.3.1 Innovation input		13	122	▽ -11
2.3.1.1 R&D spendings (% of GDP)	0.2	9	88	▽ -4
2.3.1.2 IPR score	3.6	16	122	▽ -9
2.3.2 Innovation output		8	99	▽ -6
2.3.2.1 Trademark applications per th. pop.	0.2	7	108	△ 10
2.3.2.2 Patent applications per th. pop.	0.00	2	108	▽ -1
2.3.2.3 R&D journals per th. pop.	0.04	3	88	▽ -3
2.3.2.4 Researchers in R&D per mln.pop.	354	5	73	△ 6
2.3.2.5 Technicians in R&D per mln.pop.	34	2	83	▽ -18
2.3.2.6 Creative goods exports (% of goods exp.)	0.28	13	49	▽ -4
2.4 Technology		47	93	▽ -25
2.4.1 Technology input		60	88	△ 4
2.4.1.1 ICT affordability	6.9	100	1	△ 19
2.4.1.2 ICT access index	2.4	16	123	▽ -6
2.4.2 Technology output		34	102	▽ -49
2.4.2.1 ICT goods and services export (% of exp.)	12.6	48	41	▽ -20
2.4.2.2 Mobile broadband per 100 pop.	20.1	13	122	△ 1
2.5 Entrepreneurship		48	76	△ 16
2.5.1 Entrepreneurship input		71	61	△ 8
2.5.1.1 Time dealing with gov. regulations (%)	3.5	88	28	△ 2
2.5.1.2 Time to start a business (days)	16.5	68	90	▽ -7
2.5.1.3 Procedures to register a business	10.0	29	123	△ 6
2.5.1.4 Cost to start a business (% GNI per cap)	7.6	64	71	△ 10
2.5.2 Entrepreneurship output		31	112	▽ -3
2.5.2.1 Global Entrepreneurship Index	15.6	10	111	△ 9
2.5.2.2 New corporate registrations per th. pop.	0.0	1	111	● 0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	3.6	52	88	▽ -18
2.6 Statistics		66	71	● 0
2.6.1 Statistical fullness (%)	0.83	66	71	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
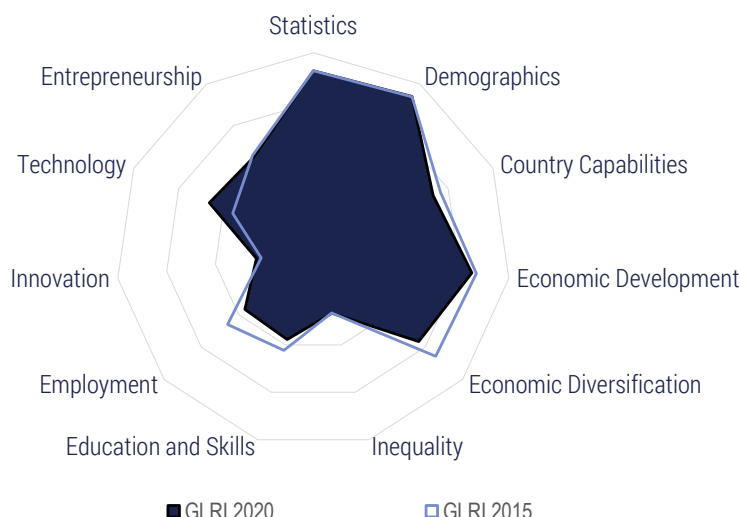
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**60**	**66**	▼ -13
1.1 Demographics		74	79	● 0
1.1.1 Share of older population (% of total population)	8.1	74	79	● 0
1.2 Country Capabilities		53	52	▼ -7
1.2.1 Economic Complexity Index	0.2	53	52	▼ -7
1.3 Economic Development		65	34	▼ -6
1.3.1 Income per capita (PPP)	22 674	33	53	● 0
1.3.2 Dependence on natural resources (% of GDP)	0.2	95	23	▼ -1
1.3.3 Tertiarisation of economy (% of GDP)	65.1	79	24	▼ -8
1.4 Economic Diversification		56	58	▼ -19
1.4.1 Concentration of exports	0.1	88	39	▼ -12
1.4.2 Diversity	141	25	77	▼ -30
1.5 Inequality		27	124	▼ -1
1.5.1 Income inequality	49.9	27	124	▼ -1
2. Policy Pillar		**40**	**78**	▼ -8
2.1 Education and skills		38	93	▼ -17
2.1.1 Education and skills input		45	86	▼ -18
2.1.1.1 Government education spendings (% of GDP)	3.2	25	105	● 0
2.1.1.2 Tertiary public education spendings (% of gov.exp)	22.2	43	57	▲ 6
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	9.3	62	71	▼ -6
2.1.1.5 Staff training (1-7 survey)	3.7	38	80	▼ -16
2.1.2 Education and skills output		38	107	▼ -24
2.1.2.1 Tertiary attainment rate (% of pop 25+)	16.1	35	48	▼ -3
2.1.2.2 PISA score	365	17	74	▼ -1
2.1.2.3 Skillset of graduates (1-7 survey)	3.8	44	85	▼ -33
2.1.2.4 Skilled labour supply (1-7 survey)	3.4	37	116	▼ -15
2.1.2.5 Vocational enrollment (% of students)	16.9	37	47	▲ 4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	7.2	25	56	▼ -3
2.1.2.7 Quality of vocational education (1-7 survey)	3.7	35	89	▼ -35
2.1.2.8 STEM graduates (%)	15.4	25	102	▼ -50
2.1.2.9 Digital skills (1-7 survey)	3.7	41	95	▼ -15
2.1.2.10 Critical thinking (1-7 survey)	3.0	31	98	▼ -24
2.2 Employment		37	88	▼ -20
2.2.1 Employment input		35	111	▼ -35
2.2.1.1 Hiring and firing practices (1-7 survey)	3.2	28	110	▼ -35
2.2.1.2 Worker's rights (1-7 score)	71.1	38	59	▼ -2
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.8	43	99	▼ -25
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		44	53	▲ 1
2.2.2.1 Women in labour force (% female-male)	65.2	53	107	▲ 7
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.6	69	18	▼ -7
2.2.2.4 Knowledge insentive employment (%)	24.0	38	61	▲ 25

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	49 792	34	55	▲ 5
2.2.2.6 ALP effectiveness (1-7 survey)	2.9	34	82	▼ -25
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	36	81	▼ -25
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.3	54	37	▲ 9
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		23	76	▲ 3
2.3.1 Innovation input		28	79	▲ 7
2.3.1.1 R&D spendings (% of GDP)	0.1	3	117	● 0
2.3.1.2 IPR score	5.8	53	51	▲ 1
2.3.2 Innovation output		19	74	▲ 1
2.3.2.1 Trademark applications per th. pop.	1.9	60	24	▼ -8
2.3.2.2 Patent applications per th. pop.	0.10	33	44	▲ 48
2.3.2.3 R&D journals per th. pop.	0.04	3	89	▼ -3
2.3.2.4 Researchers in R&D per mln.pop.	39	1	103	● 0
2.3.2.5 Technicians in R&D per mln.pop.	155	8	54	● 0
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	109	● 0
2.4 Technology		46	99	▼ -12
2.4.1 Technology input		69	64	▼ -9
2.4.1.1 ICT affordability	6.1	86	31	● 0
2.4.1.2 ICT access index	4.9	48	82	▼ -14
2.4.2 Technology output		23	125	▼ -1
2.4.2.1 ICT goods and services export (% of exp.)	4.9	25	91	▲ 34
2.4.2.2 Mobile broadband per 100 pop.	29.7	19	108	▼ -35
2.5 Entrepreneurship		45	98	▼ -22
2.5.1 Entrepreneurship input		38	134	▼ -2
2.5.1.1 Time dealing with gov. regulations (%)	33.3	1	113	● 0
2.5.1.2 Time to start a business (days)	6.0	89	29	▼ -17
2.5.1.3 Procedures to register a business	5.0	68	38	▼ -19
2.5.1.4 Cost to start a business (% GNI per cap)	5.7	68	62	▼ -3
2.5.2 Entrepreneurship output		57	37	▼ -4
2.5.2.1 Global Entrepreneurship Index	27.7	26	66	▼ -2
2.5.2.2 New corporate registrations per th. pop.	0.5	8	76	● 0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	5.1	86	12	▼ -5
2.6 Statistics		73	51	● 0
2.6.1 Statistical fullness (%)	0.86	73	51	● 0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics · Demographics · Country Capabilities · Economic Development · Economic Diversification · Inequality · Education and Skills · Employment · Innovation · Technology · Entrepreneurship
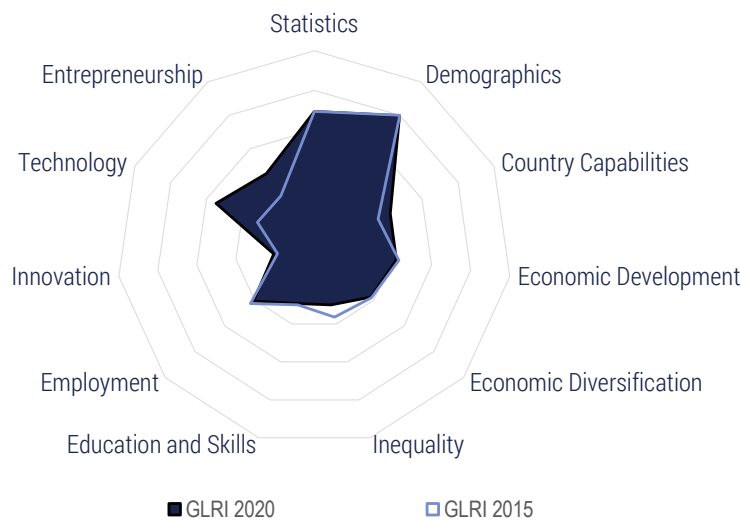
■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**41**	**115**	▽	-1
1.1 Demographics		80	67	●	0
1.1.1 Share of older population (% of total population)	6.6	80	67	●	0
1.2 Country Capabilities		42	76	▲	8
1.2.1 Economic Complexity Index	-0.3	42	76	▲	8
1.3 Economic Development		42	79	▽	-5
1.3.1 Income per capita (PPP)	12 063	17	81	▲	1
1.3.2 Dependence on natural resources (% of GDP)	1.5	75	63	▽	-11
1.3.3 Tertiarisation of economy (% of GDP)	48.4	54	107	▽	-1
1.4 Economic Diversification		38	99	▽	-2
1.4.1 Concentration of exports	0.3	62	97	▽	-4
1.4.2 Diversity	81	14	104	●	0
1.5 Inequality		30	122	▽	-1
1.5.1 Income inequality	48.8	30	122	▽	-1
2. Policy Pillar		**40**	**81**	▲	12
2.1 Education and skills		29	117	▽	-5
2.1.1 Education and skills input		38	101	▲	9
2.1.1.1 Government education spendings (% of GDP)	3.4	28	101	▽	-10
2.1.1.2 Tertiary public education spendings (% of gov.exp)	23.3	46	49	▲	13
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	3 361	17	61	▽	-4
2.1.1.4 Years of schooling	8.7	57	83	▽	-6
2.1.1.5 Staff training (1-7 survey)	3.5	31	106	▲	5
2.1.2 Education and skills output		29	128	▽	-10
2.1.2.1 Tertiary attainment rate (% of pop 25+)	13.0	29	56	●	0
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.4	31	126	▲	4
2.1.2.4 Skilled labour supply (1-7 survey)	3.2	31	131	▽	-3
2.1.2.5 Vocational enrollment (% of students)	15.9	34	50	▲	5
2.1.2.6 Vocational enrollment of 15-24 olds (%)	5.1	18	68	▽	-5
2.1.2.7 Quality of vocational education (1-7 survey)	3.2	21	124	▽	-3
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	3.2	27	127	▽	-6
2.1.2.10 Critical thinking (1-7 survey)	2.5	17	124	▽	-10
2.2 Employment		41	74	▲	7
2.2.1 Employment input		56	34	▲	16
2.2.1.1 Hiring and firing practices (1-7 survey)	3.2	29	108	▽	-6
2.2.1.2 Worker's rights (1-7 score)	72.2	41	57	▲	17
2.2.1.3 Hiring of foreign labour (1-7 survey)	5.4	88	4	▲	2
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		29	108	▽	-6
2.2.2.1 Women in labour force (% female-male)	67.7	56	100	▽	-7
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.3	41	79	▲	20
2.2.2.4 Knowledge insentive employment (%)	18.1	29	83	▲	13

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	18 803	13	97	●	0
2.2.2.6 ALP effectiveness (1-7 survey)	2.2	16	116	▽	-6
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.2	32	94	▽	-25
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.3	53	40	▽	-21
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		21	83	▲	4
2.3.1 Innovation input		18	110	▲	7
2.3.1.1 R&D spendings (% of GDP)	0.2	6	98	▲	12
2.3.1.2 IPR score	4.5	31	103	▲	4
2.3.2 Innovation output		23	63	●	0
2.3.2.1 Trademark applications per th. pop.	3.2	100	1	●	0
2.3.2.2 Patent applications per th. pop.	0.05	18	62	●	0
2.3.2.3 R&D journals per th. pop.	0.01	2	112	▲	4
2.3.2.4 Researchers in R&D per mln.pop.	122	2	87	▽	-10
2.3.2.5 Technicians in R&D per mln.pop.	78	4	64	▲	33
2.3.2.6 Creative goods exports (% of goods exp.)	0.01	1	100	▲	13
2.4 Technology		55	73	▲	25
2.4.1 Technology input		56	96	▽	-10
2.4.1.1 ICT affordability	5.1	70	77	▽	-24
2.4.1.2 ICT access index	4.2	38	97	▽	-3
2.4.2 Technology output		52	44	▲	70
2.4.2.1 ICT goods and services export (% of exp.)	17.6	62	26	▲	72
2.4.2.2 Mobile broadband per 100 pop.	41.7	26	95	▽	-3
2.5 Entrepreneurship		45	97	▲	28
2.5.1 Entrepreneurship input		55	109	▲	24
2.5.1.1 Time dealing with gov. regulations (%)	8.9	69	65	▲	38
2.5.1.2 Time to start a business (days)	35.0	32	124	▽	-9
2.5.1.3 Procedures to register a business	7.0	53	70	▽	-15
2.5.1.4 Cost to start a business (% GNI per cap)	39.9	37	118	▽	-1
2.5.2 Entrepreneurship output		40	79	▲	2
2.5.2.1 Global Entrepreneurship Index	18.7	14	97	▽	-38
2.5.2.2 New corporate registrations per th. pop.	0.1	2	100	▽	-1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.2	66	45	▲	13
2.6 Statistics		69	59	●	0
2.6.1 Statistical fullness (%)	0.85	69	59	●	0

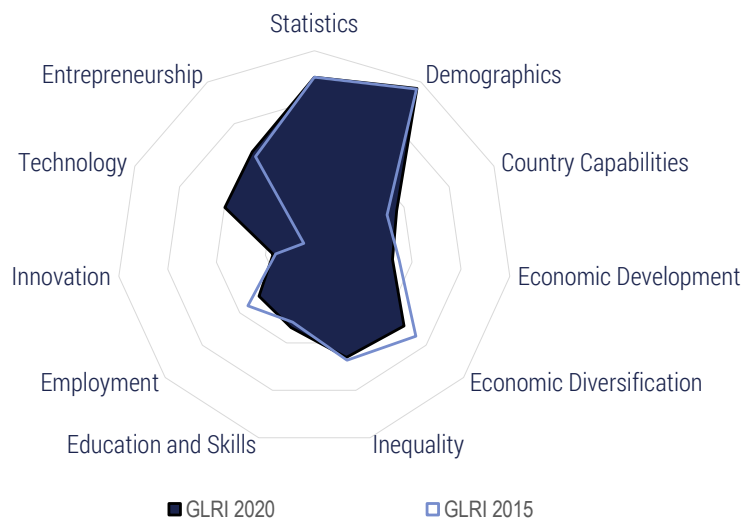WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics · Demographics · Entrepreneurship · Country Capabilities · Technology · Economic Development · Innovation · Economic Diversification · Employment · Inequality · Education and Skills

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**45**	**108**	▼	-12
1.1 Demographics		77	75	▲	1
1.1.1 Share of older population (% of total population)	7.3	77	75	▲	1
1.2 Country Capabilities		37	89	▼	-1
1.2.1 Economic Complexity Index	-0.5	37	89	▼	-1
1.3 Economic Development		32	99	●	0
1.3.1 Income per capita (PPP)	12 794	18	76	▲	2
1.3.2 Dependence on natural resources (% of GDP)	8.9	39	110	▼	-10
1.3.3 Tertiarisation of economy (% of GDP)	54.1	62	79	▲	10
1.4 Economic Diversification		48	77	▼	-15
1.4.1 Concentration of exports	0.3	68	88	▼	-14
1.4.2 Diversity	159	29	69	▼	-12
1.5 Inequality		46	102	▲	3
1.5.1 Income inequality	43.3	46	102	▲	3
2. Policy Pillar		**35**	**94**	▲	14
2.1 Education and skills		33	106	▲	4
2.1.1 Education and skills input		38	103	▲	3
2.1.1.1 Government education spendings (% of GDP)	3.9	34	86	▲	15
2.1.1.2 Tertiary public education spendings (% of gov.exp)	15.8	29	98	▲	1
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	3 796	19	55	▲	13
2.1.1.4 Years of schooling	9.7	65	69	▼	-5
2.1.1.5 Staff training (1-7 survey)	3.3	26	121	▼	-20
2.1.2 Education and skills output		38	109	▲	2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	402	31	63	▲	8
2.1.2.3 Skillset of graduates (1-7 survey)	3.7	40	94	▼	-3
2.1.2.4 Skilled labour supply (1-7 survey)	3.6	43	103	▼	-6
2.1.2.5 Vocational enrollment (% of students)	2.0	5	119	▲	1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.8	4	103	▲	1
2.1.2.7 Quality of vocational education (1-7 survey)	3.9	37	81	▲	-6
2.1.2.8 STEM graduates (%)	29.6	52	18	▲	29
2.1.2.9 Digital skills (1-7 survey)	3.6	38	109	▼	-12
2.1.2.10 Critical thinking (1-7 survey)	2.9	27	105	▼	-17
2.2 Employment		30	114	▼	-14
2.2.1 Employment input		35	110	▼	-1
2.2.1.1 Hiring and firing practices (1-7 survey)	2.9	20	117	▼	-6
2.2.1.2 Worker's rights (1-7 score)	70.1	36	70	▲	19
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.1	54	62	▼	-8
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		32	94	▼	-23
2.2.2.1 Women in labour force (% female-male)	82.6	75	54	▼	-9
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.6	48	53	▼	-18
2.2.2.4 Knowledge insentive employment (%)	15.0	24	93	▼	-12

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	22 868	16	89	▼	-1
2.2.2.6 ALP effectiveness (1-7 survey)	2.1	14	123	▼	-3
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.0	28	107	▼	-27
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.3	29	115	▼	-38
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		17	97	▲	1
2.3.1 Innovation input		24	92	▲	5
2.3.1.1 R&D spendings (% of GDP)	0.1	5	105	▲	8
2.3.1.2 IPR score	5.2	42	67	▲	5
2.3.2 Innovation output		10	91	▼	-4
2.3.2.1 Trademark applications per th. pop.	0.8	27	67	▼	-4
2.3.2.2 Patent applications per th. pop.	0.04	13	70	▲	1
2.3.2.3 R&D journals per th. pop.	0.03	3	93	▲	3
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.08	5	75	▼	-7
2.4 Technology		40	107	▲	33
2.4.1 Technology input		56	97	▲	25
2.4.1.1 ICT affordability	4.6	61	94	▲	46
2.4.1.2 ICT access index	4.9	47	83	▼	-4
2.4.2 Technology output		25	122	▲	21
2.4.2.1 ICT goods and services export (% of exp.)	-0.7	9	144	▲	1
2.4.2.2 Mobile broadband per 100 pop.	62.0	39	64	▲	42
2.5 Entrepreneurship		46	89	▼	-3
2.5.1 Entrepreneurship input		55	106	▲	10
2.5.1.1 Time dealing with gov. regulations (%)	11.8	59	78	▲	10
2.5.1.2 Time to start a business (days)	26.0	49	115	▲	9
2.5.1.3 Procedures to register a business	8.0	45	92	▼	-17
2.5.1.4 Cost to start a business (% GNI per cap)	10.0	60	76	▼	-3
2.5.2 Entrepreneurship output		43	72	▼	-20
2.5.2.1 Global Entrepreneurship Index	28.4	27	63	▲	7
2.5.2.2 New corporate registrations per th. pop.	2.4	33	34	▼	-1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	28.2	33	31	●	0
2.5.2.5 Access to loans (1-7 survey)	4.2	65	48	▼	-20
2.6 Statistics		69	59	●	0
2.6.1 Statistical fullness (%)	0.85	69	59	●	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- ■ GLRI 2020
- ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		72	49	●	0
1.1 Demographics		86	52	▽	-5
1.1.1 Share of older population (% of total population)	4.9	86	52	▽	-5
1.2 Country Capabilities		63	36	△	4
1.2.1 Economic Complexity Index	0.6	63	36	△	4
1.3 Economic Development		48	64	△	5
1.3.1 Income per capita (PPP)	7 943	11	94	△	7
1.3.2 Dependence on natural resources (% of GDP)	1.2	79	54	△	14
1.3.3 Tertiarisation of economy (% of GDP)	60.0	71	43	△	11
1.4 Economic Diversification		52	68	▽	-10
1.4.1 Concentration of exports	0.2	74	76	▽	-10
1.4.2 Diversity	163	29	65	▽	-14
1.5 Inequality		56	86	△	6
1.5.1 Income inequality	40.1	56	86	△	6
2. Policy Pillar		44	74	△	5
2.1 Education and skills		51	51	△	11
2.1.1 Education and skills input		48	78	△	5
2.1.1.1 Government education spendings (% of GDP)	2.7	19	124	▽	-5
2.1.1.2 Tertiary public education spendings (% of gov.exp)	12.0	21	120	△	3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	8.4	55	87	▽	-21
2.1.1.5 Staff training (1-7 survey)	4.8	69	25	△	11
2.1.2 Education and skills output		61	39	△	18
2.1.2.1 Tertiary attainment rate (% of pop 25+)	16.0	35	49	▽	-8
2.1.2.2 PISA score	350	11	76	●	0
2.1.2.3 Skillset of graduates (1-7 survey)	4.8	70	26	△	23
2.1.2.4 Skilled labour supply (1-7 survey)	4.9	77	18	△	29
2.1.2.5 Vocational enrollment (% of students)	6.2	14	92	▽	-2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	4.8	59	24	△	21
2.1.2.8 STEM graduates (%)	28.7	51	24	▽	-7
2.1.2.9 Digital skills (1-7 survey)	5.1	81	23	△	24
2.1.2.10 Critical thinking (1-7 survey)	4.4	65	23	△	16
2.2 Employment		36	90	△	40
2.2.1 Employment input		41	97	△	37
2.2.1.1 Hiring and firing practices (1-7 survey)	4.2	56	40	△	60
2.2.1.2 Worker's rights (1-7 score)	62.9	21	90	△	16
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.9	46	90	△	10
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		38	76	△	18
2.2.2.1 Women in labour force (% female-male)	61.7	49	113	▽	-6
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.4	44	66	△	13
2.2.2.4 Knowledge insentive employment (%)	23.5	38	63	△	12

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	19 918	14	93	△	8
2.2.2.6 ALP effectiveness (1-7 survey)	3.6	50	55	△	24
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.1	65	22	△	9
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.4	55	34	△	6
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		17	92	△	7
2.3.1 Innovation input		24	91	△	4
2.3.1.1 R&D spendings (% of GDP)	0.1	5	100	△	1
2.3.1.2 IPR score	5.2	42	68	△	4
2.3.2 Innovation output		11	86	△	9
2.3.2.1 Trademark applications per th. pop.	0.3	10	101	●	0
2.3.2.2 Patent applications per th. pop.	0.03	11	77	△	1
2.3.2.3 R&D journals per th. pop.	0.01	2	109	△	6
2.3.2.4 Researchers in R&D per mln.pop.	188	3	81	▽	-7
2.3.2.5 Technicians in R&D per mln.pop.	28	2	86	▽	-1
2.3.2.6 Creative goods exports (% of goods exp.)	0.38	17	45	△	10
2.4 Technology		59	62	▽	-17
2.4.1 Technology input		50	104	▽	-7
2.4.1.1 ICT affordability	4.1	53	107	▽	-24
2.4.1.2 ICT access index	4.7	45	88	△	4
2.4.2 Technology output		66	21	▽	-1
2.4.2.1 ICT goods and services export (% of exp.)	23.8	80	14	▽	-13
2.4.2.2 Mobile broadband per 100 pop.	46.3	29	89	△	12
2.5 Entrepreneurship		46	94	△	4
2.5.1 Entrepreneurship input		55	108	△	6
2.5.1.1 Time dealing with gov. regulations (%)	5.4	82	45	△	24
2.5.1.2 Time to start a business (days)	34.0	34	123	▽	-24
2.5.1.3 Procedures to register a business	14.0	1	144	▽	-1
2.5.1.4 Cost to start a business (% GNI per cap)	15.8	52	95	▽	-1
2.5.2 Entrepreneurship output		41	77	▽	-9
2.5.2.1 Global Entrepreneurship Index	24.1	21	80	△	11
2.5.2.2 New corporate registrations per th. pop.	0.2	4	94	▽	-2
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.1	63	54	▽	-19
2.6 Statistics		69	59	●	0
2.6.1 Statistical fullness (%)	0.85	69	59	●	0

Whiteshield Partners
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- Statistics
- Demographics
- Entrepreneurship
- Technology
- Country Capabilities
- Innovation
- Economic Development
- Employment
- Economic Diversification
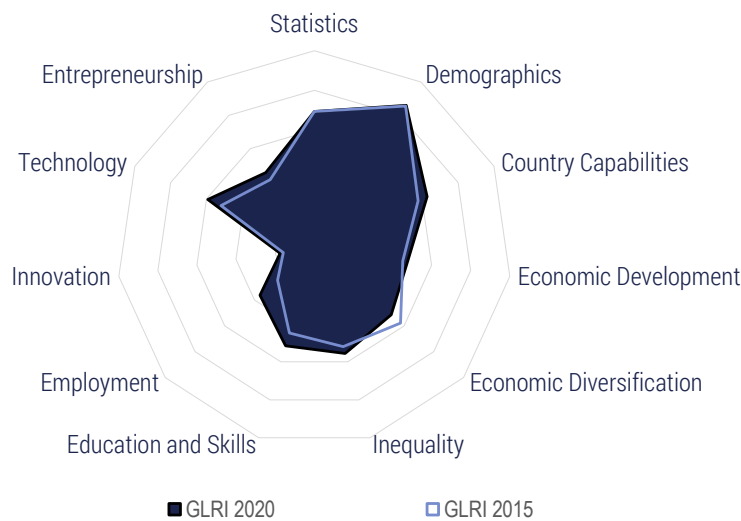- Education and Skills
- Inequality

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**90**	**16**	▲	4
1.1 Demographics		39	118	▼	-3
1.1.1 Share of older population (% of total population)	17.3	39	118	▼	-3
1.2 Country Capabilities		75	20	▲	3
1.2.1 Economic Complexity Index	1.2	75	20	▲	3
1.3 Economic Development		58	42	●	0
1.3.1 Income per capita (PPP)	28 752	41	39	▲	4
1.3.2 Dependence on natural resources (% of GDP)	1.0	82	45	▼	-3
1.3.3 Tertiarisation of economy (% of GDP)	56.4	66	63	▼	-7
1.4 Economic Diversification		90	7	▲	1
1.4.1 Concentration of exports	0.1	99	2	▲	1
1.4.2 Diversity	436	82	8	▲	2
1.5 Inequality		83	22	▲	12
1.5.1 Income inequality	30.8	83	22	▲	12
2. Policy Pillar		**59**	**41**	▼	-4
2.1 Education and skills		58	36	▼	-4
2.1.1 Education and skills input		63	36	▼	-3
2.1.1.1 Government education spendings (% of GDP)	4.6	42	64	▼	-8
2.1.1.2 Tertiary public education spendings (% of gov.exp)	22.8	45	53	▼	-3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	7 421	36	31	▲	1
2.1.1.4 Years of schooling	13.2	93	10	▼	-2
2.1.1.5 Staff training (1-7 survey)	3.9	44	62	▲	3
2.1.2 Education and skills output		59	46	▼	-12
2.1.2.1 Tertiary attainment rate (% of pop 25+)	24.9	54	22	▲	3
2.1.2.2 PISA score	513	74	8	▼	-1
2.1.2.3 Skillset of graduates (1-7 survey)	3.5	36	108	▼	-21
2.1.2.4 Skilled labour supply (1-7 survey)	4.1	57	65	▼	-13
2.1.2.5 Vocational enrollment (% of students)	28.4	61	23	▲	2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	19.4	66	19	●	0
2.1.2.7 Quality of vocational education (1-7 survey)	3.5	30	103	▲	-4
2.1.2.8 STEM graduates (%)	22.9	39	54	▲	22
2.1.2.9 Digital skills (1-7 survey)	4.2	56	66	▼	-6
2.1.2.10 Critical thinking (1-7 survey)	3.2	35	81	▼	-6
2.2 Employment		34	99	▼	-4
2.2.1 Employment input		35	113	▲	2
2.2.1.1 Hiring and firing practices (1-7 survey)	3.3	31	103	▼	-9
2.2.1.2 Worker's rights (1-7 score)	78.4	54	40	▲	5
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.5	36	110	▲	1
2.2.1.4 Tax wedge (% of labour cost)	35.8	41	15	▼	-1
2.2.1.5 ALP spendings (% of GDP)	0.7	23	21	▼	-3
2.2.2 Employment output		40	67	▼	-4
2.2.2.1 Women in labour force (% female-male)	74.7	65	81	▼	-5
2.2.2.2 Gender pay gap (% of employees)	9.4	72	19	▼	-2
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.8	31	105	▲	12
2.2.2.4 Knowledge insentive employment (%)	36.8	59	29	▲	7

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	60 538	41	44	▲	2
2.2.2.6 ALP effectiveness (1-7 survey)	3.5	46	62	▲	6
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	36	78	▲	9
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.8	17	135	▼	-35
2.2.2.9 Earnings quality (PPP)	7.2	14	30	●	0
2.2.2.10 Quality of the working environment (%)	30.1	53	25	▲	1
2.3 Innovation		47	32	▲	1
2.3.1 Innovation input		47	36	▲	3
2.3.1.1 R&D spendings (% of GDP)	1.0	38	35	●	0
2.3.1.2 IPR score	6.1	57	45	▼	-5
2.3.2 Innovation output		47	33	▼	-1
2.3.2.1 Trademark applications per th. pop.	0.4	15	96	▼	-6
2.3.2.2 Patent applications per th. pop.	0.11	36	40	●	0
2.3.2.3 R&D journals per th. pop.	0.87	44	31	▲	2
2.3.2.4 Researchers in R&D per mln.pop.	2 528	33	33	▲	3
2.3.2.5 Technicians in R&D per mln.pop.	397	18	40	▼	-1
2.3.2.6 Creative goods exports (% of goods exp.)	3.08	71	17	▲	5
2.4 Technology		69	32	▼	-10
2.4.1 Technology input		88	19	▲	2
2.4.1.1 ICT affordability	6.6	94	11	▲	37
2.4.1.2 ICT access index	6.9	73	43	▼	-16
2.4.2 Technology output		47	62	▼	-33
2.4.2.1 ICT goods and services export (% of exp.)	11.1	43	47	▼	-3
2.4.2.2 Mobile broadband per 100 pop.	58.9	37	67	▼	-36
2.5 Entrepreneurship		41	115	▼	-6
2.5.1 Entrepreneurship input		41	131	▼	-7
2.5.1.1 Time dealing with gov. regulations (%)	19.7	32	105	▼	-4
2.5.1.2 Time to start a business (days)	37.0	28	128	▼	-11
2.5.1.3 Procedures to register a business	5.0	68	38	▼	-19
2.5.1.4 Cost to start a business (% GNI per cap)	12.0	57	82	▼	-5
2.5.2 Entrepreneurship output		45	57	▲	8
2.5.2.1 Global Entrepreneurship Index	50.4	56	28	▲	8
2.5.2.2 New corporate registrations per th. pop.	1.1	17	55	▲	7
2.5.2.3 Venture capital investments (% of GDP)	0.01	12	25	▲	4
2.5.2.4 SME outstanding loans (% of loans)	56.4	65	13	▼	-2
2.5.2.5 Access to loans (1-7 survey)	4.3	68	43	▲	52
2.6 Statistics		100	1	●	0
2.6.1 Statistical fullness (%)	1.00	100	1	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Portugal

Global Labour Resilience Index 2020

GLRI 2015 Rank 29 ⬇

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
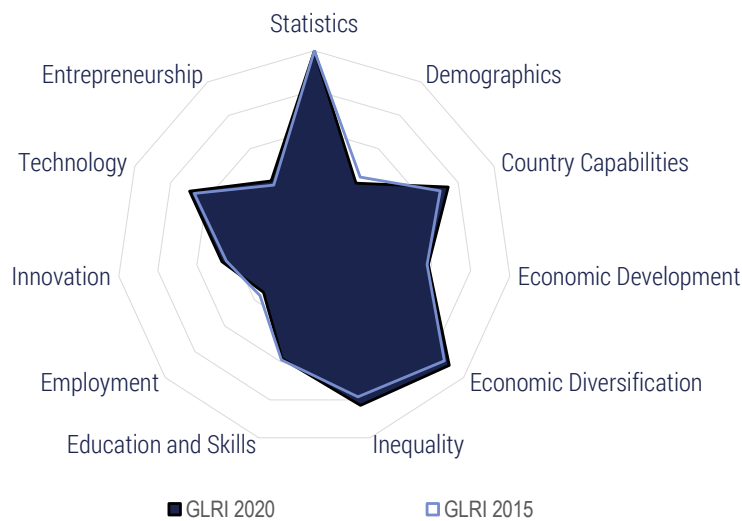

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**73**	**45**	▼	-4
1.1 Demographics		22	143	▼	-1
1.1.1 Share of older population (% of total population)	21.9	22	143	▼	-1
1.2 Country Capabilities		62	39	▼	-3
1.2.1 Economic Complexity Index	0.6	62	39	▼	-3
1.3 Economic Development		67	29	▼	-5
1.3.1 Income per capita (PPP)	28 687	41	40	▼	-1
1.3.2 Dependence on natural resources (% of GDP)	0.4	92	30	▼	-7
1.3.3 Tertiarisation of economy (% of GDP)	65.0	79	26	▼	-7
1.4 Economic Diversification		85	12	▼	-3
1.4.1 Concentration of exports	0.1	96	7	●	0
1.4.2 Diversity	396	74	12	▼	-4
1.5 Inequality		69	56	▲	4
1.5.1 Income inequality	35.5	69	56	▲	4
2. Policy Pillar		**67**	**27**	▼	-1
2.1 Education and skills		58	37	▲	1
2.1.1 Education and skills input		53	56	▲	1
2.1.1.1 Government education spendings (% of GDP)	4.9	45	52	▼	-10
2.1.1.2 Tertiary public education spendings (% of gov.exp)	18.3	35	85	▲	12
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	9 725	47	21	▼	-1
2.1.1.4 Years of schooling	9.3	62	72	▲	3
2.1.1.5 Staff training (1-7 survey)	4.1	49	57	▼	-4
2.1.2 Education and skills output		68	25	▲	2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	18.7	41	41	▲	5
2.1.2.2 PISA score	492	66	24	▲	5
2.1.2.3 Skillset of graduates (1-7 survey)	4.8	69	28	▲	3
2.1.2.4 Skilled labour supply (1-7 survey)	4.7	72	30	▼	-2
2.1.2.5 Vocational enrollment (% of students)	25.0	54	27	▲	1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	16.9	58	26	▼	-3
2.1.2.7 Quality of vocational education (1-7 survey)	4.4	51	43	▼	-4
2.1.2.8 STEM graduates (%)	29.1	51	21	●	0
2.1.2.9 Digital skills (1-7 survey)	4.6	65	48	●	0
2.1.2.10 Critical thinking (1-7 survey)	4.0	57	36	▼	-1
2.2 Employment		46	55	▲	9
2.2.1 Employment input		50	55	●	0
2.2.1.1 Hiring and firing practices (1-7 survey)	3.1	27	111	▼	-5
2.2.1.2 Worker's rights (1-7 score)	90.7	80	14	▲	6
2.2.1.3 Hiring of foreign labour (1-7 survey)	5.0	78	9	▼	-2
2.2.1.4 Tax wedge (% of labour cost)	40.7	29	23	▲	2
2.2.1.5 ALP spendings (% of GDP)	1.7	53	10	▼	-2
2.2.2 Employment output		43	57	▲	4
2.2.2.1 Women in labour force (% female-male)	83.9	76	49	▼	-10
2.2.2.2 Gender pay gap (% of employees)	14.8	53	30	▼	-1
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.4	44	65	▲	29
2.2.2.4 Knowledge insentive employment (%)	34.8	56	36	▲	18

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	60 305	41	45	▼	-6
2.2.2.6 ALP effectiveness (1-7 survey)	4.2	63	36	▲	2
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.6	48	48	▲	48
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.0	21	127	▲	8
2.2.2.9 Earnings quality (PPP)	8.6	19	25	●	0
2.2.2.10 Quality of the working environment (%)	33.2	44	33	▼	-18
2.3 Innovation		52	30	▲	2
2.3.1 Innovation input		60	28	●	0
2.3.1.1 R&D spendings (% of GDP)	1.3	48	26	●	0
2.3.1.2 IPR score	6.9	71	26	▼	-2
2.3.2 Innovation output		44	35	●	0
2.3.2.1 Trademark applications per th. pop.	2.0	63	22	▲	2
2.3.2.2 Patent applications per th. pop.	0.07	23	53	▲	4
2.3.2.3 R&D journals per th. pop.	1.34	68	19	▲	2
2.3.2.4 Researchers in R&D per mln.pop.	4 291	55	20	▲	4
2.3.2.5 Technicians in R&D per mln.pop.	698	31	25	▲	1
2.3.2.6 Creative goods exports (% of goods exp.)	0.58	24	38	▼	-4
2.4 Technology		61	57	▼	-16
2.4.1 Technology input		84	31	●	0
2.4.1.1 ICT affordability	5.9	83	39	▲	18
2.4.1.2 ICT access index	7.1	76	38	▼	-6
2.4.2 Technology output		35	96	▼	-25
2.4.2.1 ICT goods and services export (% of exp.)	4.7	25	93	▼	-17
2.4.2.2 Mobile broadband per 100 pop.	61.1	38	65	▼	-16
2.5 Entrepreneurship		71	25	▼	-2
2.5.1 Entrepreneurship input		87	15	▼	-8
2.5.1.1 Time dealing with gov. regulations (%)	1.1	97	9	▼	-2
2.5.1.2 Time to start a business (days)	6.5	88	36	▼	-24
2.5.1.3 Procedures to register a business	6.0	61	56	▼	-37
2.5.1.4 Cost to start a business (% GNI per cap)	2.1	81	41	▼	-2
2.5.2 Entrepreneurship output		57	36	▲	2
2.5.2.1 Global Entrepreneurship Index	48.8	54	29	●	0
2.5.2.2 New corporate registrations per th. pop.	3.3	46	27	▼	-1
2.5.2.3 Venture capital investments (% of GDP)	0.01	12	26	▼	-6
2.5.2.4 SME outstanding loans (% of loans)	86.6	100	1	●	0
2.5.2.5 Access to loans (1-7 survey)	3.7	54	82	▲	37
2.6 Statistics		100	1	●	0
2.6.1 Statistical fullness (%)	1.00	100	1	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Global Labour Resilience Index 2020

GLRI 2015 Rank 39 ⬇

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
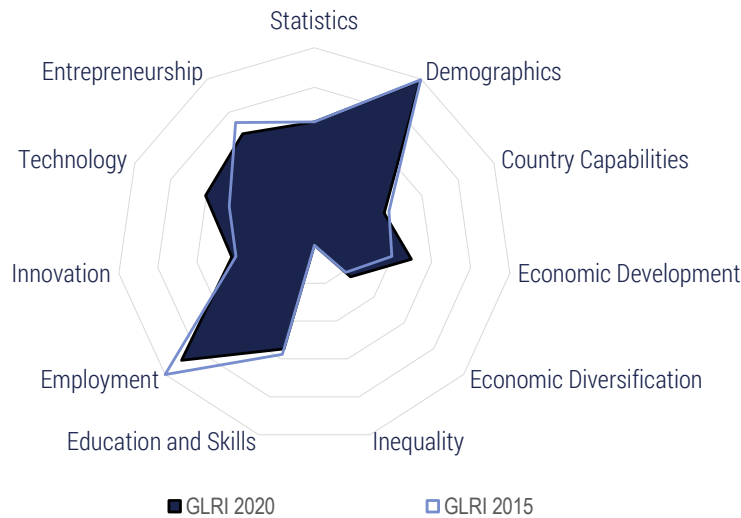
■ GLRI 2020   □ GLRI 2015

Note: the score of the Inequality sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

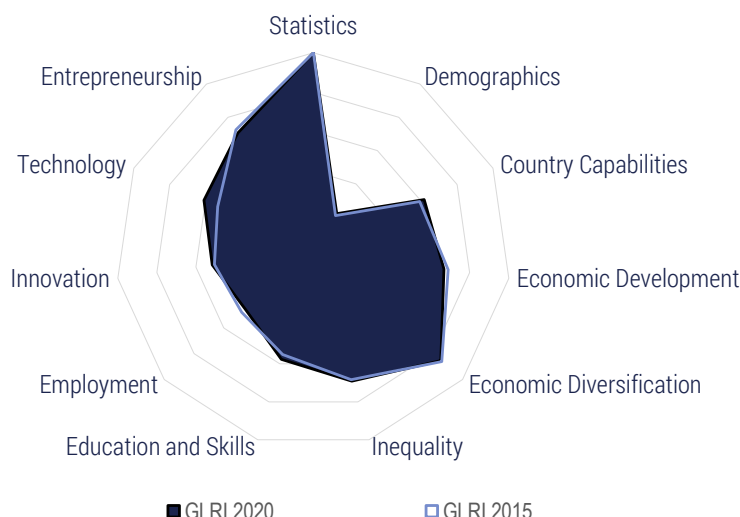## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**56**	**80**	▲	8
1.1 Demographics		99	2	◑	0
1.1.1 Share of older population (% of total population)	1.4	99	2	●	0
1.2 Country Capabilities		39	83	▽	-13
1.2.1 Economic Complexity Index	-0.4	39	83	▽	-13
1.3 Economic Development		50	58	△	25
1.3.1 Income per capita (PPP)	112 532	100	1	●	0
1.3.2 Dependence on natural resources (% of GDP)	17.9	22	129	▲	9
1.3.3 Tertiarisation of economy (% of GDP)	42.6	45	124	▲	17
1.4 Economic Diversification		24	126	△	1
1.4.1 Concentration of exports	0.5	45	123	▲	3
1.4.2 Diversity	30	4	139	●	0
1.5 Inequality		n/a	n/a		
1.5.1 Income inequality	n/a	n/a	n/a		
2. Policy Pillar		**65**	**31**	▽	-6
2.1 Education and skills		55	45	▽	-12
2.1.1 Education and skills input		49	71	▽	-20
2.1.1.1 Government education spendings (% of GDP)	2.9	21	115	▽	-32
2.1.1.2 Tertiary public education spendings (% of gov.exp)	7.6	11	133	▲	2
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	9.7	66	68	▽	-10
2.1.1.5 Staff training (1-7 survey)	4.7	67	26	▽	-4
2.1.2 Education and skills output		66	29	▽	-6
2.1.2.1 Tertiary attainment rate (% of pop 25+)	19.0	41	40	▽	-10
2.1.2.2 PISA score	413	35	57	▲	12
2.1.2.3 Skillset of graduates (1-7 survey)	5.0	75	15	▽	-13
2.1.2.4 Skilled labour supply (1-7 survey)	5.0	81	12	▲	12
2.1.2.5 Vocational enrollment (% of students)	0.7	2	129	▲	3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.2	2	114	▽	-1
2.1.2.7 Quality of vocational education (1-7 survey)	5.0	64	16	▲	3
2.1.2.8 STEM graduates (%)	22.5	39	56	▽	-47
2.1.2.9 Digital skills (1-7 survey)	5.2	83	16	▲	3
2.1.2.10 Critical thinking (1-7 survey)	5.2	86	9	▽	-1
2.2 Employment		89	3	▽	-2
2.2.1 Employment input		88	2	●	0
2.2.1.1 Hiring and firing practices (1-7 survey)	5.0	79	9	▽	-6
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.9	74	14	▲	19
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		76	9	▽	-4
2.2.2.1 Women in labour force (% female-male)	61.1	48	116	▲	2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	5.3	84	7	▽	-6
2.2.2.4 Knowledge insentive employment (%)	18.2	29	82	▽	-26

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	158 013	100	1	●	0
2.2.2.6 ALP effectiveness (1-7 survey)	4.7	76	20	▲	1
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.1	64	27	▽	-20
2.2.2.8 Impact of taxes on workers (1-7 survey)	6.2	100	2	▽	-1
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		42	36	▲	2
2.3.1 Innovation input		47	37	▽	-2
2.3.1.1 R&D spendings (% of GDP)	0.5	19	64	▽	-1
2.3.1.2 IPR score	7.2	75	23	▽	-4
2.3.2 Innovation output		37	42	▲	1
2.3.2.1 Trademark applications per th. pop.	2.9	92	14	▽	-13
2.3.2.2 Patent applications per th. pop.	0.21	71	23	▲	8
2.3.2.3 R&D journals per th. pop.	0.47	24	43	▲	2
2.3.2.4 Researchers in R&D per mln.pop.	604	8	63	▽	-4
2.3.2.5 Technicians in R&D per mln.pop.	404	18	39	▲	10
2.3.2.6 Creative goods exports (% of goods exp.)	0.05	3	81	▲	9
2.4 Technology		61	60	▽	-1
2.4.1 Technology input		58	91	▽	-23
2.4.1.1 ICT affordability	3.1	36	126	▽	-22
2.4.1.2 ICT access index	7.2	77	33	●	0
2.4.2 Technology output		60	29	▲	29
2.4.2.1 ICT goods and services export (% of exp.)	3.2	20	109	▲	25
2.4.2.2 Mobile broadband per 100 pop.	129.2	80	7	▲	5
2.5 Entrepreneurship		67	32	▽	-11
2.5.1 Entrepreneurship input		65	81	▽	-5
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	8.7	84	53	▽	-12
2.5.1.3 Procedures to register a business	8.0	45	92	●	0
2.5.1.4 Cost to start a business (% GNI per cap)	6.7	66	65	▽	-4
2.5.2 Entrepreneurship output		72	16	▽	-10
2.5.2.1 Global Entrepreneurship Index	55.0	62	20	▲	3
2.5.2.2 New corporate registrations per th. pop.	1.2	17	53	▽	-4
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	5.3	91	6	▽	-5
2.6 Statistics		62	79	●	0
2.6.1 Statistical fullness (%)	0.81	62	79	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Romania

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**73**	**44**	▲	11
1.1 Demographics		36	121	●	0
1.1.1 Share of older population (% of total population)	18.3	36	121	●	0
1.2 Country Capabilities		72	24	▲	8
1.2.1 Economic Complexity Index	1.1	72	24	▲	8
1.3 Economic Development		57	44	△	13
1.3.1 Income per capita (PPP)	24 544	35	50	▲	5
1.3.2 Dependence on natural resources (% of GDP)	0.8	84	42	▲	17
1.3.3 Tertiarisation of economy (% of GDP)	57.1	67	59	▲	29
1.4 Economic Diversification		72	26	▽	-3
1.4.1 Concentration of exports	0.1	92	25	▽	-10
1.4.2 Diversity	285	53	28	▽	-2
1.5 Inequality		68	61	△	5
1.5.1 Income inequality	35.9	68	61	▲	5
2. Policy Pillar		**52**	**49**	●	0
2.1 Education and skills		42	83	●	0
2.1.1 Education and skills input		45	87	▲	6
2.1.1.1 Government education spendings (% of GDP)	3.1	24	108	▲	3
2.1.1.2 Tertiary public education spendings (% of gov.exp)	21.2	41	70	▽	-30
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	5 234	26	45	▲	7
2.1.1.4 Years of schooling	11.1	76	45	▽	-2
2.1.1.5 Staff training (1-7 survey)	3.4	29	117	▲	2
2.1.2 Education and skills output		47	76	▲	2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	13.0	29	57	▽	-6
2.1.2.2 PISA score	428	41	46	●	0
2.1.2.3 Skillset of graduates (1-7 survey)	3.3	29	130	▽	-1
2.1.2.4 Skilled labour supply (1-7 survey)	3.2	32	130	●	0
2.1.2.5 Vocational enrollment (% of students)	27.5	59	25	▽	-4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	20.2	69	17	▲	1
2.1.2.7 Quality of vocational education (1-7 survey)	3.9	38	78	▲	8
2.1.2.8 STEM graduates (%)	28.8	51	23	▲	2
2.1.2.9 Digital skills (1-7 survey)	4.4	62	54	▲	12
2.1.2.10 Critical thinking (1-7 survey)	2.5	17	126	●	0
2.2 Employment		60	25	▲	37
2.2.1 Employment input		76	8	▲	18
2.2.1.1 Hiring and firing practices (1-7 survey)	4.7	71	12	▲	60
2.2.1.2 Worker's rights (1-7 score)	70.1	36	70	▽	-13
2.2.1.3 Hiring of foreign labour (1-7 survey)	5.6	94	3	▲	2
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		41	65	▲	41
2.2.2.1 Women in labour force (% female-male)	71.0	60	94	▽	-8
2.2.2.2 Gender pay gap (% of employees)	1.5	100	1	▲	15
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.0	13	138	▽	-8
2.2.2.4 Knowledge insentive employment (%)	21.5	34	70	▽	-5

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	55 054	38	49	▲	6
2.2.2.6 ALP effectiveness (1-7 survey)	3.7	53	50	▲	5
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.4	39	67	▲	69
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.9	19	133	▲	9
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		28	63	●	0
2.3.1 Innovation input		35	58	▲	15
2.3.1.1 R&D spendings (% of GDP)	0.5	19	65	▲	6
2.3.1.2 IPR score	5.8	52	52	▲	10
2.3.2 Innovation output		21	67	▽	-3
2.3.2.1 Trademark applications per th. pop.	0.5	17	91	▽	-6
2.3.2.2 Patent applications per th. pop.	0.06	21	57	▲	6
2.3.2.3 R&D journals per th. pop.	0.52	27	40	▽	-1
2.3.2.4 Researchers in R&D per mln.pop.	890	12	51	▽	-2
2.3.2.5 Technicians in R&D per mln.pop.	276	13	47	▽	-2
2.3.2.6 Creative goods exports (% of goods exp.)	0.51	21	42	▽	-2
2.4 Technology		63	48	▽	-15
2.4.1 Technology input		73	55	▽	-5
2.4.1.1 ICT affordability	5.2	72	71	▽	-9
2.4.1.2 ICT access index	6.5	68	51	▽	-2
2.4.2 Technology output		50	46	▽	-9
2.4.2.1 ICT goods and services export (% of exp.)	9.9	40	54	▽	-27
2.4.2.2 Mobile broadband per 100 pop.	73.7	46	46	▲	14
2.5 Entrepreneurship		42	110	▽	-36
2.5.1 Entrepreneurship input		53	114	▽	-20
2.5.1.1 Time dealing with gov. regulations (%)	15.8	45	94	▽	-2
2.5.1.2 Time to start a business (days)	35.0	32	124	▽	-94
2.5.1.3 Procedures to register a business	6.0	61	56	▽	-18
2.5.1.4 Cost to start a business (% GNI per cap)	0.4	94	9	▲	28
2.5.2 Entrepreneurship output		35	94	▽	-23
2.5.2.1 Global Entrepreneurship Index	38.2	40	43	▽	-4
2.5.2.2 New corporate registrations per th. pop.	3.8	53	24	▲	4
2.5.2.3 Venture capital investments (% of GDP)	0.00	4	33	▲	2
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.0	39	120	▽	-44
2.6 Statistics		83	36	●	0
2.6.1 Statistical fullness (%)	0.92	83	36	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Russian Federation

50

Global Labour Resilience Index 2020

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- ■ GLRI 2020
- □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**50**	**92**	▲ 10
1.1 Demographics		49	105	● 0
1.1.1 Share of older population (% of total population)	14.6	49	105	● 0
1.2 Country Capabilities		56	44	▼ -2
1.2.1 Economic Complexity Index	0.3	56	44	▼ -2
1.3 Economic Development		37	90	▼ -11
1.3.1 Income per capita (PPP)	24 791	36	48	▼ -8
1.3.2 Dependence on natural resources (% of GDP)	10.7	35	115	▲ 1
1.3.3 Tertiarisation of economy (% of GDP)	54.1	62	77	▼ -11
1.4 Economic Diversification		46	81	▲ 14
1.4.1 Concentration of exports	0.3	63	95	▲ 5
1.4.2 Diversity	164	30	64	▲ 20
1.5 Inequality		63	71	▲ 13
1.5.1 Income inequality	37.7	63	71	▲ 13
2. Policy Pillar		**60**	**40**	▼ -4
2.1 Education and skills		50	53	▲ 3
2.1.1 Education and skills input		52	60	▲ 3
2.1.1.1 Government education spendings (% of GDP)	3.7	32	94	▼ -4
2.1.1.2 Tertiary public education spendings (% of gov.exp)	21.6	42	65	▲ 2
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	5 884	29	41	▼ -3
2.1.1.4 Years of schooling	10.7	73	49	▼ -4
2.1.1.5 Staff training (1-7 survey)	3.9	44	63	▲ 10
2.1.2 Education and skills output		55	55	▲ 3
2.1.2.1 Tertiary attainment rate (% of pop 25+)	2.1	5	92	▼ -2
2.1.2.2 PISA score	482	62	28	▲ 7
2.1.2.3 Skillset of graduates (1-7 survey)	4.0	48	71	▼ -15
2.1.2.4 Skilled labour supply (1-7 survey)	4.4	63	51	▲ 12
2.1.2.5 Vocational enrollment (% of students)	14.5	31	54	▼ -6
2.1.2.6 Vocational enrollment of 15-24 olds (%)	17.1	59	24	▲ 11
2.1.2.7 Quality of vocational education (1-7 survey)	4.1	42	65	▼ -4
2.1.2.8 STEM graduates (%)	30.0	53	17	▲ 7
2.1.2.9 Digital skills (1-7 survey)	4.8	72	35	▲ 6
2.1.2.10 Critical thinking (1-7 survey)	4.0	55	38	▼ -4
2.2 Employment		48	51	▼ -2
2.2.1 Employment input		50	56	▲ 5
2.2.1.1 Hiring and firing practices (1-7 survey)	4.1	55	42	▲ 25
2.2.1.2 Worker's rights (1-7 score)	73.2	43	53	▼ -3
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.8	45	92	▲ 1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		47	42	▼ -7
2.2.2.1 Women in labour force (% female-male)	77.9	69	73	▼ -7
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.4	42	72	▲ 28
2.2.2.4 Knowledge insentive employment (%)	44.2	71	14	▲ 5

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	53 012	36	51	▼ -3
2.2.2.6 ALP effectiveness (1-7 survey)	3.7	52	53	▼ -9
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	36	82	▲ 27
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.7	39	86	▲ 32
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	33.4	44	34	▼ -7
2.3 Innovation		52	29	▲ 2
2.3.1 Innovation input		39	48	▲ 14
2.3.1.1 R&D spendings (% of GDP)	1.1	40	33	● 0
2.3.1.2 IPR score	4.9	37	82	▲ 14
2.3.2 Innovation output		65	20	▼ -3
2.3.2.1 Trademark applications per th. pop.	0.5	16	93	▼ -2
2.3.2.2 Patent applications per th. pop.	0.26	84	17	▼ -16
2.3.2.3 R&D journals per th. pop.	0.41	21	47	▲ 2
2.3.2.4 Researchers in R&D per mln.pop.	2 852	37	31	▼ -4
2.3.2.5 Technicians in R&D per mln.pop.	456	20	34	▼ -1
2.3.2.6 Creative goods exports (% of goods exp.)	51.58	100	1	● 0
2.4 Technology		71	29	▼ -8
2.4.1 Technology input		89	15	▲ 8
2.4.1.1 ICT affordability	6.6	94	10	▲ 7
2.4.1.2 ICT access index	7.1	75	39	▲ 2
2.4.2 Technology output		49	51	▼ -25
2.4.2.1 ICT goods and services export (% of exp.)	8.9	37	59	▼ -13
2.4.2.2 Mobile broadband per 100 pop.	75.0	47	45	▼ -21
2.5 Entrepreneurship		46	91	▼ -20
2.5.1 Entrepreneurship input		65	80	▲ 7
2.5.1.1 Time dealing with gov. regulations (%)	14.7	49	90	▲ 1
2.5.1.2 Time to start a business (days)	10.1	81	60	▲ 1
2.5.1.3 Procedures to register a business	4.0	76	18	▲ 20
2.5.1.4 Cost to start a business (% GNI per cap)	1.1	87	26	▼ -3
2.5.2 Entrepreneurship output		31	109	▼ -33
2.5.2.1 Global Entrepreneurship Index	25.2	22	74	▼ -7
2.5.2.2 New corporate registrations per th. pop.	3.0	42	28	▲ 3
2.5.2.3 Venture capital investments (% of GDP)	0.02	23	24	▲ 4
2.5.2.4 SME outstanding loans (% of loans)	14.3	17	40	▼ -8
2.5.2.5 Access to loans (1-7 survey)	3.2	42	110	▼ -43
2.6 Statistics		86	33	● 0
2.6.1 Statistical fullness (%)	0.93	86	33	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Rwanda

Global Labour Resilience Index 2020

80

GLRI 2015 Rank 86 ⬆

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
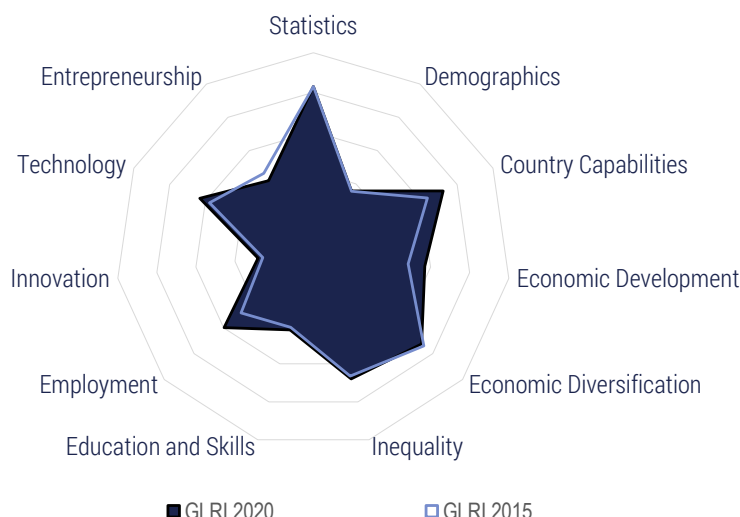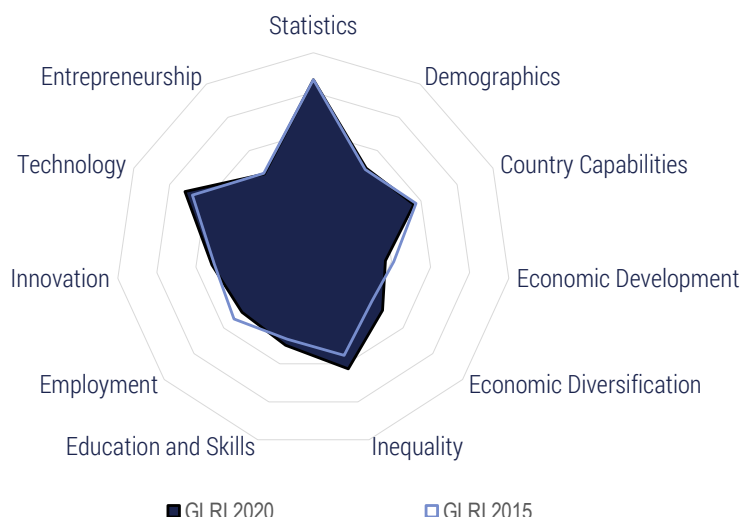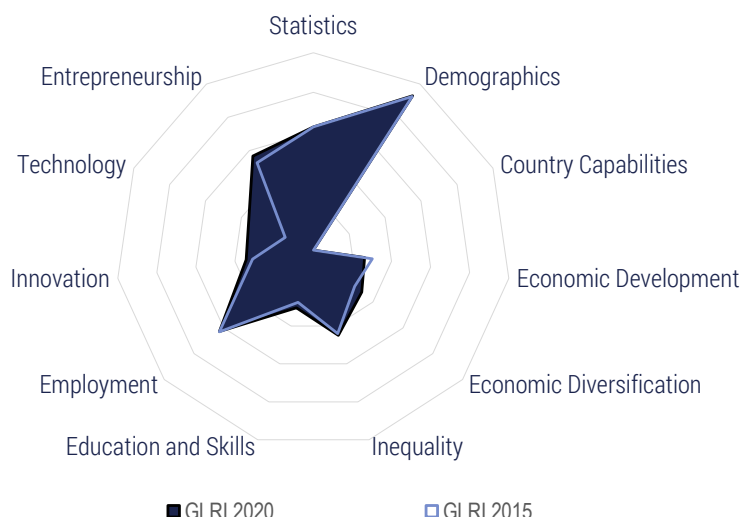

■ GLRI 2020   □ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**47**	**100**	🔻	-2
1.1 Demographics		93	24	🔻	-8
1.1.1 Share of older population (% of total population)	3.1	93	24	🔻	-8
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		26	112	🔻	-4
1.3.1 Income per capita (PPP)	2 003	3	132	🔺	4
1.3.2 Dependence on natural resources (% of GDP)	5.9	49	98	🔻	-7
1.3.3 Tertiarisation of economy (% of GDP)	47.8	53	110	🔻	-9
1.4 Economic Diversification		32	113	🔺	3
1.4.1 Concentration of exports	0.4	56	107	🔺	7
1.4.2 Diversity	55	9	122	🔺	1
1.5 Inequality		45	106	🔺	2
1.5.1 Income inequality	43.7	45	106	🔺	2
2. Policy Pillar		**45**	**72**	🔺	3
2.1 Education and skills		30	115	🔺	1
2.1.1 Education and skills input		28	122	🔻	-3
2.1.1.1 Government education spendings (% of GDP)	3.1	24	107	🔻	-54
2.1.1.2 Tertiary public education spendings (% of gov.exp)	19.8	38	78	🔺	37
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	4.3	24	116	🔺	2
2.1.1.5 Staff training (1-7 survey)	3.8	39	77	🔺	4
2.1.2 Education and skills output		41	97	🔺	9
2.1.2.1 Tertiary attainment rate (% of pop 25+)	4.1	10	84	🔺	5
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.8	42	90	🔻	-49
2.1.2.4 Skilled labour supply (1-7 survey)	4.2	57	63	🔺	23
2.1.2.5 Vocational enrollment (% of students)	13.5	29	59	🔺	1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	4.0	14	73	🔻	-5
2.1.2.7 Quality of vocational education (1-7 survey)	4.1	42	66	🔺	5
2.1.2.8 STEM graduates (%)	16.3	27	93	🔺	6
2.1.2.9 Digital skills (1-7 survey)	3.9	47	80	🔺	12
2.1.2.10 Critical thinking (1-7 survey)	3.8	49	42	🔺	16
2.2 Employment		63	15	🔺	3
2.2.1 Employment input		73	12	🔺	1
2.2.1.1 Hiring and firing practices (1-7 survey)	4.3	61	30	🔺	11
2.2.1.2 Worker's rights (1-7 score)	86.6	71	24	🔺	1
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.4	62	39	🔻	-3
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		49	38	🔺	13
2.2.2.1 Women in labour force (% female-male)	100.7	97	2	⬤	0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.9	76	13	🔺	10
2.2.2.4 Knowledge insentive employment (%)	3.8	6	117	🔻	-1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	3 863	3	136	⬤	0
2.2.2.6 ALP effectiveness (1-7 survey)	3.5	48	59	🔺	5
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.9	58	30	⬤	0
2.2.2.8 Impact of taxes on workers (1-7 survey)	5.0	70	11	🔺	7
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		34	46	🔺	5
2.3.1 Innovation input		65	24	🔺	3
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	6.6	65	30	🔺	10
2.3.2 Innovation output		4	110	🔺	21
2.3.2.1 Trademark applications per th. pop.	0.1	5	118	🔺	10
2.3.2.2 Patent applications per th. pop.	0.04	13	73	🔺	30
2.3.2.3 R&D journals per th. pop.	0.01	1	121	🔻	-1
2.3.2.4 Researchers in R&D per mln.pop.	12	1	117	🔻	-1
2.3.2.5 Technicians in R&D per mln.pop.	0	1	105	⬤	0
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	123	🔺	8
2.4 Technology		36	113	🔺	14
2.4.1 Technology input		28	125	🔺	5
2.4.1.1 ICT affordability	3.6	44	116	🔺	1
2.4.1.2 ICT access index	2.2	13	128	🔺	4
2.4.2 Technology output		46	65	🔺	32
2.4.2.1 ICT goods and services export (% of exp.)	17.5	62	27	🔺	44
2.4.2.2 Mobile broadband per 100 pop.	27.0	17	110	🔻	-6
2.5 Entrepreneurship		57	58	🔻	-5
2.5.1 Entrepreneurship input		74	48	🔺	10
2.5.1.1 Time dealing with gov. regulations (%)	5.2	82	42	⬤	0
2.5.1.2 Time to start a business (days)	4.0	93	13	🔺	12
2.5.1.3 Procedures to register a business	5.0	68	38	🔺	17
2.5.1.4 Cost to start a business (% GNI per cap)	44.6	36	124	⬤	0
2.5.2 Entrepreneurship output		43	68	🔻	-4
2.5.2.1 Global Entrepreneurship Index	21.5	18	85	🔺	12
2.5.2.2 New corporate registrations per th. pop.	1.1	16	60	🔺	1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.1	63	55	🔻	-21
2.6 Statistics		62	79	⬤	0
2.6.1 Statistical fullness (%)	0.81	62	79	⬤	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Saudi Arabia

Global Labour Resilience Index 2020

75

GLRI 2015 Rank 74 ⬇

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
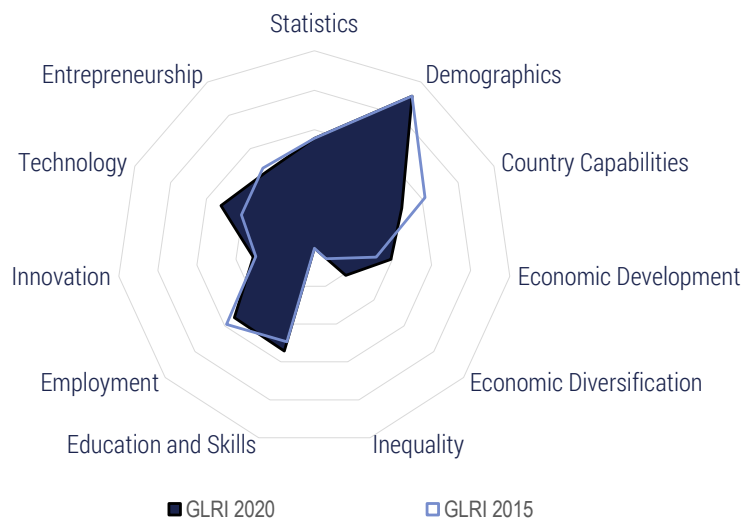

■ GLRI 2020   ☐ GLRI 2015

Note: the score of the Inequality sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**49**	**93**	▲	12
1.1 Demographics		92	33	▽	-11
1.1.1 Share of older population (% of total population)	3.4	92	33	▽	-11
1.2 Country Capabilities		49	61	▽	-27
1.2.1 Economic Complexity Index	0.0	49	61	▽	-27
1.3 Economic Development		39	86	△	19
1.3.1 Income per capita (PPP)	48 996	71	12	▽	-2
1.3.2 Dependence on natural resources (% of GDP)	23.8	15	138	▲	5
1.3.3 Tertiarisation of economy (% of GDP)	48.2	53	108	▲	23
1.4 Economic Diversification		21	132	△	6
1.4.1 Concentration of exports	0.6	33	131	▲	7
1.4.2 Diversity	60	10	116	▲	16
1.5 Inequality		n/a	n/a		
1.5.1 Income inequality	n/a	n/a	n/a		
2. Policy Pillar		**47**	**67**	▽	-7
2.1 Education and skills		54	46	△	3
2.1.1 Education and skills input		57	45	△	11
2.1.1.1 Government education spendings (% of GDP)	5.1	48	47	●	0
2.1.1.2 Tertiary public education spendings (% of gov.exp)	16.9	32	90	△	8
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	10.2	70	61	▲	1
2.1.1.5 Staff training (1-7 survey)	4.3	54	45	▲	15
2.1.2 Education and skills output		58	48	▲	3
2.1.2.1 Tertiary attainment rate (% of pop 25+)	26.0	56	19	▲	12
2.1.2.2 PISA score	386	25	69	▽	-2
2.1.2.3 Skillset of graduates (1-7 survey)	4.3	56	49	▲	23
2.1.2.4 Skilled labour supply (1-7 survey)	4.5	67	43	▲	21
2.1.2.5 Vocational enrollment (% of students)	5.4	12	96	▲	1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	1.6	6	90	▽	-1
2.1.2.7 Quality of vocational education (1-7 survey)	4.3	48	51	▲	7
2.1.2.8 STEM graduates (%)	21.1	36	66	▽	-51
2.1.2.9 Digital skills (1-7 survey)	5.1	79	24	▲	5
2.1.2.10 Critical thinking (1-7 survey)	4.1	57	34	▽	-2
2.2 Employment		54	36	▽	-5
2.2.1 Employment input		53	45	▲	9
2.2.1.1 Hiring and firing practices (1-7 survey)	4.3	59	35	▽	-2
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.7	41	104	▽	-2
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		54	26	●	0
2.2.2.1 Women in labour force (% female-male)	29.5	10	139	▲	1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.5	66	23	▽	-7
2.2.2.4 Knowledge insentive employment (%)	28.1	45	49	△	11

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	123 506	85	7	▽	-6
2.2.2.6 ALP effectiveness (1-7 survey)	4.7	75	23	▲	1
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.8	53	37	▲	12
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.5	58	28	▽	-18
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		31	54	△	3
2.3.1 Innovation input		44	40	▽	-2
2.3.1.1 R&D spendings (% of GDP)	0.8	30	43	▽	-4
2.3.1.2 IPR score	6.2	58	42	▽	-7
2.3.2 Innovation output		18	75	△	4
2.3.2.1 Trademark applications per th. pop.	0.5	18	85	▲	36
2.3.2.2 Patent applications per th. pop.	0.09	32	45	▲	36
2.3.2.3 R&D journals per th. pop.	0.27	15	51	▲	2
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.20	10	54	▽	-4
2.4 Technology		52	80	▽	-6
2.4.1 Technology input		66	72	▽	-20
2.4.1.1 ICT affordability	4.3	57	100	▽	-35
2.4.1.2 ICT access index	6.7	70	48	▲	2
2.4.2 Technology output		37	92	△	7
2.4.2.1 ICT goods and services export (% of exp.)	1.8	17	136	▲	5
2.4.2.2 Mobile broadband per 100 pop.	78.5	49	41	▽	-7
2.5 Entrepreneurship		46	93	▽	-28
2.5.1 Entrepreneurship input		51	117	●	0
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	17.8	66	98	▽	-4
2.5.1.3 Procedures to register a business	11.0	21	131	▲	5
2.5.1.4 Cost to start a business (% GNI per cap)	6.8	65	66	▽	-6
2.5.2 Entrepreneurship output		45	59	▽	-19
2.5.2.1 Global Entrepreneurship Index	40.2	42	42	▽	-12
2.5.2.2 New corporate registrations per th. pop.	0.3	5	87	▲	3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.9	60	64	▽	-42
2.6 Statistics		56	100	●	0
2.6.1 Statistical fullness (%)	0.78	56	100	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
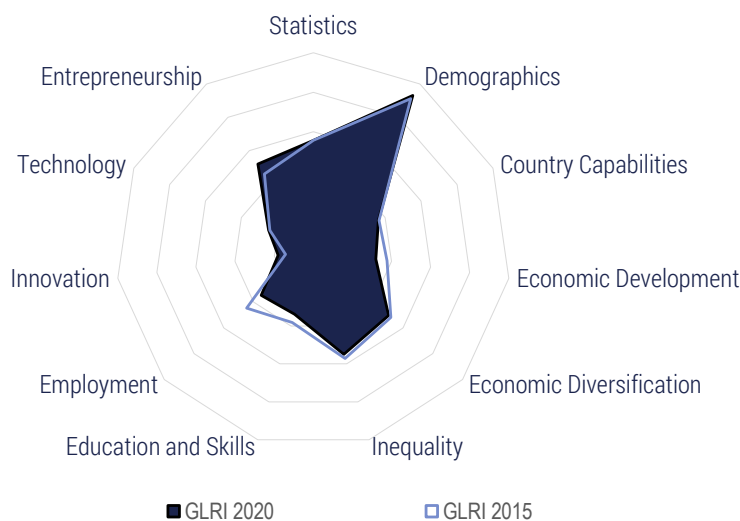
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**56**	**78**	▽ -13
1.1 Demographics		93	23	△ 2
1.1.1 Share of older population (% of total population)	3.0	93	23	△ 2
1.2 Country Capabilities		36	91	▽ -10
1.2.1 Economic Complexity Index	-0.6	36	91	▽ -10
1.3 Economic Development		32	98	▽ -8
1.3.1 Income per capita (PPP)	3 356	5	120	△ 2
1.3.2 Dependence on natural resources (% of GDP)	3.8	58	85	▽ -5
1.3.3 Tertiarisation of economy (% of GDP)	50.4	57	98	▽ -21
1.4 Economic Diversification		50	70	▽ -1
1.4.1 Concentration of exports	0.2	76	72	▽ -2
1.4.2 Diversity	143	26	74	▽ -2
1.5 Inequality		55	87	▽ -6
1.5.1 Income inequality	40.3	55	87	▽ -6
2. Policy Pillar		**31**	**110**	▽ -15
2.1 Education and skills		34	105	▽ -16
2.1.1 Education and skills input		30	118	▽ -11
2.1.1.1 Government education spendings (% of GDP)	4.8	44	55	▽ -26
2.1.1.2 Tertiary public education spendings (% of gov.exp)	28.1	56	25	▽ -13
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	2.8	12	122	▽ -2
2.1.1.5 Staff training (1-7 survey)	3.6	33	100	▽ -8
2.1.2 Education and skills output		46	86	▽ -15
2.1.2.1 Tertiary attainment rate (% of pop 25+)	2.8	7	89	▽ -4
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	4.1	50	68	▽ -3
2.1.2.4 Skilled labour supply (1-7 survey)	4.6	69	37	▽ -2
2.1.2.5 Vocational enrollment (% of students)	2.3	6	113	▽ -24
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.2	2	115	▽ -1
2.1.2.7 Quality of vocational education (1-7 survey)	4.6	54	34	▽ -5
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a	
2.1.2.9 Digital skills (1-7 survey)	4.4	60	57	▽ -13
2.1.2.10 Critical thinking (1-7 survey)	3.4	40	65	▽ -11
2.2 Employment		35	95	▽ -20
2.2.1 Employment input		48	71	▽ -29
2.2.1.1 Hiring and firing practices (1-7 survey)	3.5	38	86	▽ -21
2.2.1.2 Worker's rights (1-7 score)	67.0	30	83	▽ -3
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.7	71	16	● 0
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		28	114	▽ -9
2.2.2.1 Women in labour force (% female-male)	60.1	47	120	△ 1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.4	42	68	▽ -4
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a	

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	10 309	7	116	△ 1
2.2.2.6 ALP effectiveness (1-7 survey)	2.5	23	108	▽ -12
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.2	34	90	▽ -36
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.2	50	52	▽ -18
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		18	90	△ 18
2.3.1 Innovation input		33	62	△ 27
2.3.1.1 R&D spendings (% of GDP)	0.8	27	47	△ 10
2.3.1.2 IPR score	5.0	39	78	△ 18
2.3.2 Innovation output		3	118	△ 5
2.3.2.1 Trademark applications per th. pop.	n/a	n/a	n/a	
2.3.2.2 Patent applications per th. pop.	n/a	n/a	n/a	
2.3.2.3 R&D journals per th. pop.	0.02	2	99	● 0
2.3.2.4 Researchers in R&D per mln.pop.	549	8	65	● 0
2.3.2.5 Technicians in R&D per mln.pop.	36	3	81	● 0
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	108	● 0
2.4 Technology		25	132	▽ -18
2.4.1 Technology input		21	133	▽ -7
2.4.1.1 ICT affordability	2.5	26	137	▽ -17
2.4.1.2 ICT access index	2.7	19	118	▽ -2
2.4.2 Technology output		33	103	▽ -39
2.4.2.1 ICT goods and services export (% of exp.)	10.6	42	49	▽ -9
2.4.2.2 Mobile broadband per 100 pop.	26.1	17	112	▽ -10
2.5 Entrepreneurship		52	70	△ 5
2.5.1 Entrepreneurship input		79	35	△ 2
2.5.1.1 Time dealing with gov. regulations (%)	3.0	90	23	△ 1
2.5.1.2 Time to start a business (days)	6.0	89	29	▽ -17
2.5.1.3 Procedures to register a business	4.0	76	18	▽ -6
2.5.1.4 Cost to start a business (% GNI per cap)	33.8	40	113	△ 15
2.5.2 Entrepreneurship output		29	120	△ 1
2.5.2.1 Global Entrepreneurship Index	19.2	15	95	▽ -1
2.5.2.2 New corporate registrations per th. pop.	0.2	4	93	△ 3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	3.3	45	107	● 0
2.6 Statistics		56	100	● 0
2.6.1 Statistical fullness (%)	0.78	56	100	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Serbia

Global Labour Resilience Index 2020

42

GLRI 2015 Rank 45 ▲

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
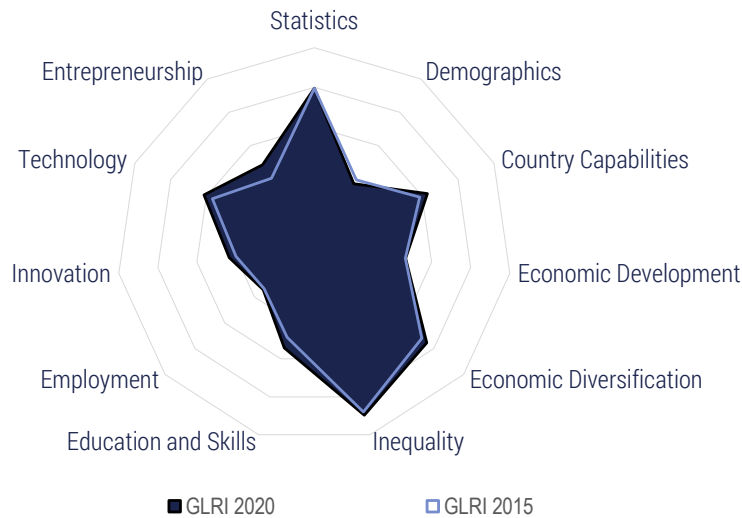
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		76	39	▲	1
1.1 Demographics		37	120	▼	-2
1.1.1 Share of older population (% of total population)	17.9	37	120	▼	-2
1.2 Country Capabilities		63	35	▲	3
1.2.1 Economic Complexity Index	0.7	63	35	▲	3
1.3 Economic Development		47	69	▼	-3
1.3.1 Income per capita (PPP)	16 035	23	66	▲	3
1.3.2 Dependence on natural resources (% of GDP)	1.3	78	57	▼	-3
1.3.3 Tertiarisation of economy (% of GDP)	51.0	58	96	▼	-5
1.4 Economic Diversification		75	25	▲	2
1.4.1 Concentration of exports	0.1	96	8	▲	15
1.4.2 Diversity	292	54	27	▲	1
1.5 Inequality		90	16	▲	2
1.5.1 Income inequality	28.5	90	16	▲	2
2. Policy Pillar		53	47	▲	5
2.1 Education and skills		54	47	▲	6
2.1.1 Education and skills input		55	49	▲	10
2.1.1.1 Government education spendings (% of GDP)	4.0	34	82	▼	-10
2.1.1.2 Tertiary public education spendings (% of gov.exp)	29.9	60	19	▲	3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	7 708	38	28	▼	-2
2.1.1.4 Years of schooling	11.2	77	41	▲	9
2.1.1.5 Staff training (1-7 survey)	3.7	36	89	▲	20
2.1.2 Education and skills output		59	45	▲	8
2.1.2.1 Tertiary attainment rate (% of pop 25+)	14.9	33	52	▲	7
2.1.2.2 PISA score	442	47	41	▲	1
2.1.2.3 Skillset of graduates (1-7 survey)	4.2	54	53	▲	32
2.1.2.4 Skilled labour supply (1-7 survey)	4.1	56	68	▲	28
2.1.2.5 Vocational enrollment (% of students)	34.8	74	13	▼	-1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	24.3	83	7	▼	-2
2.1.2.7 Quality of vocational education (1-7 survey)	3.9	38	79	▲	8
2.1.2.8 STEM graduates (%)	28.1	50	25	▲	6
2.1.2.9 Digital skills (1-7 survey)	4.2	54	71	▼	-6
2.1.2.10 Critical thinking (1-7 survey)	3.5	43	63	▲	22
2.2 Employment		34	97	▲	13
2.2.1 Employment input		44	87	▼	-5
2.2.1.1 Hiring and firing practices (1-7 survey)	3.7	44	71	▲	15
2.2.1.2 Worker's rights (1-7 score)	70.1	36	70	▼	-13
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.0	50	75	▼	-2
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		31	105	▲	12
2.2.2.1 Women in labour force (% female-male)	75.3	66	79	▲	8
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	1.9	11	141	▲	2
2.2.2.4 Knowledge insentive employment (%)	29.1	47	45	▼	-1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	29 481	20	83	▼	-8
2.2.2.6 ALP effectiveness (1-7 survey)	3.3	42	66	▲	14
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.1	29	104	▲	37
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.9	19	132	▼	-6
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		44	35	▲	2
2.3.1 Innovation input		33	63	▲	13
2.3.1.1 R&D spendings (% of GDP)	0.9	34	38	▲	7
2.3.1.2 IPR score	4.6	32	100	▲	1
2.3.2 Innovation output		54	28	▲	1
2.3.2.1 Trademark applications per th. pop.	0.9	28	62	▼	-3
2.3.2.2 Patent applications per th. pop.	0.03	10	85	▼	-3
2.3.2.3 R&D journals per th. pop.	0.72	37	35	●	0
2.3.2.4 Researchers in R&D per mln.pop.	2 079	27	38	▲	3
2.3.2.5 Technicians in R&D per mln.pop.	411	18	38	▲	3
2.3.2.6 Creative goods exports (% of goods exp.)	8.15	100	1	▲	10
2.4 Technology		61	56	▼	-22
2.4.1 Technology input		77	46	▲	12
2.4.1.1 ICT affordability	5.6	78	54	▲	31
2.4.1.2 ICT access index	6.6	70	49	▼	-4
2.4.2 Technology output		43	71	▼	-35
2.4.2.1 ICT goods and services export (% of exp.)	7.3	32	75	▼	-32
2.4.2.2 Mobile broadband per 100 pop.	67.4	42	53	▼	-14
2.5 Entrepreneurship		48	80	▲	21
2.5.1 Entrepreneurship input		67	74	▲	18
2.5.1.1 Time dealing with gov. regulations (%)	13.2	54	84	▲	1
2.5.1.2 Time to start a business (days)	5.5	90	24	▲	25
2.5.1.3 Procedures to register a business	5.0	68	38	●	0
2.5.1.4 Cost to start a business (% GNI per cap)	2.3	80	44	▲	20
2.5.2 Entrepreneurship output		34	101	▲	6
2.5.2.1 Global Entrepreneurship Index	26.4	24	70	▲	2
2.5.2.2 New corporate registrations per th. pop.	1.2	17	54	▼	-3
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	30.3	35	30	▲	4
2.5.2.5 Access to loans (1-7 survey)	3.6	52	86	▲	32
2.6 Statistics		80	37	●	0
2.6.1 Statistical fullness (%)	0.90	80	37	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.
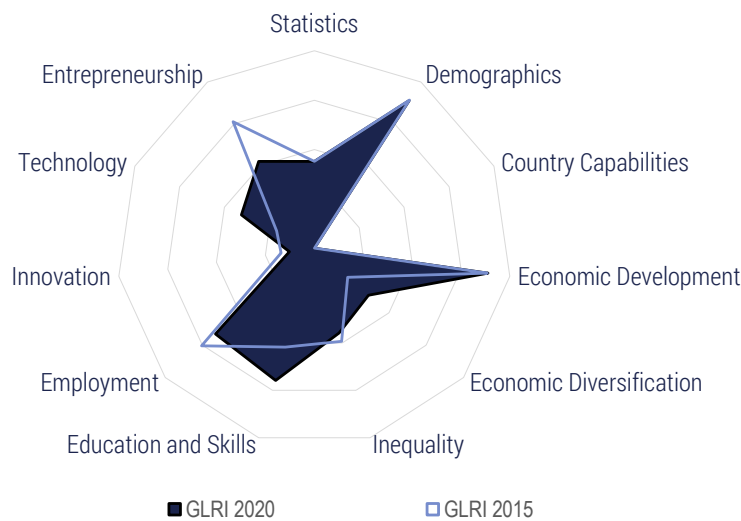
Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**53**	**84**	▲	10
1.1 Demographics		71	85	▼	-1
1.1.1 Share of older population (% of total population)	8.9	71	85	▼	-1
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		71	21	▲	1
1.3.1 Income per capita (PPP)	27 114	39	44	●	0
1.3.2 Dependence on natural resources (% of GDP)	0.1	97	17	●	0
1.3.3 Tertiarisation of economy (% of GDP)	70.4	87	9	▲	4
1.4 Economic Diversification		29	120	▲	11
1.4.1 Concentration of exports	0.4	50	115	▲	16
1.4.2 Diversity	51	8	125	▼	-9
1.5 Inequality		36	116	▼	-2
1.5.1 Income inequality	46.8	36	116	▼	-2
2. Policy Pillar		**33**	**101**	▼	-15
2.1 Education and skills		56	40	▲	39
2.1.1 Education and skills input		59	42	▲	49
2.1.1.1 Government education spendings (% of GDP)	4.4	40	69	▲	25
2.1.1.2 Tertiary public education spendings (% of gov.exp)	21.6	42	64	▲	74
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	10.4	71	55	▼	-4
2.1.1.5 Staff training (1-7 survey)	4.4	56	39	▲	1
2.1.2 Education and skills output		58	47	▲	27
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	4.7	65	33	▲	7
2.1.2.4 Skilled labour supply (1-7 survey)	3.9	51	82	▲	32
2.1.2.5 Vocational enrollment (% of students)	1.2	3	125	▼	-14
2.1.2.6 Vocational enrollment of 15-24 olds (%)	13.6	47	35	▲	55
2.1.2.7 Quality of vocational education (1-7 survey)	4.2	45	56	▲	6
2.1.2.8 STEM graduates (%)	17.2	28	87	▼	-48
2.1.2.9 Digital skills (1-7 survey)	4.4	60	58	▲	10
2.1.2.10 Critical thinking (1-7 survey)	4.2	61	28	▲	14
2.2 Employment		53	38	▼	-10
2.2.1 Employment input		63	25	▲	4
2.2.1.1 Hiring and firing practices (1-7 survey)	n/a				
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.3	57	53	▼	-4
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		43	60	▼	-20
2.2.2.1 Women in labour force (% female-male)	n/a	n/a	n/a		
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.8	51	46	▼	-10
2.2.2.4 Knowledge insentive employment (%)	26.3	42	53	▼	-1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	n/a	n/a	n/a		
2.2.2.6 ALP effectiveness (1-7 survey)	4.1	61	38	▲	16
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.4	42	58	▼	-16
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.7	40	84	▼	-63
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		10	121	▼	-8
2.3.1 Innovation input		8	126	▼	-3
2.3.1.1 R&D spendings (% of GDP)	0.2	8	91	▼	-9
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		12	84	▼	-8
2.3.2.1 Trademark applications per th. pop.	0.5	17	90	▼	-48
2.3.2.2 Patent applications per th. pop.	0.06	21	55	●	0
2.3.2.3 R&D journals per th. pop.	0.13	7	69	▼	-6
2.3.2.4 Researchers in R&D per mln.pop.	146	3	85	▼	-2
2.3.2.5 Technicians in R&D per mln.pop.	597	26	29	▲	1
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	130	●	0
2.4 Technology		32	122	▲	1
2.4.1 Technology input		56	95	▲	26
2.4.1.1 ICT affordability	4.5	59	97	▲	44
2.4.1.2 ICT access index	5.0	49	78	▼	-8
2.4.2 Technology output		12	139	▼	-37
2.4.2.1 ICT goods and services export (% of exp.)	0.5	13	143	▼	-54
2.4.2.2 Mobile broadband per 100 pop.	22.6	15	117	▼	-35
2.5 Entrepreneurship		42	112	▼	-71
2.5.1 Entrepreneurship input		43	130	▼	-18
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	32.0	38	120	▼	-12
2.5.1.3 Procedures to register a business	9.0	37	112	▼	-20
2.5.1.4 Cost to start a business (% GNI per cap)	13.2	55	86	▼	-2
2.5.2 Entrepreneurship output		46	56	▼	-39
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a		
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.1	41	112	▼	-89
2.6 Statistics		35	135	●	0
2.6.1 Statistical fullness (%)	0.68	35	135	●	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
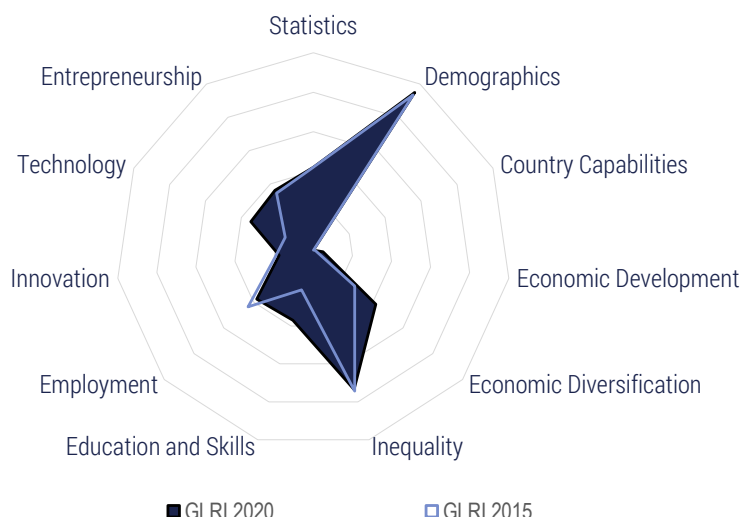

■ GLRI 2020   □ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		57	75	▲	20
1.1 Demographics		95	13	▼	-2
1.1.1 Share of older population (% of total population)	2.5	95	13	▼	-2
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		5	144	▲	1
1.3.1 Income per capita (PPP)	1 425	2	140	▼	-6
1.3.2 Dependence on natural resources (% of GDP)	22.2	17	136	▲	8
1.3.3 Tertiarisation of economy (% of GDP)	32.4	29	143	●	0
1.4 Economic Diversification		42	93	▲	24
1.4.1 Concentration of exports	0.2	77	67	▲	42
1.4.2 Diversity	47	7	129	▲	3
1.5 Inequality		73	47	▼	-1
1.5.1 Income inequality	34.0	73	47	▼	-1
2. Policy Pillar		28	119	▲	9
2.1 Education and skills		37	94	▲	37
2.1.1 Education and skills input		52	59	▲	63
2.1.1.1 Government education spendings (% of GDP)	4.6	42	65	▲	61
2.1.1.2 Tertiary public education spendings (% of gov.exp)	46.4	97	2	▲	42
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	3.3	26	120	▼	-3
2.1.2 Education and skills output		30	127	▲	5
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.6	38	103	▲	16
2.1.2.4 Skilled labour supply (1-7 survey)	3.5	39	113	▲	11
2.1.2.5 Vocational enrollment (% of students)	13.8	30	57	▲	4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	2.4	9	83	▼	-4
2.1.2.7 Quality of vocational education (1-7 survey)	3.2	21	123	▼	-1
2.1.2.8 STEM graduates (%)	3.1	1	120	●	0
2.1.2.9 Digital skills (1-7 survey)	3.2	27	126	▲	2
2.1.2.10 Critical thinking (1-7 survey)	3.2	34	83	▲	25
2.2 Employment		38	82	▼	-5
2.2.1 Employment input		45	80	▼	-10
2.2.1.1 Hiring and firing practices (1-7 survey)	3.5	46	102	▼	-78
2.2.1.2 Worker's rights (1-7 score)	69.1	34	79	▼	-14
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.1	53	64	▼	-17
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		36	84	▼	-17
2.2.2.1 Women in labour force (% female-male)	98.8	94	3	▲	1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.0	35	94	▼	-3
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	4 456	3	132	▼	-5
2.2.2.6 ALP effectiveness (1-7 survey)	3.1	37	75	▲	27
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.6	12	130	▼	-70
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.5	33	101	▼	-52
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		17	93	▼	-7
2.3.1 Innovation input		33	65	▼	-8
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	4.6	33	98	▼	-16
2.3.2 Innovation output		2	127	▲	1
2.3.2.1 Trademark applications per th. pop.	0.2	6	111	▼	-1
2.3.2.2 Patent applications per th. pop.	0.00	1	123	▲	1
2.3.2.3 R&D journals per th. pop.	0.01	1	125	▲	12
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	118	▼	-1
2.4 Technology		35	116	▲	10
2.4.1 Technology input		50	103	▲	42
2.4.1.1 ICT affordability	3.9	49	110	▲	33
2.4.1.2 ICT access index	n/a	n/a	n/a		
2.4.2 Technology output		22	127	▼	-78
2.4.2.1 ICT goods and services export (% of exp.)	5.4	27	88	▼	-40
2.4.2.2 Mobile broadband per 100 pop.	23.4	15	115	▼	-71
2.5 Entrepreneurship		36	124	▼	-4
2.5.1 Entrepreneurship input		59	97	▼	-26
2.5.1.1 Time dealing with gov. regulations (%)	13.1	55	83	▼	-21
2.5.1.2 Time to start a business (days)	8.0	85	43	▲	6
2.5.1.3 Procedures to register a business	5.0	68	38	●	0
2.5.1.4 Cost to start a business (% GNI per cap)	36.2	39	117	▼	-5
2.5.2 Entrepreneurship output		18	135	▲	5
2.5.2.1 Global Entrepreneurship Index	12.3	5	123	▼	-8
2.5.2.2 New corporate registrations per th. pop.	0.1	3	96	▲	1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	2.7	32	130	▲	3
2.6 Statistics		42	130	●	0
2.6.1 Statistical fullness (%)	0.71	42	130	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

- Statistics
- Entrepreneurship
- Demographics
- Technology
- Country Capabilities
- Innovation
- Economic Development
- Employment
- Economic Diversification
- Education and Skills
- Inequality

■ GLRI 2020   □ GLRI 2015
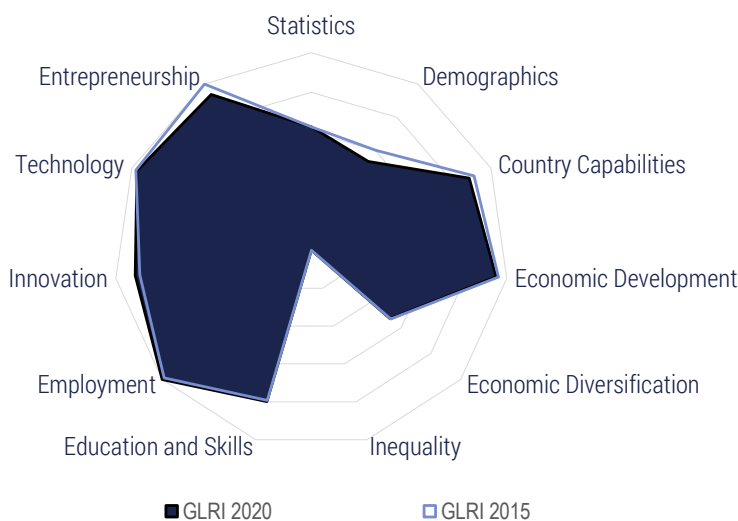
Note: the score of the Inequality sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**97**	**6**	▼	-5
1.1 Demographics		53	98	▼	-3
1.1.1 Share of older population (% of total population)	13.6	53	98	▼	-3
1.2 Country Capabilities		88	5	▼	-1
1.2.1 Economic Complexity Index	1.8	88	5	▼	-1
1.3 Economic Development		95	2	●	0
1.3.1 Income per capita (PPP)	90 091	100	1	●	0
1.3.2 Dependence on natural resources (% of GDP)	0.0	100	3	▼	-1
1.3.3 Tertiarisation of economy (% of GDP)	69.4	85	13	▼	-4
1.4 Economic Diversification		53	66	▼	-1
1.4.1 Concentration of exports	0.2	75	73	▲	2
1.4.2 Diversity	169	31	62	▲	3
1.5 Inequality		n/a	n/a		
1.5.1 Income inequality	n/a	n/a	n/a		
2. Policy Pillar		**97**	**2**	▼	-1
2.1 Education and skills		80	13	●	0
2.1.1 Education and skills input		77	19	▼	-2
2.1.1.1 Government education spendings (% of GDP)	2.9	22	114	▼	-1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	35.3	72	10	●	0
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	11.6	80	31	▲	3
2.1.1.5 Staff training (1-7 survey)	5.3	85	6	▼	-1
2.1.2 Education and skills output		85	9	▲	1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	31.6	68	11	▼	-1
2.1.2.2 PISA score	556	91	2	▼	-1
2.1.2.3 Skillset of graduates (1-7 survey)	5.4	83	5	●	0
2.1.2.4 Skilled labour supply (1-7 survey)	5.1	82	9	▲	4
2.1.2.5 Vocational enrollment (% of students)	11.6	25	64	▲	3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	5.3	72	8	▲	1
2.1.2.8 STEM graduates (%)	34.9	63	10	▼	-2
2.1.2.9 Digital skills (1-7 survey)	5.7	95	6	▲	1
2.1.2.10 Critical thinking (1-7 survey)	4.4	67	21	▼	-2
2.2 Employment		100	1	▲	1
2.2.1 Employment input		82	3	▲	9
2.2.1.1 Hiring and firing practices (1-7 survey)	5.6	97	3	▼	-1
2.2.1.2 Worker's rights (1-7 score)	88.7	76	21	▲	27
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.8	44	96	▲	1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		100	1	●	0
2.2.2.1 Women in labour force (% female-male)	79.3	71	67	▲	5
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	5.7	91	4	●	0
2.2.2.4 Knowledge insentive employment (%)	52.7	85	2	▲	1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	152 418	100	1	●	0
2.2.2.6 ALP effectiveness (1-7 survey)	5.6	97	4	▼	-2
2.2.2.7 Labour-employer cooperation (1-7 survey)	6.1	99	2	●	0
2.2.2.8 Impact of taxes on workers (1-7 survey)	6.2	100	1	▲	3
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		90	4	▼	-1
2.3.1 Innovation input		88	10	▲	3
2.3.1.1 R&D spendings (% of GDP)	2.2	80	12	▲	4
2.3.1.2 IPR score	8.4	95	5	▲	2
2.3.2 Innovation output		92	2	●	0
2.3.2.1 Trademark applications per th. pop.	4.3	100	1	●	0
2.3.2.2 Patent applications per th. pop.	1.94	100	1	●	0
2.3.2.3 R&D journals per th. pop.	2.00	100	1	▲	5
2.3.2.4 Researchers in R&D per mln.pop.	6 730	86	5	▼	-1
2.3.2.5 Technicians in R&D per mln.pop.	457	20	33	▲	2
2.3.2.6 Creative goods exports (% of goods exp.)	3.88	80	15	▼	-1
2.4 Technology		97	4	▼	-1
2.4.1 Technology input		84	30	▼	-19
2.4.1.1 ICT affordability	5.3	73	70	▼	-15
2.4.1.2 ICT access index	8.1	88	17	▼	-7
2.4.2 Technology output		100	1	●	0
2.4.2.1 ICT goods and services export (% of exp.)	20.7	71	18	●	0
2.4.2.2 Mobile broadband per 100 pop.	144.6	89	4	▼	-3
2.5 Entrepreneurship		94	2	▼	-1
2.5.1 Entrepreneurship input		96	3	▲	1
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	1.5	98	2	▲	1
2.5.1.3 Procedures to register a business	2.0	92	3	▲	2
2.5.1.4 Cost to start a business (% GNI per cap)	0.5	93	11	●	0
2.5.2 Entrepreneurship output		92	4	▼	-3
2.5.2.1 Global Entrepreneurship Index	52.7	59	25	▼	-16
2.5.2.2 New corporate registrations per th. pop.	6.2	86	14	▼	-4
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	5.5	95	3	●	0
2.6 Statistics		62	79	●	0
2.6.1 Statistical fullness (%)	0.81	62	79	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
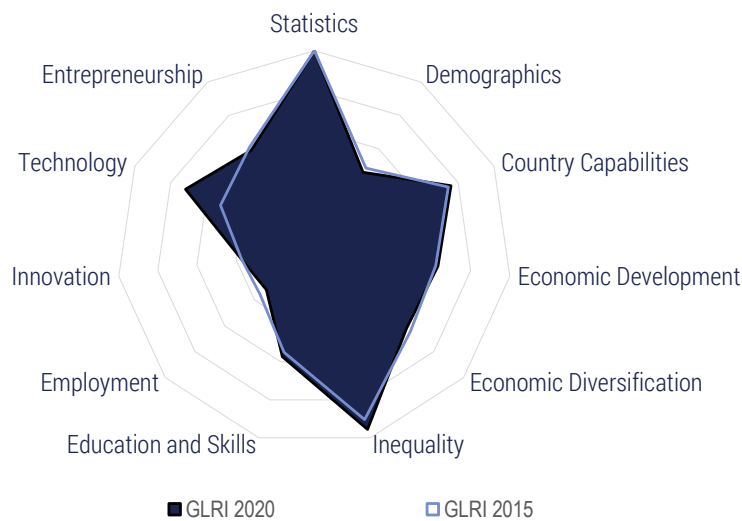
■ GLRI 2020　　　□ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**89**	**17**	▲	1
1.1 Demographics		46	111	▼	-5
1.1.1 Share of older population (% of total population)	15.6	46	111	▼	-5
1.2 Country Capabilities		76	18	●	0
1.2.1 Economic Complexity Index	1.3	76	18	●	0
1.3 Economic Development		63	36	▼	-2
1.3.1 Income per capita (PPP)	31 326	45	36	▲	1
1.3.2 Dependence on natural resources (% of GDP)	0.3	93	27	▲	2
1.3.3 Tertiarisation of economy (% of GDP)	55.5	64	70	▼	-15
1.4 Economic Diversification		62	43	▲	1
1.4.1 Concentration of exports	0.2	78	59	▼	-8
1.4.2 Diversity	247	46	33	▲	5
1.5 Inequality		96	5	▲	6
1.5.1 Income inequality	26.5	96	5	▲	6
2. Policy Pillar		**61**	**37**	▲	2
2.1 Education and skills		57	38	▲	2
2.1.1 Education and skills input		65	33	▲	3
2.1.1.1 Government education spendings (% of GDP)	3.9	34	87	▼	-6
2.1.1.2 Tertiary public education spendings (% of gov.exp)	21.3	41	69	▼	-13
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	9 708	47	22	▲	3
2.1.1.4 Years of schooling	12.9	91	16	▲	5
2.1.1.5 Staff training (1-7 survey)	4.2	52	52	▲	10
2.1.2 Education and skills output		55	57	▼	-9
2.1.2.1 Tertiary attainment rate (% of pop 25+)	20.7	45	33	▲	4
2.1.2.2 PISA score	463	55	36	▲	1
2.1.2.3 Skillset of graduates (1-7 survey)	3.7	40	95	▼	-4
2.1.2.4 Skilled labour supply (1-7 survey)	3.3	33	128	▼	-7
2.1.2.5 Vocational enrollment (% of students)	31.1	66	19	▼	-2
2.1.2.6 Vocational enrollment of 15-24 olds (%)	22.5	77	11	●	0
2.1.2.7 Quality of vocational education (1-7 survey)	3.7	33	95	▲	8
2.1.2.8 STEM graduates (%)	21.2	36	65	▼	-3
2.1.2.9 Digital skills (1-7 survey)	4.7	69	40	●	0
2.1.2.10 Critical thinking (1-7 survey)	2.9	27	106	▼	-1
2.2 Employment		32	104	▼	-6
2.2.1 Employment input		34	114	▲	4
2.2.1.1 Hiring and firing practices (1-7 survey)	3.2	30	106	▲	2
2.2.1.2 Worker's rights (1-7 score)	100.0	100	1	●	0
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.1	26	128	▼	-24
2.2.1.4 Tax wedge (% of labour cost)	41.7	27	25	▼	-2
2.2.1.5 ALP spendings (% of GDP)	0.6	20	25	▲	1
2.2.2 Employment output		37	77	▼	-13
2.2.2.1 Women in labour force (% female-male)	78.2	69	69	▲	8
2.2.2.2 Gender pay gap (% of employees)	15.0	52	31	▼	-6
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.2	18	135	▼	-12
2.2.2.4 Knowledge insentive employment (%)	31.9	51	40	▼	-6

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	65 991	45	37	▲	1
2.2.2.6 ALP effectiveness (1-7 survey)	4.0	59	42	▲	4
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	39	70	▲	34
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.7	14	138	▼	-11
2.2.2.9 Earnings quality (PPP)	8.3	18	28	●	0
2.2.2.10 Quality of the working environment (%)	32.1	47	32	▼	-4
2.3 Innovation		37	41	▲	1
2.3.1 Innovation input		46	38	▲	2
2.3.1.1 R&D spendings (% of GDP)	0.9	32	40	▼	-3
2.3.1.2 IPR score	6.3	60	37	▼	-1
2.3.2 Innovation output		29	50	▼	-2
2.3.2.1 Trademark applications per th. pop.	0.8	26	70	▼	-10
2.3.2.2 Patent applications per th. pop.	0.04	13	71	▲	4
2.3.2.3 R&D journals per th. pop.	0.98	50	30	▲	1
2.3.2.4 Researchers in R&D per mln.pop.	2 795	36	32	▼	-3
2.3.2.5 Technicians in R&D per mln.pop.	422	19	36	▲	4
2.3.2.6 Creative goods exports (% of goods exp.)	0.56	23	39	●	0
2.4 Technology		72	28	▲	16
2.4.1 Technology input		82	36	▲	49
2.4.1.1 ICT affordability	5.8	81	49	▲	65
2.4.1.2 ICT access index	7.1	75	40	▼	-4
2.4.2 Technology output		57	34	▼	-4
2.4.2.1 ICT goods and services export (% of exp.)	12.1	46	45	▼	-13
2.4.2.2 Mobile broadband per 100 pop.	78.7	49	40	▲	3
2.5 Entrepreneurship		59	48	▼	-6
2.5.1 Entrepreneurship input		66	79	▼	-5
2.5.1.1 Time dealing with gov. regulations (%)	8.2	72	61	▲	5
2.5.1.2 Time to start a business (days)	26.5	48	116	▼	-4
2.5.1.3 Procedures to register a business	8.0	45	92	●	0
2.5.1.4 Cost to start a business (% GNI per cap)	1.1	87	26	▼	-3
2.5.2 Entrepreneurship output		56	39	▼	-2
2.5.2.1 Global Entrepreneurship Index	44.9	49	34	▲	4
2.5.2.2 New corporate registrations per th. pop.	3.3	46	26	▼	-4
2.5.2.3 Venture capital investments (% of GDP)	0.00	4	31	▲	1
2.5.2.4 SME outstanding loans (% of loans)	72.3	84	5	●	0
2.5.2.5 Access to loans (1-7 survey)	4.7	77	21	▲	27
2.6 Statistics		100	1	●	0
2.6.1 Statistical fullness (%)	1.00	100	1	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Global Labour Resilience Index 2020

GLRI 2015 Rank 23 ⬇

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
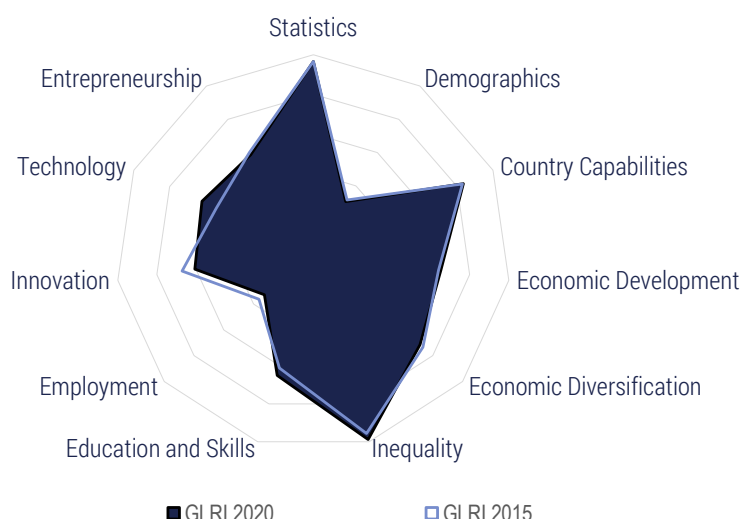
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**92**	**14**	▼	-2
1.1 Demographics		30	130	▼	-4
1.1.1 Share of older population (% of total population)	19.7	30	130	▼	-4
1.2 Country Capabilities		84	10	▲	1
1.2.1 Economic Complexity Index	1.6	84	10	▲	1
1.3 Economic Development		65	32	●	0
1.3.1 Income per capita (PPP)	32 743	47	35	▲	1
1.3.2 Dependence on natural resources (% of GDP)	0.2	95	24	▼	-5
1.3.3 Tertiarisation of economy (% of GDP)	56.3	65	64	▼	-5
1.4 Economic Diversification		71	29	▼	-3
1.4.1 Concentration of exports	0.2	83	47	▼	-4
1.4.2 Diversity	318	59	23	▼	-3
1.5 Inequality		99	2	▲	1
1.5.1 Income inequality	25.4	99	2	▲	1
2. Policy Pillar		**65**	**32**	▼	-3
2.1 Education and skills		65	27	▲	2
2.1.1 Education and skills input		66	32	▲	3
2.1.1.1 Government education spendings (% of GDP)	4.8	44	57	▼	-20
2.1.1.2 Tertiary public education spendings (% of gov.exp)	19.7	38	79	▼	-3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	8 138	40	26	▲	8
2.1.1.4 Years of schooling	12.8	89	19	▼	-2
2.1.1.5 Staff training (1-7 survey)	4.3	55	42	▲	7
2.1.2 Education and skills output		69	23	▲	5
2.1.2.1 Tertiary attainment rate (% of pop 25+)	20.7	45	34	▲	5
2.1.2.2 PISA score	504	71	10	▲	11
2.1.2.3 Skillset of graduates (1-7 survey)	4.3	57	47	▲	8
2.1.2.4 Skilled labour supply (1-7 survey)	4.3	60	59	▼	-8
2.1.2.5 Vocational enrollment (% of students)	45.0	96	3	▲	4
2.1.2.6 Vocational enrollment of 15-24 olds (%)	35.1	100	1	▲	15
2.1.2.7 Quality of vocational education (1-7 survey)	4.2	44	59	▲	7
2.1.2.8 STEM graduates (%)	26.6	47	30	▼	-7
2.1.2.9 Digital skills (1-7 survey)	4.8	73	32	●	0
2.1.2.10 Critical thinking (1-7 survey)	3.2	34	84	▼	-13
2.2 Employment		33	101	▼	-5
2.2.1 Employment input		22	135	●	0
2.2.1.1 Hiring and firing practices (1-7 survey)	2.6	13	121	▲	5
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.5	35	112	▼	-7
2.2.1.4 Tax wedge (% of labour cost)	43.3	23	29	▼	-3
2.2.1.5 ALP spendings (% of GDP)	0.7	24	20	▼	-5
2.2.2 Employment output		51	32	▲	1
2.2.2.1 Women in labour force (% female-male)	85.1	78	40	▲	10
2.2.2.2 Gender pay gap (% of employees)	5.0	88	8	▼	-6
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.8	30	106	▲	5
2.2.2.4 Knowledge insentive employment (%)	41.7	67	21	▲	5

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	70 005	48	33	▲	4
2.2.2.6 ALP effectiveness (1-7 survey)	4.6	72	25	▲	9
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.5	43	54	▲	63
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.3	3	142	▼	-12
2.2.2.9 Earnings quality (PPP)	14.4	42	22	●	0
2.2.2.10 Quality of the working environment (%)	32.9	48	31	▲	1
2.3 Innovation		61	24	▼	-4
2.3.1 Innovation input		62	25	▼	-8
2.3.1.1 R&D spendings (% of GDP)	1.9	67	19	▼	-8
2.3.1.2 IPR score	6.1	57	46	▼	-2
2.3.2 Innovation output		59	26	▼	-2
2.3.2.1 Trademark applications per th. pop.	1.7	53	28	▼	-5
2.3.2.2 Patent applications per th. pop.	0.23	77	20	▲	2
2.3.2.3 R&D journals per th. pop.	1.65	83	10	●	0
2.3.2.4 Researchers in R&D per mln.pop.	4 468	57	17	▲	1
2.3.2.5 Technicians in R&D per mln.pop.	2 370	100	1	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	0.29	14	48	▲	3
2.4 Technology		62	53	▼	-13
2.4.1 Technology input		82	35	▼	-2
2.4.1.1 ICT affordability	5.6	77	58	▲	28
2.4.1.2 ICT access index	7.4	79	28	▼	-5
2.4.2 Technology output		39	88	▼	-28
2.4.2.1 ICT goods and services export (% of exp.)	6.4	30	83	▼	-9
2.4.2.2 Mobile broadband per 100 pop.	62.3	39	63	▼	-23
2.5 Entrepreneurship		59	51	▼	-8
2.5.1 Entrepreneurship input		78	38	▼	-11
2.5.1.1 Time dealing with gov. regulations (%)	10.1	65	71	▲	2
2.5.1.2 Time to start a business (days)	8.0	85	43	▼	-31
2.5.1.3 Procedures to register a business	3.0	84	7	▼	-5
2.5.1.4 Cost to start a business (% GNI per cap)	0.0	100	1	●	0
2.5.2 Entrepreneurship output		43	67	▼	-14
2.5.2.1 Global Entrepreneurship Index	53.8	60	23	▲	5
2.5.2.2 New corporate registrations per th. pop.	2.1	29	39	▼	-10
2.5.2.3 Venture capital investments (% of GDP)	0.00	5	30	▼	-3
2.5.2.4 SME outstanding loans (% of loans)	49.5	57	18	▲	1
2.5.2.5 Access to loans (1-7 survey)	3.3	45	106	▲	28
2.6 Statistics		97	10	●	0
2.6.1 Statistical fullness (%)	0.98	97	10	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

South Africa

Global Labour Resilience Index 2020

GLRI 2015 Rank 70 ⬇

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
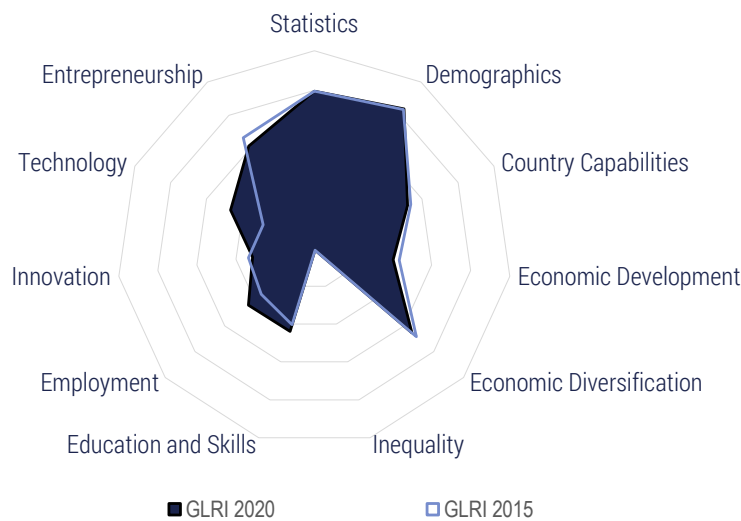

■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		46	104	▼	-12
1.1 Demographics		84	58	▼	-2
1.1.1 Share of older population (% of total population)	5.5	84	58	▼	-2
1.2 Country Capabilities		52	56	▼	-9
1.2.1 Economic Complexity Index	0.2	52	56	▼	-9
1.3 Economic Development		40	83	▼	-10
1.3.1 Income per capita (PPP)	12 145	18	80	▼	-6
1.3.2 Dependence on natural resources (% of GDP)	5.1	52	90	▲	4
1.3.3 Tertiarisation of economy (% of GDP)	61.0	73	38	▼	-2
1.4 Economic Diversification		65	37	▼	-4
1.4.1 Concentration of exports	0.1	89	29	▲	1
1.4.2 Diversity	226	42	42	▼	-9
1.5 Inequality		1	133	●	0
1.5.1 Income inequality	63.0	1	133	●	0
2. Policy Pillar		50	55	▲	3
2.1 Education and skills		44	78	▲	7
2.1.1 Education and skills input		57	43	▲	4
2.1.1.1 Government education spendings (% of GDP)	6.2	60	22	▲	1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	15.3	28	100	▲	21
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	10.2	69	63	▼	-6
2.1.1.5 Staff training (1-7 survey)	4.2	51	53	▼	-16
2.1.2 Education and skills output		37	111	▲	6
2.1.2.1 Tertiary attainment rate (% of pop 25+)	8.2	19	74	●	0
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.8	44	84	▲	9
2.1.2.4 Skilled labour supply (1-7 survey)	4.0	53	75	▲	13
2.1.2.5 Vocational enrollment (% of students)	7.0	16	89	▲	9
2.1.2.6 Vocational enrollment of 15-24 olds (%)	5.3	19	67	▲	20
2.1.2.7 Quality of vocational education (1-7 survey)	3.7	33	96	▼	-3
2.1.2.8 STEM graduates (%)	18.6	31	79	▼	-11
2.1.2.9 Digital skills (1-7 survey)	3.5	35	114	▲	5
2.1.2.10 Critical thinking (1-7 survey)	3.2	36	76	▲	10
2.2 Employment		44	65	▲	37
2.2.1 Employment input		50	58	▲	75
2.2.1.1 Hiring and firing practices (1-7 survey)	3.3	31	101	▲	27
2.2.1.2 Worker's rights (1-7 score)	85.6	69	25	▲	5
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.8	43	100	▲	16
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		41	64	▼	-22
2.2.2.1 Women in labour force (% female-male)	78.0	69	72	▼	-1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.3	41	78	▼	-26
2.2.2.4 Knowledge insentive employment (%)	24.8	40	58	▲	1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	42 894	29	61	▼	-4
2.2.2.6 ALP effectiveness (1-7 survey)	2.6	27	104	▲	4
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.3	5	141	▲	4
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.7	39	88	▼	-74
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	26.7	63	18	▼	-6
2.3 Innovation		32	52	▼	-6
2.3.1 Innovation input		46	39	▼	-5
2.3.1.1 R&D spendings (% of GDP)	0.8	30	42	▲	4
2.3.1.2 IPR score	6.3	61	35	▼	-11
2.3.2 Innovation output		17	76	▼	-7
2.3.2.1 Trademark applications per th. pop.	0.5	15	95	▼	-16
2.3.2.2 Patent applications per th. pop.	0.13	44	34	▼	-1
2.3.2.3 R&D journals per th. pop.	0.21	11	55	▲	1
2.3.2.4 Researchers in R&D per mln.pop.	494	7	68	▼	-5
2.3.2.5 Technicians in R&D per mln.pop.	135	7	56	▲	3
2.3.2.6 Creative goods exports (% of goods exp.)	0.19	10	56	▲	2
2.4 Technology		47	96	▲	8
2.4.1 Technology input		62	82	▲	22
2.4.1.1 ICT affordability	5.2	71	72	▲	33
2.4.1.2 ICT access index	5.0	48	79	▼	-3
2.4.2 Technology output		31	106	▼	-11
2.4.2.1 ICT goods and services export (% of exp.)	3.1	20	110	▲	1
2.4.2.2 Mobile broadband per 100 pop.	58.6	37	69	▼	-10
2.5 Entrepreneurship		61	39	▼	-7
2.5.1 Entrepreneurship input		68	70	▼	-23
2.5.1.1 Time dealing with gov. regulations (%)	5.9	80	49	▲	1
2.5.1.2 Time to start a business (days)	40.0	22	131	▲	-4
2.5.1.3 Procedures to register a business	7.0	53	70	▼	-32
2.5.1.4 Cost to start a business (% GNI per cap)	0.2	97	4	●	0
2.5.2 Entrepreneurship output		58	34	▼	-3
2.5.2.1 Global Entrepreneurship Index	32.9	33	54	▼	-5
2.5.2.2 New corporate registrations per th. pop.	6.5	90	12	▲	6
2.5.2.3 Venture capital investments (% of GDP)	0.04	46	10	▼	-2
2.5.2.4 SME outstanding loans (% of loans)	27.6	32	32	▼	-3
2.5.2.5 Access to loans (1-7 survey)	3.9	60	62	▼	-42
2.6 Statistics		80	37	●	0
2.6.1 Statistical fullness (%)	0.90	80	37	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
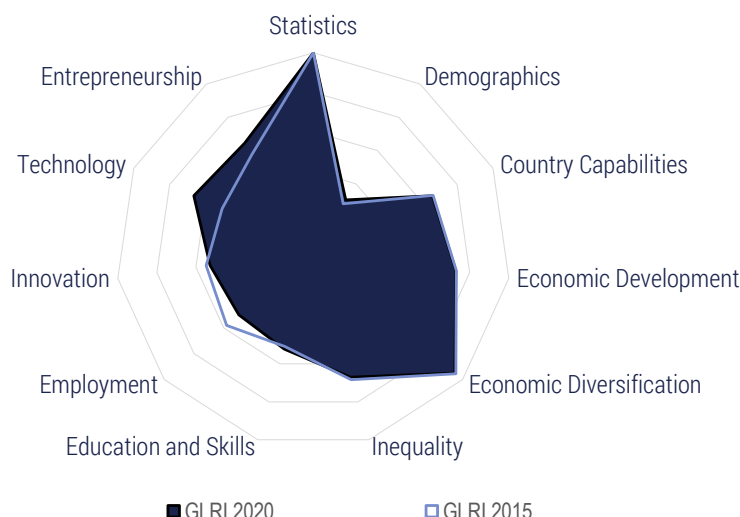
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**84**	**24**	● 0
1.1 Demographics		30	131	▲ 2
1.1.1 Share of older population (% of total population)	19.7	30	131	▲ 2
1.2 Country Capabilities		66	31	▽ -4
1.2.1 Economic Complexity Index	0.8	66	31	▽ -4
1.3 Economic Development		73	20	▽ -2
1.3.1 Income per capita (PPP)	35 056	50	31	▲ 1
1.3.2 Dependence on natural resources (% of GDP)	0.1	97	16	▽ -3
1.3.3 Tertiarisation of economy (% of GDP)	65.9	80	22	▽ -4
1.4 Economic Diversification		95	4	● 0
1.4.1 Concentration of exports	0.1	94	17	▽ -5
1.4.2 Diversity	506	96	4	● 0
1.5 Inequality		67	64	▽ -4
1.5.1 Income inequality	36.2	67	64	▽ -4
2. Policy Pillar		**67**	**28**	▲ 3
2.1 Education and skills		52	49	▽ -3
2.1.1 Education and skills input		54	55	▲ 3
2.1.1.1 Government education spendings (% of GDP)	4.2	37	73	▲ 2
2.1.1.2 Tertiary public education spendings (% of gov.exp)	21.8	42	62	▽ -2
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	10 446	51	17	▲ 1
2.1.1.4 Years of schooling	10.3	70	60	▲ 3
2.1.1.5 Staff training (1-7 survey)	3.8	41	67	▲ 13
2.1.2 Education and skills output		57	50	▽ -9
2.1.2.1 Tertiary attainment rate (% of pop 25+)	21.9	48	29	● 0
2.1.2.2 PISA score	487	64	27	● 0
2.1.2.3 Skillset of graduates (1-7 survey)	4.3	57	46	▲ 3
2.1.2.4 Skilled labour supply (1-7 survey)	4.6	69	39	▲ 1
2.1.2.5 Vocational enrollment (% of students)	18.6	40	44	▲ 6
2.1.2.6 Vocational enrollment of 15-24 olds (%)	14.8	51	33	▲ 3
2.1.2.7 Quality of vocational education (1-7 survey)	4.4	49	48	▲ 5
2.1.2.8 STEM graduates (%)	23.5	40	47	▽ -13
2.1.2.9 Digital skills (1-7 survey)	4.2	56	69	▽ -2
2.1.2.10 Critical thinking (1-7 survey)	3.0	30	99	▽ -15
2.2 Employment		50	43	▽ -8
2.2.1 Employment input		52	50	▽ -13
2.2.1.1 Hiring and firing practices (1-7 survey)	3.0	23	115	▽ -10
2.2.1.2 Worker's rights (1-7 score)	81.4	60	34	▽ -4
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.3	57	52	▲ 3
2.2.1.4 Tax wedge (% of labour cost)	39.4	33	21	● 0
2.2.1.5 ALP spendings (% of GDP)	2.3	73	5	▽ -3
2.2.2 Employment output		49	36	▲ 5
2.2.2.1 Women in labour force (% female-male)	81.5	73	58	▲ 2
2.2.2.2 Gender pay gap (% of employees)	11.5	64	21	▲ 1
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.2	39	81	▲ 20
2.2.2.4 Knowledge insentive employment (%)	33.1	53	38	▽ -1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	85 510	59	25	▽ -1
2.2.2.6 ALP effectiveness (1-7 survey)	3.5	48	60	▽ -4
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.2	34	88	▲ 17
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.4	32	105	▲ 12
2.2.2.9 Earnings quality (PPP)	16.6	50	20	● 0
2.2.2.10 Quality of the working environment (%)	35.0	39	35	● 0
2.3 Innovation		53	28	▽ -1
2.3.1 Innovation input		54	31	▽ -1
2.3.1.1 R&D spendings (% of GDP)	1.2	44	31	▽ -2
2.3.1.2 IPR score	6.5	64	31	● 0
2.3.2 Innovation output		51	30	▽ -2
2.3.2.1 Trademark applications per th. pop.	1.2	38	49	▽ -2
2.3.2.2 Patent applications per th. pop.	0.05	17	64	▽ -10
2.3.2.3 R&D journals per th. pop.	1.13	57	25	▽ -2
2.3.2.4 Researchers in R&D per mln.pop.	2 873	37	30	● 0
2.3.2.5 Technicians in R&D per mln.pop.	1 197	52	16	▽ -2
2.3.2.6 Creative goods exports (% of goods exp.)	2.47	63	22	▽ -2
2.4 Technology		67	39	▲ 7
2.4.1 Technology input		88	17	▲ 39
2.4.1.1 ICT affordability	5.9	83	40	▲ 63
2.4.1.2 ICT access index	7.8	85	24	▲ 2
2.4.2 Technology output		41	81	▽ -27
2.4.2.1 ICT goods and services export (% of exp.)	2.1	17	130	▽ -38
2.4.2.2 Mobile broadband per 100 pop.	87.3	54	33	▽ -10
2.5 Entrepreneurship		64	36	▲ 9
2.5.1 Entrepreneurship input		82	23	▲ 15
2.5.1.1 Time dealing with gov. regulations (%)	0.8	98	3	▲ 1
2.5.1.2 Time to start a business (days)	12.5	76	75	▲ 17
2.5.1.3 Procedures to register a business	7.0	53	70	▲ 49
2.5.1.4 Cost to start a business (% GNI per cap)	4.8	70	54	● 0
2.5.2 Entrepreneurship output		50	50	▲ 5
2.5.2.1 Global Entrepreneurship Index	45.3	49	32	▽ -2
2.5.2.2 New corporate registrations per th. pop.	2.1	30	38	● 0
2.5.2.3 Venture capital investments (% of GDP)	0.04	44	12	▲ 11
2.5.2.4 SME outstanding loans (% of loans)	50.1	58	17	▽ -5
2.5.2.5 Access to loans (1-7 survey)	3.7	54	79	▲ 56
2.6 Statistics		100	1	● 0
2.6.1 Statistical fullness (%)	1.00	100	1	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
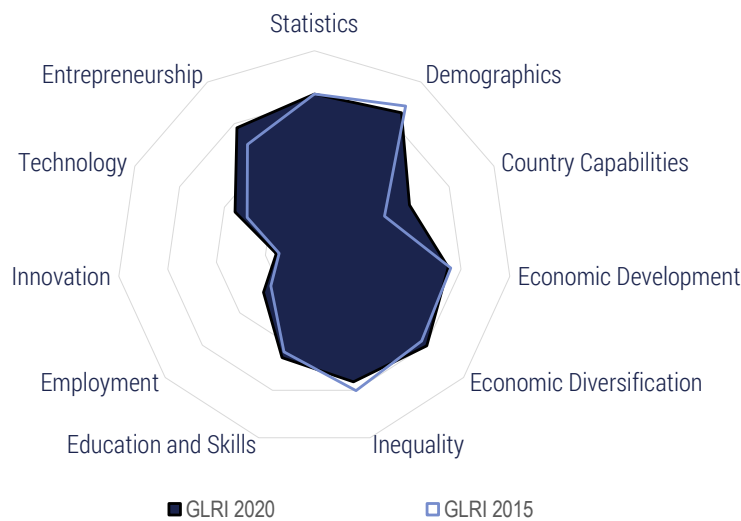
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		62	63	▲	3
1.1 Demographics		65	89	▽	-2
1.1.1 Share of older population (% of total population)	10.4	65	89	▽	-2
1.2 Country Capabilities		42	75	△	17
1.2.1 Economic Complexity Index	-0.3	42	75	▲	17
1.3 Economic Development		55	48	▽	-2
1.3.1 Income per capita (PPP)	11 955	17	82	▲	3
1.3.2 Dependence on natural resources (% of GDP)	0.1	97	19	▽	-4
1.3.3 Tertiarisation of economy (% of GDP)	56.8	66	61	▲	2
1.4 Economic Diversification		60	46	△	14
1.4.1 Concentration of exports	0.2	81	51	▲	10
1.4.2 Diversity	215	39	44	▲	10
1.5 Inequality		56	84	▽	-9
1.5.1 Income inequality	39.8	56	84	▽	-9
2. Policy Pillar		37	90	▲	2
2.1 Education and skills		46	66	△	1
2.1.1 Education and skills input		50	68	△	1
2.1.1.1 Government education spendings (% of GDP)	2.8	21	118	▲	19
2.1.1.2 Tertiary public education spendings (% of gov.exp)	20.7	40	73	▲	1
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	10.9	75	48	▲	7
2.1.1.5 Staff training (1-7 survey)	3.9	42	65	▽	-10
2.1.2 Education and skills output		50	68	△	5
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	4.4	59	43	▲	18
2.1.2.4 Skilled labour supply (1-7 survey)	4.3	60	55	▲	10
2.1.2.5 Vocational enrollment (% of students)	3.8	9	105	▽	-13
2.1.2.6 Vocational enrollment of 15-24 olds (%)	2.8	11	79	▽	-5
2.1.2.7 Quality of vocational education (1-7 survey)	4.2	45	58	▽	-2
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	3.9	46	83	▲	3
2.1.2.10 Critical thinking (1-7 survey)	3.3	38	71	▽	-3
2.2 Employment		27	120	△	13
2.2.1 Employment input		36	107	▲	21
2.2.1.1 Hiring and firing practices (1-7 survey)	3.4	35	93	▲	21
2.2.1.2 Worker's rights (1-7 score)	73.2	43	53	▲	2
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.5	35	113	▲	10
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		27	115	▲	6
2.2.2.1 Women in labour force (% female-male)	48.3	33	127	▲	2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.2	39	85	▲	24
2.2.2.4 Knowledge insentive employment (%)	16.8	27	91	▽	-15

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	32 673	22	76	▲	5
2.2.2.6 ALP effectiveness (1-7 survey)	3.0	35	78	▽	-13
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	38	74	▽	-24
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.2	52	47	▲	7
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		16	101	△	5
2.3.1 Innovation input		24	93	▲	3
2.3.1.1 R&D spendings (% of GDP)	0.1	4	110	▽	-2
2.3.1.2 IPR score	5.2	43	66	▲	6
2.3.2 Innovation output		8	101	▲	4
2.3.2.1 Trademark applications per th. pop.	0.5	17	92	▲	2
2.3.2.2 Patent applications per th. pop.	0.03	9	86	▲	3
2.3.2.3 R&D journals per th. pop.	0.05	3	85	▲	5
2.3.2.4 Researchers in R&D per mln.pop.	107	2	88	▽	-1
2.3.2.5 Technicians in R&D per mln.pop.	75	4	65	▲	4
2.3.2.6 Creative goods exports (% of goods exp.)	0.08	5	72	▲	3
2.4 Technology		35	115	▽	-14
2.4.1 Technology input		62	81	▽	-10
2.4.1.1 ICT affordability	6.0	85	33	▽	-5
2.4.1.2 ICT access index	3.9	35	100	⬤	0
2.4.2 Technology output		11	141	▽	-13
2.4.2.1 ICT goods and services export (% of exp.)	0.9	14	140	▽	-26
2.4.2.2 Mobile broadband per 100 pop.	18.3	12	124	▽	-25
2.5 Entrepreneurship		58	52	△	4
2.5.1 Entrepreneurship input		80	31	▲	4
2.5.1.1 Time dealing with gov. regulations (%)	1.7	94	12	▲	1
2.5.1.2 Time to start a business (days)	9.0	83	54	▽	-10
2.5.1.3 Procedures to register a business	7.0	53	70	▲	22
2.5.1.4 Cost to start a business (% GNI per cap)	10.4	59	77	▲	1
2.5.2 Entrepreneurship output		40	80	▲	22
2.5.2.1 Global Entrepreneurship Index	21.9	18	84	▽	-16
2.5.2.2 New corporate registrations per th. pop.	0.3	5	85	▲	1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.0	62	56	▲	32
2.6 Statistics		62	79	⬤	0
2.6.1 Statistical fullness (%)	0.81	62	79	⬤	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- ■ GLRI 2020
- ☐ GLRI 2015

Note: the score of the Country capabilities sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.
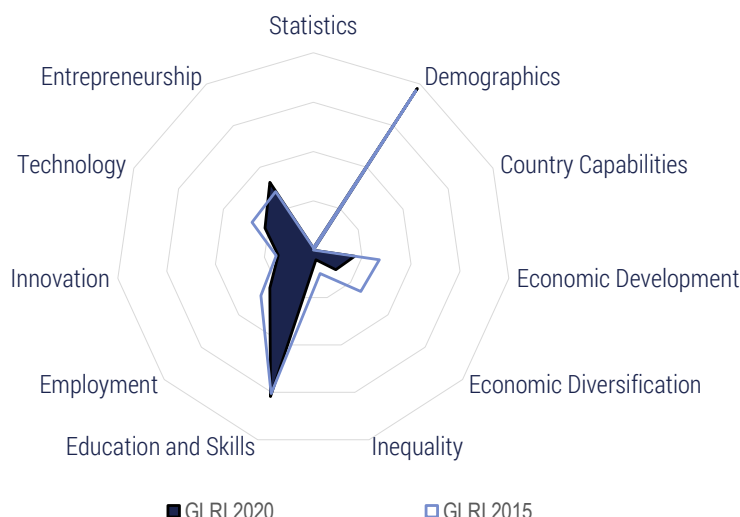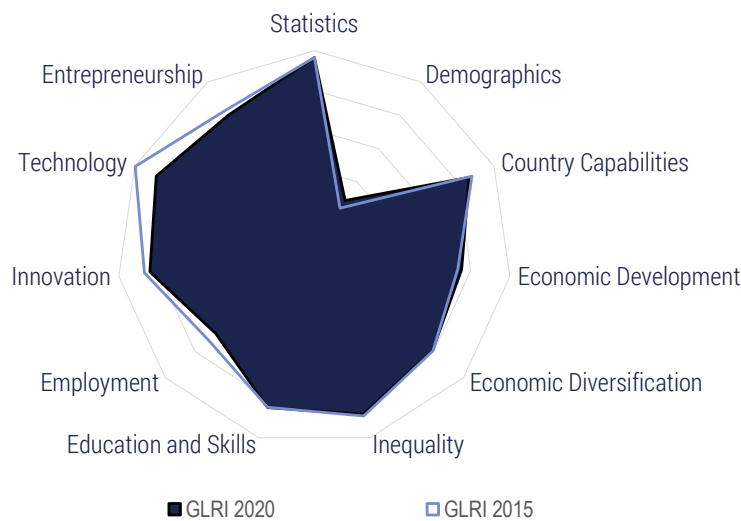
Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**1**	**145**	▽	-2
1.1 Demographics		78	71	▲	3
1.1.1 Share of older population (% of total population)	7.1	78	71	▲	3
1.2 Country Capabilities		n/a	n/a		
1.2.1 Economic Complexity Index	n/a	n/a	n/a		
1.3 Economic Development		17	131	▽	-13
1.3.1 Income per capita (PPP)	13 776	20	73	▽	-7
1.3.2 Dependence on natural resources (% of GDP)	33.2	6	143	▽	-9
1.3.3 Tertiarisation of economy (% of GDP)	48.7	54	106	▽	-16
1.4 Economic Diversification		12	139	▽	-15
1.4.1 Concentration of exports	0.7	15	138	▽	-15
1.4.2 Diversity	59	9	117	▲	2
1.5 Inequality		4	132	▽	-1
1.5.1 Income inequality	57.6	4	132	▽	-1
2. Policy Pillar		**17**	**138**	▽	-6
2.1 Education and skills		62	30	▲	1
2.1.1 Education and skills input		66	31	●	0
2.1.1.1 Government education spendings (% of GDP)	n/a	n/a	n/a		
2.1.1.2 Tertiary public education spendings (% of gov.exp)	n/a	n/a	n/a		
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	9.1	61	73	▽	-5
2.1.1.5 Staff training (1-7 survey)	n/a	n/a	n/a		
2.1.2 Education and skills output		62	38	●	0
2.1.2.1 Tertiary attainment rate (% of pop 25+)	9.2	21	71	▽	-7
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	n/a	n/a	n/a		
2.1.2.4 Skilled labour supply (1-7 survey)	n/a	n/a	n/a		
2.1.2.5 Vocational enrollment (% of students)	43.5	93	5	▲	3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	18.5	63	22	▲	3
2.1.2.7 Quality of vocational education (1-7 survey)	n/a	n/a	n/a		
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	n/a	n/a	n/a		
2.1.2.10 Critical thinking (1-7 survey)	n/a	n/a	n/a		
2.2 Employment		23	130	▽	-2
2.2.1 Employment input					
2.2.1.1 Hiring and firing practices (1-7 survey)	n/a	n/a	n/a		
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	n/a	n/a	n/a		
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		29	111	▽	-27
2.2.2.1 Women in labour force (% female-male)	61.1	48	117	▽	-7
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.1	36	93	▽	-8
2.2.2.4 Knowledge insentive employment (%)	21.6	35	68	▽	-2

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	39 627	27	65	▽	-7
2.2.2.6 ALP effectiveness (1-7 survey)	n/a	n/a	n/a		
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.7	18	125	▽	-15
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.5	33	100	▽	-35
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		14	105	▽	-3
2.3.1 Innovation input					
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		14	80	▽	-3
2.3.2.1 Trademark applications per th. pop.	1.1	36	51	▽	-14
2.3.2.2 Patent applications per th. pop.	n/a	n/a	n/a		
2.3.2.3 R&D journals per th. pop.	0.04	3	90	▲	1
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	128	●	0
2.4 Technology		22	137	▽	-32
2.4.1 Technology input		47	108	▽	-10
2.4.1.1 ICT affordability	3.4	41	119	▽	-28
2.4.1.2 ICT access index	5.2	51	76	▲	12
2.4.2 Technology output		1	145	▽	-28
2.4.2.1 ICT goods and services export (% of exp.)	-3.5	1	145	▽	-50
2.4.2.2 Mobile broadband per 100 pop.	15.0	10	129	▲	4
2.5 Entrepreneurship		33	132	▲	1
2.5.1 Entrepreneurship input		53	115	▲	11
2.5.1.1 Time dealing with gov. regulations (%)	4.9	83	39	▲	14
2.5.1.2 Time to start a business (days)	66.0	1	137	●	0
2.5.1.3 Procedures to register a business	8.0	45	92	▲	37
2.5.1.4 Cost to start a business (% GNI per cap)	n/a	n/a	n/a		
2.5.2 Entrepreneurship output		19	134	▽	-18
2.5.2.1 Global Entrepreneurship Index	18.1	13	102	▲	16
2.5.2.2 New corporate registrations per th. pop.	0.9	13	64	▽	-9
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	2.4	24	136	▽	-28
2.6 Statistics		1	143	●	0
2.6.1 Statistical fullness (%)	0.51	1	143	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**95**	**8**	▲ 3
1.1 Demographics		29	137	▲ 2
1.1.1 Share of older population (% of total population)	20.1	29	137	▲ 2
1.2 Country Capabilities		86	7	▽ -2
1.2.1 Economic Complexity Index	1.7	86	7	▽ -2
1.3 Economic Development		75	17	● 0
1.3.1 Income per capita (PPP)	47 194	68	15	● 0
1.3.2 Dependence on natural resources (% of GDP)	0.5	88	36	▽ -1
1.3.3 Tertiarisation of economy (% of GDP)	64.8	78	27	▲ 3
1.4 Economic Diversification		79	20	▽ -5
1.4.1 Concentration of exports	0.1	94	16	▽ -6
1.4.2 Diversity	342	64	19	▽ -2
1.5 Inequality		88	18	▽ -3
1.5.1 Income inequality	29.2	88	18	▽ -3
2. Policy Pillar		**91**	**5**	▽ -2
2.1 Education and skills		84	8	● 0
2.1.1 Education and skills input		87	6	▲ 1
2.1.1.1 Government education spendings (% of GDP)	7.7	77	3	▲ 3
2.1.1.2 Tertiary public education spendings (% of gov.exp)	24.1	48	44	▲ 3
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	12.5	88	20	● 0
2.1.1.5 Staff training (1-7 survey)	5.3	84	7	▲ 1
2.1.2 Education and skills output		83	10	▽ -1
2.1.2.1 Tertiary attainment rate (% of pop 25+)	23.9	52	26	▲ 1
2.1.2.2 PISA score	502	70	13	▲ 21
2.1.2.3 Skillset of graduates (1-7 survey)	5.3	81	10	▽ -3
2.1.2.4 Skilled labour supply (1-7 survey)	5.0	79	16	▲ 2
2.1.2.5 Vocational enrollment (% of students)	20.4	44	36	▽ -12
2.1.2.6 Vocational enrollment of 15-24 olds (%)	12.2	42	42	▽ -14
2.1.2.7 Quality of vocational education (1-7 survey)	5.0	64	18	▽ -3
2.1.2.8 STEM graduates (%)	27.5	48	28	▲ 5
2.1.2.9 Digital skills (1-7 survey)	5.8	100	1	▲ 4
2.1.2.10 Critical thinking (1-7 survey)	5.3	89	6	▽ -3
2.2 Employment		66	13	▽ -1
2.2.1 Employment input		52	49	▲ 14
2.2.1.1 Hiring and firing practices (1-7 survey)	3.8	45	66	▲ 31
2.2.1.2 Worker's rights (1-7 score)	99.0	98	5	▲ 3
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.4	60	45	▽ -2
2.2.1.4 Tax wedge (% of labour cost)	43.1	24	28	● 0
2.2.1.5 ALP spendings (% of GDP)	1.7	55	9	▲ 1
2.2.2 Employment output		75	10	▽ -2
2.2.2.1 Women in labour force (% female-male)	90.3	84	17	▲ 3
2.2.2.2 Gender pay gap (% of employees)	7.3	79	15	● 0
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	4.6	69	19	▽ -2
2.2.2.4 Knowledge insentive employment (%)	49.4	79	5	▲ 3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	98 265	67	13	▲ 5
2.2.2.6 ALP effectiveness (1-7 survey)	4.8	78	14	▲ 5
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.6	81	9	▽ -3
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.4	31	109	▽ -89
2.2.2.9 Earnings quality (PPP)	19.8	63	13	● 0
2.2.2.10 Quality of the working environment (%)	23.6	72	9	▽ -4
2.3 Innovation		84	6	▽ -1
2.3.1 Innovation input		98	3	▽ -1
2.3.1.1 R&D spendings (% of GDP)	3.3	100	1	● 0
2.3.1.2 IPR score	8.4	95	6	▽ -4
2.3.2 Innovation output		70	13	▽ -2
2.3.2.1 Trademark applications per th. pop.	1.0	33	56	▽ -11
2.3.2.2 Patent applications per th. pop.	0.23	75	21	▽ -2
2.3.2.3 R&D journals per th. pop.	1.96	99	6	▽ -5
2.3.2.4 Researchers in R&D per mln.pop.	7 593	97	3	▲ 2
2.3.2.5 Technicians in R&D per mln.pop.	2 028	87	8	▽ -1
2.3.2.6 Creative goods exports (% of goods exp.)	1.21	41	33	▽ -5
2.4 Technology		88	7	▽ -5
2.4.1 Technology input		95	4	▽ -3
2.4.1.1 ICT affordability	6.2	88	23	▽ -16
2.4.1.2 ICT access index	8.4	93	10	▽ -8
2.4.2 Technology output		73	15	▽ -10
2.4.2.1 ICT goods and services export (% of exp.)	10.8	42	48	▽ -29
2.4.2.2 Mobile broadband per 100 pop.	125.2	77	8	▽ -3
2.5 Entrepreneurship		80	9	▽ -4
2.5.1 Entrepreneurship input		85	17	● 0
2.5.1.1 Time dealing with gov. regulations (%)	4.9	83	39	▲ 2
2.5.1.2 Time to start a business (days)	7.5	86	42	▲ 26
2.5.1.3 Procedures to register a business	4.0	76	18	▽ -13
2.5.1.4 Cost to start a business (% GNI per cap)	0.5	93	11	▽ -1
2.5.2 Entrepreneurship output		77	9	▽ -2
2.5.2.1 Global Entrepreneurship Index	73.1	86	9	▽ -4
2.5.2.2 New corporate registrations per th. pop.	4.9	68	19	▲ 2
2.5.2.3 Venture capital investments (% of GDP)	0.06	62	7	▽ -1
2.5.2.4 SME outstanding loans (% of loans)	39.6	46	21	▲ 4
2.5.2.5 Access to loans (1-7 survey)	5.1	86	11	▽ -2
2.6 Statistics		97	10	● 0
2.6.1 Statistical fullness (%)	0.98	97	10	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
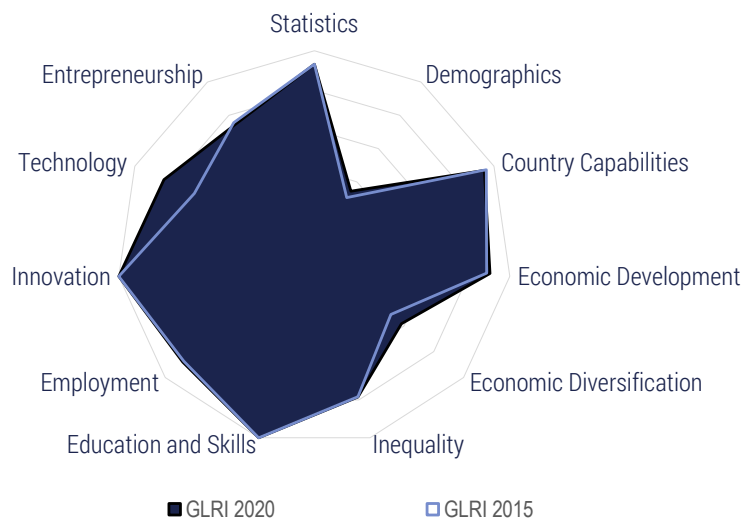

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		95	10	▲	3
1.1 Demographics		34	122	▲	6
1.1.1 Share of older population (% of total population)	18.6	34	122	▲	6
1.2 Country Capabilities		95	2	●	0
1.2.1 Economic Complexity Index	2.1	95	2	●	0
1.3 Economic Development		90	3	●	0
1.3.1 Income per capita (PPP)	59 019	85	9	▼	-1
1.3.2 Dependence on natural resources (% of GDP)	0.0	100	6	●	0
1.3.3 Tertiarisation of economy (% of GDP)	71.3	88	7	▲	4
1.4 Economic Diversification		58	52	▲	20
1.4.1 Concentration of exports	0.2	74	75	▲	22
1.4.2 Diversity	232	43	39	▲	3
1.5 Inequality		78	31	▲	3
1.5.1 Income inequality	32.3	78	31	▲	3
2. Policy Pillar		100	1	▲	1
2.1 Education and skills		100	1	●	0
2.1.1 Education and skills input		100	1	●	0
2.1.1.1 Government education spendings (% of GDP)	5.1	48	48	▲	1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	26.0	52	34	▲	7
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	27 172	100	1	●	0
2.1.1.4 Years of schooling	14.0	98	4	▲	1
2.1.1.5 Staff training (1-7 survey)	5.9	100	1	●	0
2.1.2 Education and skills output		100	1	●	0
2.1.2.1 Tertiary attainment rate (% of pop 25+)	36.9	80	2	▼	-1
2.1.2.2 PISA score	498	69	19	▼	-10
2.1.2.3 Skillset of graduates (1-7 survey)	6.0	100	1	●	0
2.1.2.4 Skilled labour supply (1-7 survey)	5.2	85	6	▼	-1
2.1.2.5 Vocational enrollment (% of students)	37.2	79	10	▲	3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	23.2	79	8	▲	1
2.1.2.7 Quality of vocational education (1-7 survey)	6.5	100	1	●	0
2.1.2.8 STEM graduates (%)	24.9	43	41	▲	10
2.1.2.9 Digital skills (1-7 survey)	5.7	95	7	▲	2
2.1.2.10 Critical thinking (1-7 survey)	5.4	92	3	▼	-1
2.2 Employment		88	4	▲	1
2.2.1 Employment input		69	16	▲	11
2.2.1.1 Hiring and firing practices (1-7 survey)	5.7	100	1	●	0
2.2.1.2 Worker's rights (1-7 score)	90.7	80	14	▲	4
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.3	58	49	▲	11
2.2.1.4 Tax wedge (% of labour cost)	22.2	73	4	▲	2
2.2.1.5 ALP spendings (% of GDP)	1.3	41	14	▲	2
2.2.2 Employment output		94	3	▲	1
2.2.2.1 Women in labour force (% female-male)	84.5	77	44	●	0
2.2.2.2 Gender pay gap (% of employees)	14.8	53	29	▲	8
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	6.1	100	1	▲	1
2.2.2.4 Knowledge insentive employment (%)	52.1	84	3	▲	2

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	105 460	72	11	●	0
2.2.2.6 ALP effectiveness (1-7 survey)	5.8	100	1	●	0
2.2.2.7 Labour-employer cooperation (1-7 survey)	6.1	100	1	●	0
2.2.2.8 Impact of taxes on workers (1-7 survey)	5.7	87	4	▲	9
2.2.2.9 Earnings quality (PPP)	28.5	97	3	●	0
2.2.2.10 Quality of the working environment (%)	93.1	🏁	#ЗНАЧ!		
2.3 Innovation		100	1	●	0
2.3.1 Innovation input		100	2	▲	1
2.3.1.1 R&D spendings (% of GDP)	3.4	100	1	●	0
2.3.1.2 IPR score	8.6	99	3	▲	2
2.3.2 Innovation output		100	1	●	0
2.3.2.1 Trademark applications per th. pop.	3.7	100	1	●	0
2.3.2.2 Patent applications per th. pop.	0.19	63	25	▼	-7
2.3.2.3 R&D journals per th. pop.	2.48	100	1	●	0
2.3.2.4 Researchers in R&D per mln.pop.	5 257	67	10	▲	6
2.3.2.5 Technicians in R&D per mln.pop.	2 927	100	1	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	6.20	99	11	▼	-10
2.4 Technology		84	10	▲	13
2.4.1 Technology input		90	14	▲	1
2.4.1.1 ICT affordability	5.4	74	68	●	0
2.4.1.2 ICT access index	8.7	97	3	▲	9
2.4.2 Technology output		70	17	▲	23
2.4.2.1 ICT goods and services export (% of exp.)	14.0	52	35	▲	12
2.4.2.2 Mobile broadband per 100 pop.	103.7	64	17	▲	19
2.5 Entrepreneurship		74	20	▼	-2
2.5.1 Entrepreneurship input		75	47	▼	-4
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	10.0	81	57	▲	19
2.5.1.3 Procedures to register a business	6.0	61	56	▼	-18
2.5.1.4 Cost to start a business (% GNI per cap)	2.3	80	44	▼	-2
2.5.2 Entrepreneurship output		76	11	●	0
2.5.2.1 Global Entrepreneurship Index	80.4	96	2	▲	6
2.5.2.2 New corporate registrations per th. pop.	2.8	40	29	▼	-2
2.5.2.3 Venture capital investments (% of GDP)	0.04	44	13	▼	-4
2.5.2.4 SME outstanding loans (% of loans)	76.7	89	3	▼	-1
2.5.2.5 Access to loans (1-7 survey)	4.9	83	16	▲	2
2.6 Statistics		93	22	●	0
2.6.1 Statistical fullness (%)	0.97	93	22	●	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
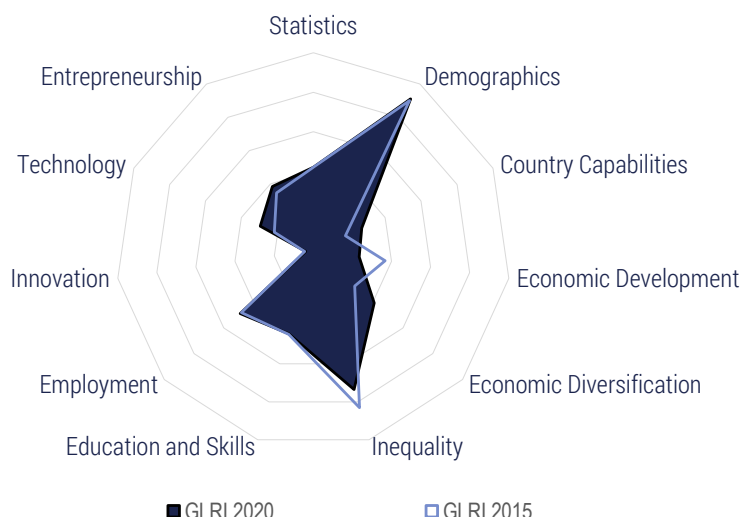
■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**52**	**90**	▼	-7
1.1 Demographics		91	35	▼	-2
1.1.1 Share of older population (% of total population)	3.6	91	35	▼	-2
1.2 Country Capabilities		27	105	▲	10
1.2.1 Economic Complexity Index	-1.0	27	105	▲	10
1.3 Economic Development		23	119	▼	-26
1.3.1 Income per capita (PPP)	3 061	4	123	▲	3
1.3.2 Dependence on natural resources (% of GDP)	5.7	50	93	▼	-38
1.3.3 Tertiarisation of economy (% of GDP)	41.4	43	129	▼	-14
1.4 Economic Diversification		41	96	▲	22
1.4.1 Concentration of exports	0.3	72	78	▲	41
1.4.2 Diversity	62	10	115	●	0
1.5 Inequality		73	47	▼	-24
1.5.1 Income inequality	34.0	73	47	▼	-24
2. Policy Pillar		**28**	**117**	▼	-3
2.1 Education and skills		44	76	▼	-13
2.1.1 Education and skills input		45	88	▼	-13
2.1.1.1 Government education spendings (% of GDP)	5.2	49	41	▲	43
2.1.1.2 Tertiary public education spendings (% of gov.exp)	9.9	16	128	▼	-1
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	2 873	14	66	▼	-2
2.1.1.4 Years of schooling	11.4	78	35	▲	9
2.1.1.5 Staff training (1-7 survey)	3.5	31	110	▼	-49
2.1.2 Education and skills output		50	67	●	0
2.1.2.1 Tertiary attainment rate (% of pop 25+)	11.9	26	61	▼	-4
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	4.1	52	58	▲	13
2.1.2.4 Skilled labour supply (1-7 survey)	3.9	51	83	●	0
2.1.2.5 Vocational enrollment (% of students)	1.4	4	124	▼	-1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	4.2	46	54	▼	-13
2.1.2.8 STEM graduates (%)	22.0	38	60	▼	-4
2.1.2.9 Digital skills (1-7 survey)	4.5	62	49	▲	2
2.1.2.10 Critical thinking (1-7 survey)	4.2	60	32	▼	-1
2.2 Employment		49	47	▲	16
2.2.1 Employment input		67	19	▲	4
2.2.1.1 Hiring and firing practices (1-7 survey)	4.4	63	28	▲	15
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.3	59	47	▼	-8
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		32	98	▲	14
2.2.2.1 Women in labour force (% female-male)	46.5	31	129	▼	-2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.8	52	43	▲	25
2.2.2.4 Knowledge insentive employment (%)	n/a	n/a	n/a		

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	11 936	8	111	▲	1
2.2.2.6 ALP effectiveness (1-7 survey)	3.9	55	47	▼	-16
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	37	75	▼	-11
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.3	54	35	▲	75
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		4	137	●	0
2.3.1 Innovation input		5	131	▲	1
2.3.1.1 R&D spendings (% of GDP)	0.1	5	108	▼	-4
2.3.1.2 IPR score	n/a	n/a	n/a		
2.3.2 Innovation output		3	115	▼	-5
2.3.2.1 Trademark applications per th. pop.	0.3	9	103	▼	-5
2.3.2.2 Patent applications per th. pop.	0.00	1	128	▼	-2
2.3.2.3 R&D journals per th. pop.	0.01	1	127	▼	-5
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	n/a	n/a	n/a		
2.4 Technology		30	126	▼	-8
2.4.1 Technology input		20	138	▼	-15
2.4.1.1 ICT affordability	2.2	21	140	▼	-6
2.4.1.2 ICT access index	n/a	n/a	n/a		
2.4.2 Technology output		43	72	▲	7
2.4.2.1 ICT goods and services export (% of exp.)	17.6	62	25	▲	25
2.4.2.2 Mobile broadband per 100 pop.	18.1	12	125	▼	-5
2.5 Entrepreneurship		38	119	▼	-1
2.5.1 Entrepreneurship input		46	124	▲	4
2.5.1.1 Time dealing with gov. regulations (%)	21.9	24	108	▼	-1
2.5.1.2 Time to start a business (days)	10.0	81	57	▲	29
2.5.1.3 Procedures to register a business	4.0	76	18	▲	1
2.5.1.4 Cost to start a business (% GNI per cap)	19.3	49	101	▼	-5
2.5.2 Entrepreneurship output		36	90	▼	-12
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a		
2.5.2.2 New corporate registrations per th. pop.	0.1	2	98	▼	-31
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.1	64	50	▼	-4
2.6 Statistics		42	130	●	0
2.6.1 Statistical fullness (%)	0.71	42	130	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
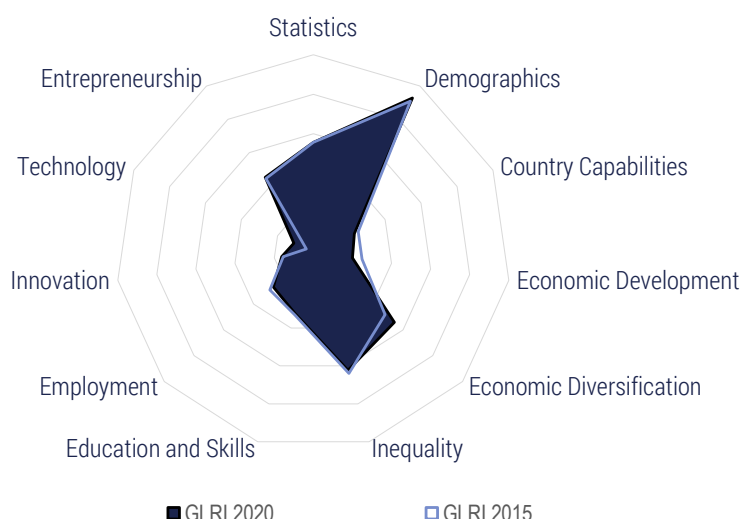

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**50**	**91**	▼	-7
1.1 Demographics		93	26	▲	3
1.1.1 Share of older population (% of total population)	3.1	93	26	▲	3
1.2 Country Capabilities		23	113	▼	-11
1.2.1 Economic Complexity Index	-1.2	23	113	▼	-11
1.3 Economic Development		20	125	▼	-1
1.3.1 Income per capita (PPP)	2 809	4	125	▲	2
1.3.2 Dependence on natural resources (% of GDP)	6.6	46	102	▼	-7
1.3.3 Tertiarisation of economy (% of GDP)	37.9	38	134	▼	-12
1.4 Economic Diversification		54	61	▲	17
1.4.1 Concentration of exports	0.2	80	54	▲	33
1.4.2 Diversity	161	29	67	▲	1
1.5 Inequality		62	72	▼	-3
1.5.1 Income inequality	37.8	62	72	▼	-3
2. Policy Pillar		**24**	**130**	▼	-8
2.1 Education and skills		32	109	▼	-5
2.1.1 Education and skills input		32	115	▼	-10
2.1.1.1 Government education spendings (% of GDP)	3.4	28	103	▼	-35
2.1.1.2 Tertiary public education spendings (% of gov.exp)	21.4	42	67	▼	-39
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	5.5	33	110	▼	-2
2.1.1.5 Staff training (1-7 survey)	3.6	35	93	▲	11
2.1.2 Education and skills output		42	95	▲	7
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.9	44	83	▲	29
2.1.2.4 Skilled labour supply (1-7 survey)	4.0	53	74	▲	2
2.1.2.5 Vocational enrollment (% of students)	0.4	2	134	▼	-66
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.1	1	119	▼	-1
2.1.2.7 Quality of vocational education (1-7 survey)	4.1	43	63	▲	5
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	3.6	40	103	▲	9
2.1.2.10 Critical thinking (1-7 survey)	3.3	37	75	▲	16
2.2 Employment		27	122	▲	1
2.2.1 Employment input		31	123	▼	-6
2.2.1.1 Hiring and firing practices (1-7 survey)	3.7	51	83	▼	-13
2.2.1.2 Worker's rights (1-7 score)	69.1	34	79	▲	1
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.4	34	118	▼	-6
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		31	101	▲	3
2.2.2.1 Women in labour force (% female-male)	91.0	85	14	▼	-2
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.3	42	74	▲	13
2.2.2.4 Knowledge insentive employment (%)	2.6	4	119	▼	-2

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	5 979	4	125	▲	3
2.2.2.6 ALP effectiveness (1-7 survey)	3.2	40	67	▲	16
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.2	35	85	▲	28
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.4	30	113	▼	-29
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		16	98	▲	3
2.3.1 Innovation input		31	72	▲	3
2.3.1.1 R&D spendings (% of GDP)	0.5	19	61	▼	-2
2.3.1.2 IPR score	5.2	42	69	▲	7
2.3.2 Innovation output		2	133	▲	2
2.3.2.1 Trademark applications per th. pop.	0.0	1	130	●	0
2.3.2.2 Patent applications per th. pop.	0.00	1	132	●	0
2.3.2.3 R&D journals per th. pop.	0.01	1	120	▼	-1
2.3.2.4 Researchers in R&D per mln.pop.	18	1	115	▼	-4
2.3.2.5 Technicians in R&D per mln.pop.	6	1	104	▼	-1
2.3.2.6 Creative goods exports (% of goods exp.)	0.03	2	87	▲	2
2.4 Technology		11	144	▼	-2
2.4.1 Technology input		14	141	▼	-5
2.4.1.1 ICT affordability	2.3	23	138	▼	-5
2.4.1.2 ICT access index	1.8	8	134	▼	-3
2.4.2 Technology output		15	136	●	0
2.4.2.1 ICT goods and services export (% of exp.)	4.9	25	92	▲	37
2.4.2.2 Mobile broadband per 100 pop.	9.2	6	137	▼	-24
2.5 Entrepreneurship		45	95	▼	-12
2.5.1 Entrepreneurship input		65	82	▼	-7
2.5.1.1 Time dealing with gov. regulations (%)	2.0	93	17	●	0
2.5.1.2 Time to start a business (days)	27.5	47	117	▼	-16
2.5.1.3 Procedures to register a business	10.0	29	123	▼	-4
2.5.1.4 Cost to start a business (% GNI per cap)	42.9	36	123	●	0
2.5.2 Entrepreneurship output		30	116	▼	-20
2.5.2.1 Global Entrepreneurship Index	16.4	11	106	●	0
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.3	45	105	▼	-24
2.6 Statistics		56	100	●	0
2.6.1 Statistical fullness (%)	0.78	56	100	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
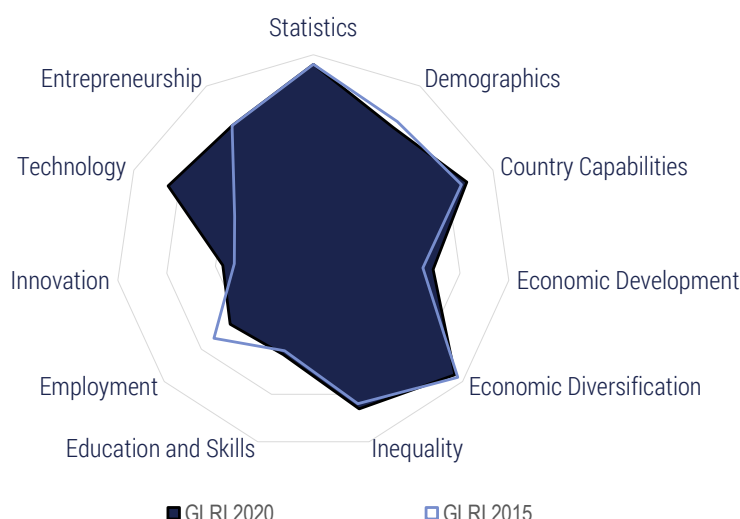
■ GLRI 2020   □ GLRI 2015

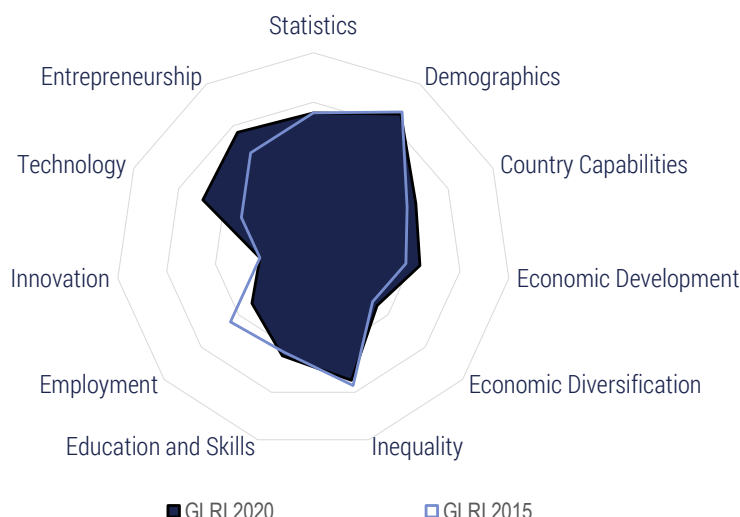## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		79	32	▼	-1
1.1 Demographics		60	96	▼	-4
1.1.1 Share of older population (% of total population)	11.8	60	96	▼	-4
1.2 Country Capabilities		68	29	●	0
1.2.1 Economic Complexity Index	0.9	68	29	●	0
1.3 Economic Development		49	60	▲	11
1.3.1 Income per capita (PPP)	16 905	24	62	▲	5
1.3.2 Dependence on natural resources (% of GDP)	1.7	74	66	▲	4
1.3.3 Tertiarisation of economy (% of GDP)	56.9	66	60	▲	25
1.4 Economic Diversification		76	24	▼	-6
1.4.1 Concentration of exports	0.1	97	6	▼	-1
1.4.2 Diversity	296	55	26	▼	-3
1.5 Inequality		66	66	▲	3
1.5.1 Income inequality	36.5	66	66	▲	3
2. Policy Pillar		54	45	▲	5
2.1 Education and skills		43	80	●	0
2.1.1 Education and skills input		48	79	▲	6
2.1.1.1 Government education spendings (% of GDP)	4.1	36	75	▲	3
2.1.1.2 Tertiary public education spendings (% of gov.exp)	15.6	29	99	▲	7
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	8.5	56	86	▼	-2
2.1.1.5 Staff training (1-7 survey)	4.3	54	46	▼	-2
2.1.2 Education and skills output		46	82	▼	-7
2.1.2.1 Tertiary attainment rate (% of pop 25+)	14.8	32	53	▼	-4
2.1.2.2 PISA score	413	35	58	▼	-11
2.1.2.3 Skillset of graduates (1-7 survey)	4.1	51	60	▲	8
2.1.2.4 Skilled labour supply (1-7 survey)	3.9	50	85	▼	-1
2.1.2.5 Vocational enrollment (% of students)	10.3	23	68	▼	-14
2.1.2.6 Vocational enrollment of 15-24 olds (%)	5.6	20	66	▼	-14
2.1.2.7 Quality of vocational education (1-7 survey)	4.0	40	73	▼	-1
2.1.2.8 STEM graduates (%)	27.9	49	26	●	0
2.1.2.9 Digital skills (1-7 survey)	4.4	60	59	▼	-2
2.1.2.10 Critical thinking (1-7 survey)	3.1	31	95	▲	4
2.2 Employment		45	64	▼	-17
2.2.1 Employment input		49	64	▼	-21
2.2.1.1 Hiring and firing practices (1-7 survey)	4.3	61	31	▼	-3
2.2.1.2 Worker's rights (1-7 score)	66.0	27	87	▼	-22
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.1	53	63	▼	-10
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		43	61	▼	-5
2.2.2.1 Women in labour force (% female-male)	78.1	69	71	▼	-4
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.9	53	40	▼	-10
2.2.2.4 Knowledge insentive employment (%)	13.8	22	97	▲	5

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	30 115	21	80	▲	3
2.2.2.6 ALP effectiveness (1-7 survey)	3.7	52	51	▼	-2
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.8	56	34	●	0
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.1	49	56	▼	-13
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		37	42	▲	7
2.3.1 Innovation input		36	55	▲	19
2.3.1.1 R&D spendings (% of GDP)	0.8	29	45	▲	20
2.3.1.2 IPR score	5.3	44	63	▲	6
2.3.2 Innovation output		38	40	▼	-2
2.3.2.1 Trademark applications per th. pop.	0.6	20	81	▼	-4
2.3.2.2 Patent applications per th. pop.	0.11	38	38	▲	5
2.3.2.3 R&D journals per th. pop.	0.14	8	66	▲	4
2.3.2.4 Researchers in R&D per mln.pop.	1 210	16	47	▲	5
2.3.2.5 Technicians in R&D per mln.pop.	320	15	44	▲	8
2.3.2.6 Creative goods exports (% of goods exp.)	2.30	61	23	▲	2
2.4 Technology		65	44	▲	45
2.4.1 Technology input		70	63	▲	6
2.4.1.1 ICT affordability	5.5	76	62	▼	-16
2.4.1.2 ICT access index	5.7	57	68	▲	12
2.4.2 Technology output		56	36	▲	75
2.4.2.1 ICT goods and services export (% of exp.)	8.4	36	64	▲	16
2.4.2.2 Mobile broadband per 100 pop.	94.7	59	23	▲	105
2.5 Entrepreneurship		61	40	●	0
2.5.1 Entrepreneurship input		79	34	▼	-6
2.5.1.1 Time dealing with gov. regulations (%)	4.8	84	38	▼	-35
2.5.1.2 Time to start a business (days)	6.0	89	29	▲	77
2.5.1.3 Procedures to register a business	5.0	68	38	▲	17
2.5.1.4 Cost to start a business (% GNI per cap)	6.2	67	63	▲	2
2.5.2 Entrepreneurship output		46	55	▼	-5
2.5.2.1 Global Entrepreneurship Index	27.4	25	67	▼	-2
2.5.2.2 New corporate registrations per th. pop.	0.7	11	71	▼	-1
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	50.5	58	16	▼	-2
2.5.2.5 Access to loans (1-7 survey)	4.5	74	29	▼	-8
2.6 Statistics		76	43	●	0
2.6.1 Statistical fullness (%)	0.88	76	43	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   ☐ GLRI 2015

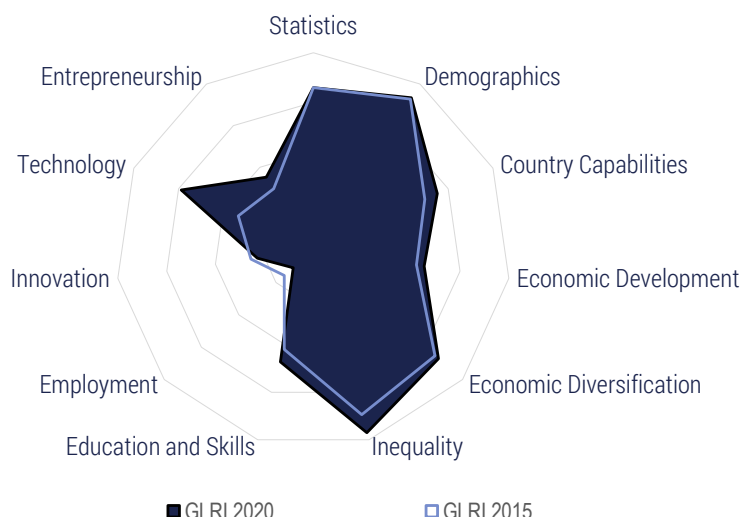## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**46**	**102**	▲	9
1.1 Demographics		66	88	▲	2
1.1.1 Share of older population (% of total population)	10.3	66	88	▲	2
1.2 Country Capabilities		46	69	●	0
1.2.1 Economic Complexity Index	-0.1	46	69	●	0
1.3 Economic Development		44	76	▲	13
1.3.1 Income per capita (PPP)	28 647	41	41	▼	-11
1.3.2 Dependence on natural resources (% of GDP)	7.7	43	107	▲	17
1.3.3 Tertiarisation of economy (% of GDP)	57.1	67	57	▲	39
1.4 Economic Diversification		34	108	▲	1
1.4.1 Concentration of exports	0.3	61	100	▲	1
1.4.2 Diversity	49	7	126	▲	4
1.5 Inequality		55	87	▼	-6
1.5.1 Income inequality	40.3	55	87	▼	-6
2. Policy Pillar		**40**	**80**	▲	1
2.1 Education and skills		45	75	▼	-2
2.1.1 Education and skills input		51	63	▲	1
2.1.1.1 Government education spendings (% of GDP)	3.1	25	106	●	0
2.1.1.2 Tertiary public education spendings (% of gov.exp)	11.5	20	121	▲	4
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	10.6	72	52	▼	-6
2.1.1.5 Staff training (1-7 survey)	4.4	58	37	▲	4
2.1.2 Education and skills output		45	87	▼	-2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	5.8	13	81	▼	-5
2.1.2.2 PISA score	423	39	50	▲	5
2.1.2.3 Skillset of graduates (1-7 survey)	4.2	53	56	▼	-4
2.1.2.4 Skilled labour supply (1-7 survey)	4.5	66	47	▲	7
2.1.2.5 Vocational enrollment (% of students)	0.8	3	127	▲	3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	4.2	46	53	▼	-6
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	4.4	62	52	▼	-16
2.1.2.10 Critical thinking (1-7 survey)	3.1	33	91	▼	-2
2.2 Employment		33	102	▼	-26
2.2.1 Employment input		32	121	▼	-31
2.2.1.1 Hiring and firing practices (1-7 survey)	3.4	35	95	▼	-32
2.2.1.2 Worker's rights (1-7 score)	70.1	36	70	▲	10
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.4	33	121	▼	-14
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		40	66	▼	-16
2.2.2.1 Women in labour force (% female-male)	70.7	60	96	▼	-6
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.5	45	58	▼	-8
2.2.2.4 Knowledge insentive employment (%)	27.7	44	50	▲	11

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	63 561	43	39	▼	-6
2.2.2.6 ALP effectiveness (1-7 survey)	3.0	35	79	▼	-5
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.2	1	145	▼	-14
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.0	45	66	▼	-44
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		22	81	▼	-4
2.3.1 Innovation input		27	82	▲	1
2.3.1.1 R&D spendings (% of GDP)	0.1	4	114	▲	5
2.3.1.2 IPR score	5.7	51	55	▼	-6
2.3.2 Innovation output		16	77	▼	-3
2.3.2.1 Trademark applications per th. pop.	1.0	31	57	▼	-9
2.3.2.2 Patent applications per th. pop.	0.13	42	35	▼	-1
2.3.2.3 R&D journals per th. pop.	0.13	8	68	▲	1
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	103	▼	-2
2.4 Technology		49	86	▲	9
2.4.1 Technology input		75	49	▲	11
2.4.1.1 ICT affordability	5.9	82	42	▲	16
2.4.1.2 ICT access index	6.0	62	61	▼	-5
2.4.2 Technology output		22	126	▲	7
2.4.2.1 ICT goods and services export (% of exp.)	0.8	14	141	▼	-21
2.4.2.2 Mobile broadband per 100 pop.	47.3	30	85	▲	29
2.5 Entrepreneurship		57	57	▲	12
2.5.1 Entrepreneurship input		74	50	▲	10
2.5.1.1 Time dealing with gov. regulations (%)	7.9	73	60	▲	5
2.5.1.2 Time to start a business (days)	10.5	80	61	▲	55
2.5.1.3 Procedures to register a business	7.0	53	70	▼	-15
2.5.1.4 Cost to start a business (% GNI per cap)	0.8	90	18	▼	-7
2.5.2 Entrepreneurship output		44	62	▲	31
2.5.2.1 Global Entrepreneurship Index	24.4	21	77	▲	8
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.9	59	67	▲	24
2.6 Statistics		56	100	●	0
2.6.1 Statistical fullness (%)	0.78	56	100	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Tunisia

Global Labour Resilience Index 2020

69

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- ■ GLRI 2020
- □ GLRI 2015

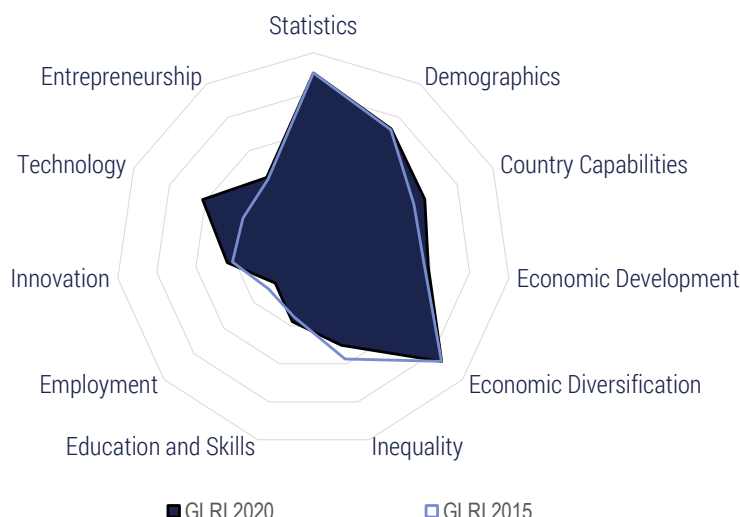## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**78**	**33**	▲	14
1.1 Demographics		73	80	▲	1
1.1.1 Share of older population (% of total population)	8.3	73	80	▲	1
1.2 Country Capabilities		55	46	▲	9
1.2.1 Economic Complexity Index	0.3	55	46	▲	9
1.3 Economic Development		45	73	▲	3
1.3.1 Income per capita (PPP)	11 096	16	85	▼	-5
1.3.2 Dependence on natural resources (% of GDP)	2.4	67	75	▲	11
1.3.3 Tertiarisation of economy (% of GDP)	60.3	72	41	▲	8
1.4 Economic Diversification		67	34	▲	7
1.4.1 Concentration of exports	0.1	89	33	▲	3
1.4.2 Diversity	246	45	35	▲	6
1.5 Inequality		77	37	▲	20
1.5.1 Income inequality	32.8	77	37	▲	20
2. Policy Pillar		**36**	**91**	▲	13
2.1 Education and skills		47	61	▲	17
2.1.1 Education and skills input		49	69	▲	11
2.1.1.1 Government education spendings (% of GDP)	6.6	65	14	▲	8
2.1.1.2 Tertiary public education spendings (% of gov.exp)	23.9	47	46	▼	-16
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	7.2	46	96	●	0
2.1.1.5 Staff training (1-7 survey)	3.8	40	75	▲	27
2.1.2 Education and skills output		52	64	▲	12
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	371	19	72	▼	-9
2.1.2.3 Skillset of graduates (1-7 survey)	3.6	38	102	▲	19
2.1.2.4 Skilled labour supply (1-7 survey)	4.2	57	64	▲	2
2.1.2.5 Vocational enrollment (% of students)	9.1	20	76	▲	1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	3.7	34	91	▲	9
2.1.2.8 STEM graduates (%)	44.1	80	5	●	0
2.1.2.9 Digital skills (1-7 survey)	4.4	60	60	▼	-1
2.1.2.10 Critical thinking (1-7 survey)	3.1	32	92	▲	23
2.2 Employment		11	143	▼	-3
2.2.1 Employment input		19	138	▼	-2
2.2.1.1 Hiring and firing practices (1-7 survey)	2.9	19	118	▼	-30
2.2.1.2 Worker's rights (1-7 score)	71.1	38	59	▲	26
2.2.1.3 Hiring of foreign labour (1-7 survey)	2.8	16	134	▲	2
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		18	139	▼	-9
2.2.2.1 Women in labour force (% female-male)	34.5	16	134	▼	-1
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.5	24	119	▼	-30
2.2.2.4 Knowledge insentive employment (%)	20.9	33	72	▼	-3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	36 731	25	70	▲	1
2.2.2.6 ALP effectiveness (1-7 survey)	3.0	35	77	▲	10
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.7	17	126	▼	-10
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.7	38	92	▼	-24
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		23	79	▼	-14
2.3.1 Innovation input		31	69	▼	-17
2.3.1.1 R&D spendings (% of GDP)	0.6	22	54	▼	-6
2.3.1.2 IPR score	5.1	40	73	▼	-21
2.3.2 Innovation output		15	79	▼	-1
2.3.2.1 Trademark applications per th. pop.	0.5	17	89	▲	6
2.3.2.2 Patent applications per th. pop.	0.05	17	65	▼	-1
2.3.2.3 R&D journals per th. pop.	0.46	24	44	▼	-1
2.3.2.4 Researchers in R&D per mln.pop.	1 965	26	40	▼	-2
2.3.2.5 Technicians in R&D per mln.pop.	63	4	71	▼	-1
2.3.2.6 Creative goods exports (% of goods exp.)	0.09	5	70	●	0
2.4 Technology		59	64	▲	28
2.4.1 Technology input		71	61	▲	23
2.4.1.1 ICT affordability	6.3	89	22	▲	50
2.4.1.2 ICT access index	4.8	47	86	▼	-6
2.4.2 Technology output		45	67	▲	36
2.4.2.1 ICT goods and services export (% of exp.)	9.2	38	57	▲	28
2.4.2.2 Mobile broadband per 100 pop.	63.0	39	62	▲	31
2.5 Entrepreneurship		35	126	▲	5
2.5.1 Entrepreneurship input		34	137	▲	1
2.5.1.1 Time dealing with gov. regulations (%)	46.5	1	113	●	0
2.5.1.2 Time to start a business (days)	9.0	83	54	▲	5
2.5.1.3 Procedures to register a business	7.0	53	70	▲	49
2.5.1.4 Cost to start a business (% GNI per cap)	4.6	71	53	●	0
2.5.2 Entrepreneurship output		42	75	▼	-6
2.5.2.1 Global Entrepreneurship Index	42.4	45	38	▲	22
2.5.2.2 New corporate registrations per th. pop.	1.1	16	57	▼	-4
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.4	47	103	▼	-37
2.6 Statistics		66	71	●	0
2.6.1 Statistical fullness (%)	0.83	66	71	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

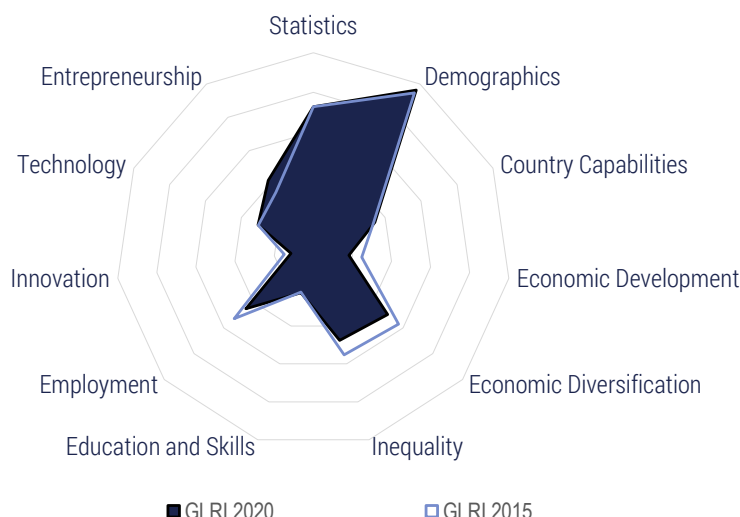## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		**84**	**25**	⬆ 2
1.1 Demographics		73	81	⬆ 1
1.1.1 Share of older population (% of total population)	8.4	73	81	⬆ 1
1.2 Country Capabilities		62	38	⬆ 8
1.2.1 Economic Complexity Index	0.6	62	38	⬆ 8
1.3 Economic Development		59	40	⬆ 3
1.3.1 Income per capita (PPP)	25 287	36	46	⬆ 3
1.3.2 Dependence on natural resources (% of GDP)	0.4	92	31	⬇ -1
1.3.3 Tertiarisation of economy (% of GDP)	54.3	62	76	⬇ -1
1.4 Economic Diversification		86	11	⬇ -1
1.4.1 Concentration of exports	0.1	97	5	⬇ -1
1.4.2 Diversity	399	75	11	⬆ 1
1.5 Inequality		50	95	⬇ -15
1.5.1 Income inequality	41.9	50	95	⬇ -15
2. Policy Pillar		**49**	**57**	⬆ 6
2.1 Education and skills		38	92	⬆ 5
2.1.1 Education and skills input		39	99	⬆ 5
2.1.1.1 Government education spendings (% of GDP)	2.8	20	121	⬇ -3
2.1.1.2 Tertiary public education spendings (% of gov.exp)	31.9	65	15	⬆ 2
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	3 700	18	57	⬇ -3
2.1.1.4 Years of schooling	8.3	54	88	⬇ -1
2.1.1.5 Staff training (1-7 survey)	3.5	32	104	⬇ -6
2.1.2 Education and skills output		44	89	⬆ 6
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a	
2.1.2.2 PISA score	463	55	37	⬆ 4
2.1.2.3 Skillset of graduates (1-7 survey)	3.7	40	93	⬆ 8
2.1.2.4 Skilled labour supply (1-7 survey)	3.5	38	114	⬇ -29
2.1.2.5 Vocational enrollment (% of students)	23.8	51	28	⬆ 6
2.1.2.6 Vocational enrollment of 15-24 olds (%)	25.8	88	4	⬆ 13
2.1.2.7 Quality of vocational education (1-7 survey)	3.1	19	129	⬇ -3
2.1.2.8 STEM graduates (%)	20.2	34	73	⬇ -15
2.1.2.9 Digital skills (1-7 survey)	3.4	33	116	⬇ -3
2.1.2.10 Critical thinking (1-7 survey)	2.4	14	130	⬆ 3
2.2 Employment		25	129	⬇ -9
2.2.1 Employment input		29	127	⬇ -7
2.2.1.1 Hiring and firing practices (1-7 survey)	3.4	36	91	⬇ -39
2.2.1.2 Worker's rights (1-7 score)	53.6	1	113	⬇ -1
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.0	49	82	⬆ 7
2.2.1.4 Tax wedge (% of labour cost)	38.9	34	20	⬇ -3
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		32	99	⬇ -1
2.2.2.1 Women in labour force (% female-male)	46.2	30	130	⬆ 1
2.2.2.2 Gender pay gap (% of employees)	6.9	81	13	⬇ -10
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.9	33	102	⬇ -16
2.2.2.4 Knowledge insentive employment (%)	19.7	32	77	⬇ -13

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	73 147	50	30	⬆ 4
2.2.2.6 ALP effectiveness (1-7 survey)	3.7	51	54	⬆ 12
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.9	23	117	⬇ -36
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.9	43	71	⬆ 32
2.2.2.9 Earnings quality (PPP)	5.6	7	33	● 0
2.2.2.10 Quality of the working environment (%)	43	16	38	⬆ 1
2.3 Innovation		44	34	⬆ 1
2.3.1 Innovation input		39	47	⬆ 2
2.3.1.1 R&D spendings (% of GDP)	1.0	35	37	⬆ 1
2.3.1.2 IPR score	5.3	43	64	⬇ -9
2.3.2 Innovation output		49	32	⬆ 1
2.3.2.1 Trademark applications per th. pop.	1.4	46	37	⬇ -7
2.3.2.2 Patent applications per th. pop.	0.10	35	42	⬆ 16
2.3.2.3 R&D journals per th. pop.	0.41	22	46	⬇ -4
2.3.2.4 Researchers in R&D per mln.pop.	1 386	18	43	⬆ 2
2.3.2.5 Technicians in R&D per mln.pop.	355	16	43	⬆ 5
2.3.2.6 Creative goods exports (% of goods exp.)	3.28	74	16	⬆ 1
2.4 Technology		62	55	⬆ 21
2.4.1 Technology input		85	24	⬆ 8
2.4.1.1 ICT affordability	6.9	99	2	⬆ 2
2.4.1.2 ICT access index	6.1	63	60	⬇ -3
2.4.2 Technology output		36	95	⬆ 34
2.4.2.1 ICT goods and services export (% of exp.)	3.6	21	104	⬆ 32
2.4.2.2 Mobile broadband per 100 pop.	66.8	42	58	⬆ 13
2.5 Entrepreneurship		44	99	⬇ -6
2.5.1 Entrepreneurship input		49	121	⬆ 2
2.5.1.1 Time dealing with gov. regulations (%)	19.0	34	99	⬇ -3
2.5.1.2 Time to start a business (days)	7.0	87	39	⬆ 4
2.5.1.3 Procedures to register a business	7.0	53	70	⬆ 42
2.5.1.4 Cost to start a business (% GNI per cap)	12.8	56	85	⬆ 12
2.5.2 Entrepreneurship output		43	66	⬇ -19
2.5.2.1 Global Entrepreneurship Index	44.5	48	35	⬇ -11
2.5.2.2 New corporate registrations per th. pop.	0.8	11	69	⬆ 2
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	31.9	37	28	⬇ -8
2.5.2.5 Access to loans (1-7 survey)	4.1	64	51	● 0
2.6 Statistics		90	26	● 0
2.6.1 Statistical fullness (%)	0.95	90	26	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Uganda

Global Labour Resilience Index 2020

105

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020 □ GLRI 2015

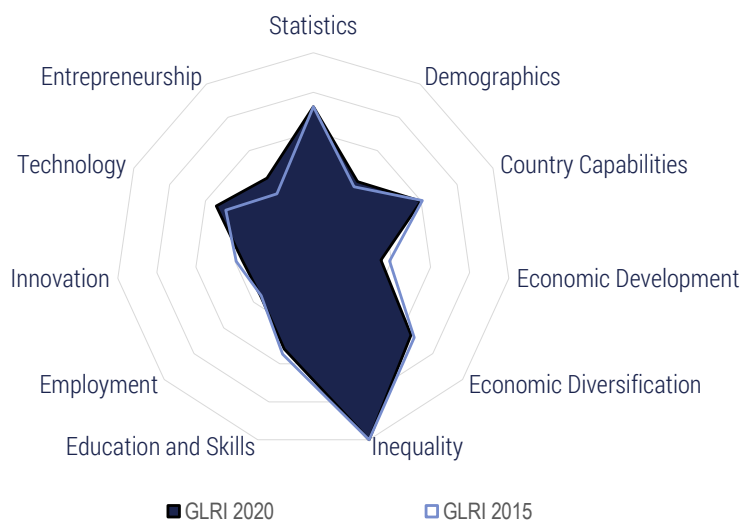## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**47**	**99**	▼	-25
1.1 Demographics		96	3	▲	1
1.1.1 Share of older population (% of total population)	2.2	96	3	▲	1
1.2 Country Capabilities		34	95	▼	-8
1.2.1 Economic Complexity Index	-0.6	34	95	▼	-8
1.3 Economic Development		18	128	▼	-3
1.3.1 Income per capita (PPP)	1 807	3	133	●	0
1.3.2 Dependence on natural resources (% of GDP)	13.9	28	121	▼	-13
1.3.3 Tertiarisation of economy (% of GDP)	47.6	52	111	▼	-4
1.4 Economic Diversification		50	72	▼	-11
1.4.1 Concentration of exports	0.3	71	81	▼	-25
1.4.2 Diversity	157	28	70	▼	-3
1.5 Inequality		48	99	▼	-14
1.5.1 Income inequality	42.8	48	99	▼	-14
2. Policy Pillar		**32**	**106**	▼	-19
2.1 Education and skills		22	131	▼	-1
2.1.1 Education and skills input		27	124	▼	-3
2.1.1.1 Government education spendings (% of GDP)	2.6	19	125	▲	2
2.1.1.2 Tertiary public education spendings (% of gov.exp)	16.3	30	93	▲	9
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	5 470	27	44	▼	-3
2.1.1.4 Years of schooling	5.1	30	113	▼	-2
2.1.1.5 Staff training (1-7 survey)	3.7	37	83	▲	8
2.1.2 Education and skills output		27	133	▼	-5
2.1.2.1 Tertiary attainment rate (% of pop 25+)	1.7	5	94	▼	-1
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.4	31	125	▼	-9
2.1.2.4 Skilled labour supply (1-7 survey)	4.6	69	40	▲	9
2.1.2.5 Vocational enrollment (% of students)	4.0	9	103	●	0
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.5	3	108	▼	-1
2.1.2.7 Quality of vocational education (1-7 survey)	3.5	30	104	▲	11
2.1.2.8 STEM graduates (%)	11.1	16	117	●	0
2.1.2.9 Digital skills (1-7 survey)	3.5	36	111	▼	-5
2.1.2.10 Critical thinking (1-7 survey)	2.8	24	115	▲	2
2.2 Employment		45	61	▼	-10
2.2.1 Employment input		64	24	▼	-13
2.2.1.1 Hiring and firing practices (1-7 survey)	4.4	63	27	▼	-21
2.2.1.2 Worker's rights (1-7 score)	71.1	38	59	▲	6
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.8	73	15	●	0
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		29	109	▲	9
2.2.2.1 Women in labour force (% female-male)	89.5	83	18	▲	10
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.0	35	95	▲	10
2.2.2.4 Knowledge insentive employment (%)	4.1	6	115	●	0

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	4 744	3	131	▲	1
2.2.2.6 ALP effectiveness (1-7 survey)	2.4	21	111	▲	4
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.4	40	63	▲	29
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.6	36	96	▼	-20
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		11	118	▼	-14
2.3.1 Innovation input		21	102	▼	-24
2.3.1.1 R&D spendings (% of GDP)	0.2	7	95	▼	-31
2.3.1.2 IPR score	4.9	36	83	▼	-7
2.3.2 Innovation output		1	137	▼	-3
2.3.2.1 Trademark applications per th. pop.	0.0	2	129	▼	-3
2.3.2.2 Patent applications per th. pop.	0.00	1	125	▲	3
2.3.2.3 R&D journals per th. pop.	0.01	2	113	▼	-5
2.3.2.4 Researchers in R&D per mln.pop.	26	1	111	▼	-4
2.3.2.5 Technicians in R&D per mln.pop.	10	1	97	▼	-2
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	110	▼	-5
2.4 Technology		31	123	▼	-23
2.4.1 Technology input		26	127	▼	-21
2.4.1.1 ICT affordability	3.3	40	121	▼	-45
2.4.1.2 ICT access index	2.2	13	127	▲	2
2.4.2 Technology output		39	86	▼	-9
2.4.2.1 ICT goods and services export (% of exp.)	12.5	47	43	▲	11
2.4.2.2 Mobile broadband per 100 pop.	33.7	21	103	▼	-17
2.5 Entrepreneurship		42	109	▲	8
2.5.1 Entrepreneurship input		55	107	▼	-2
2.5.1.1 Time dealing with gov. regulations (%)	6.5	78	52	▲	2
2.5.1.2 Time to start a business (days)	24.0	53	112	▼	-13
2.5.1.3 Procedures to register a business	13.0	5	142	▼	-6
2.5.1.4 Cost to start a business (% GNI per cap)	33.6	40	112	▲	4
2.5.2 Entrepreneurship output		34	100	▲	19
2.5.2.1 Global Entrepreneurship Index	12.9	6	122	▲	4
2.5.2.2 New corporate registrations per th. pop.	0.3	4	90	▼	-2
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.9	58	71	▲	14
2.6 Statistics		73	51	●	0
2.6.1 Statistical fullness (%)	0.86	73	51	●	0

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**71**	**50**	▽	**-13**
1.1 Demographics		41	115	▲	4
1.1.1 Share of older population (% of total population)	16.8	41	115	▲	4
1.2 Country Capabilities		60	41	▽	-6
1.2.1 Economic Complexity Index	0.5	60	41	▽	-6
1.3 Economic Development		35	91	▽	-5
1.3.1 Income per capita (PPP)	7 907	11	95	▽	-4
1.3.2 Dependence on natural resources (% of GDP)	4.0	57	87	▲	3
1.3.3 Tertiarisation of economy (% of GDP)	51.3	58	95	▽	-30
1.4 Economic Diversification		66	36	▽	-2
1.4.1 Concentration of exports	0.1	88	36	▽	-10
1.4.2 Diversity	232	43	39	●	0
1.5 Inequality		100	1	●	0
1.5.1 Income inequality	25.0	100	1	●	0
2. Policy Pillar		**47**	**66**	▽	**-9**
2.1 Education and skills		52	50	▽	-11
2.1.1 Education and skills input		54	52	▽	-12
2.1.1.1 Government education spendings (% of GDP)	5.4	51	34	▽	-19
2.1.1.2 Tertiary public education spendings (% of gov.exp)	25.0	50	40	▽	-22
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	4 166	21	49	▽	-7
2.1.1.4 Years of schooling	11.1	76	44	▽	-8
2.1.1.5 Staff training (1-7 survey)	3.8	40	71	▲	14
2.1.2 Education and skills output		56	51	▽	-11
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	463	55	37	▲	3
2.1.2.3 Skillset of graduates (1-7 survey)	4.1	51	61	▽	-25
2.1.2.4 Skilled labour supply (1-7 survey)	4.4	63	52	▽	-11
2.1.2.5 Vocational enrollment (% of students)	7.4	17	86	▽	-13
2.1.2.6 Vocational enrollment of 15-24 olds (%)	4.4	16	72	▽	-7
2.1.2.7 Quality of vocational education (1-7 survey)	4.1	43	61	▽	-11
2.1.2.8 STEM graduates (%)	25.3	44	38	▽	-3
2.1.2.9 Digital skills (1-7 survey)	4.4	62	53	▽	-18
2.1.2.10 Critical thinking (1-7 survey)	3.8	51	40	▽	-3
2.2 Employment		35	93	▲	11
2.2.1 Employment input		44	88	▽	-2
2.2.1.1 Hiring and firing practices (1-7 survey)	4.3	59	34	▽	-5
2.2.1.2 Worker's rights (1-7 score)	61.9	19	95	▲	2
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.1	51	72	▲	14
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		33	90	▲	13
2.2.2.1 Women in labour force (% female-male)	74.3	65	83	▽	-8
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.4	22	127	▲	7
2.2.2.4 Knowledge insentive employment (%)	33.7	54	37	▲	1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	19 095	13	95	▽	-1
2.2.2.6 ALP effectiveness (1-7 survey)	3.6	49	57	▽	-7
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.3	36	79	▲	43
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.9	19	131	▲	5
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		36	43	▽	-3
2.3.1 Innovation input		22	101	▽	-19
2.3.1.1 R&D spendings (% of GDP)	0.4	17	68	▽	-24
2.3.1.2 IPR score	4.3	27	110	▽	-3
2.3.2 Innovation output		51	31	▽	-1
2.3.2.1 Trademark applications per th. pop.	0.8	27	68	▲	7
2.3.2.2 Patent applications per th. pop.	0.09	31	46	▽	-7
2.3.2.3 R&D journals per th. pop.	0.17	9	62	▲	2
2.3.2.4 Researchers in R&D per mln.pop.	994	13	50	▽	-4
2.3.2.5 Technicians in R&D per mln.pop.	160	8	53	▽	-6
2.3.2.6 Creative goods exports (% of goods exp.)	14.82	100	1	●	0
2.4 Technology		54	75	▽	-24
2.4.1 Technology input		79	41	▽	-11
2.4.1.1 ICT affordability	6.6	95	6	▽	-4
2.4.1.2 ICT access index	5.6	57	69	▽	-11
2.4.2 Technology output		27	118	▽	-27
2.4.2.1 ICT goods and services export (% of exp.)	8.5	36	61	▲	2
2.4.2.2 Mobile broadband per 100 pop.	22.6	15	118	▽	-27
2.5 Entrepreneurship		43	102	▲	20
2.5.1 Entrepreneurship input		56	104	▲	9
2.5.1.1 Time dealing with gov. regulations (%)	19.6	32	103	▽	-5
2.5.1.2 Time to start a business (days)	6.5	88	36	▲	50
2.5.1.3 Procedures to register a business	6.0	61	56	▽	-1
2.5.1.4 Cost to start a business (% GNI per cap)	0.8	90	18	●	0
2.5.2 Entrepreneurship output		36	89	▲	21
2.5.2.1 Global Entrepreneurship Index	26.8	25	68	▽	-7
2.5.2.2 New corporate registrations per th. pop.	1.1	16	58	▲	5
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.4	47	102	▲	12
2.6 Statistics		73	51	●	0
2.6.1 Statistical fullness (%)	0.86	73	51	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
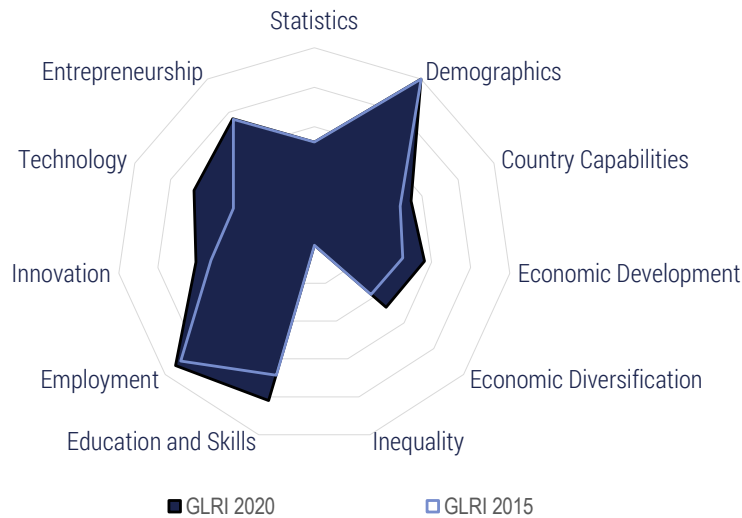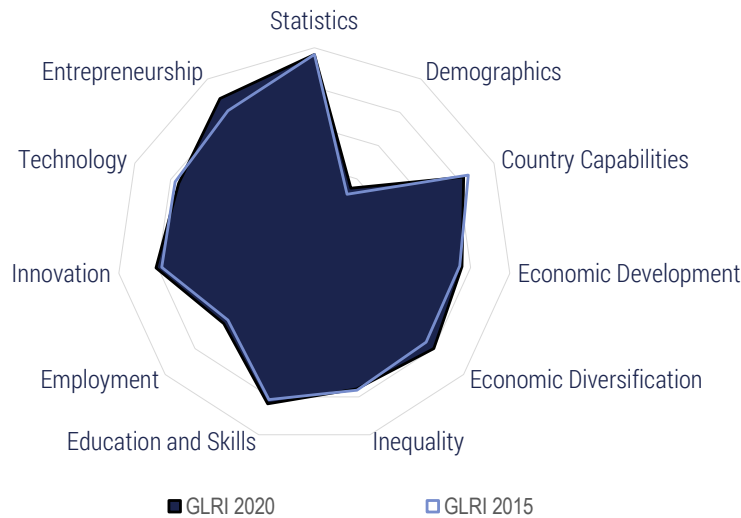

■ GLRI 2020   □ GLRI 2015

Note: the score of the Inequality sub-pillar for GLRI 2015 and GLRI 2020 is equal to 0 due to the lack of data for the corresponding indicators.

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**81**	**31**	▲	23
1.1 Demographics		100	1	◐	0
1.1.1 Share of older population (% of total population)	1.2	100	1	●	0
1.2 Country Capabilities		54	50	▲	8
1.2.1 Economic Complexity Index	0.2	54	50	▲	8
1.3 Economic Development		56	47	▲	21
1.3.1 Income per capita (PPP)	66 616	96	6	▲	1
1.3.2 Dependence on natural resources (% of GDP)	13.7	29	120	▲	12
1.3.3 Tertiarisation of economy (% of GDP)	52.5	60	86	▲	28
1.4 Economic Diversification		48	78	▲	20
1.4.1 Concentration of exports	0.2	76	69	▲	23
1.4.2 Diversity	114	20	88	▲	21
1.5 Inequality		n/a	n/a		
1.5.1 Income inequality	n/a	n/a	n/a		
2. Policy Pillar		**77**	**23**	▲	1
2.1 Education and skills		82	11	▲	11
2.1.1 Education and skills input		86	7	▲	17
2.1.1.1 Government education spendings (% of GDP)	n/a	n/a	n/a		
2.1.1.2 Tertiary public education spendings (% of gov.exp)	n/a	n/a	n/a		
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	12.1	84	28	▲	39
2.1.1.5 Staff training (1-7 survey)	4.9	71	21	▲	5
2.1.2 Education and skills output		80	14	▲	7
2.1.2.1 Tertiary attainment rate (% of pop 25+)	46.6	100	1	▲	1
2.1.2.2 PISA score	434	43	44	●	0
2.1.2.3 Skillset of graduates (1-7 survey)	5.0	73	20	▼	-5
2.1.2.4 Skilled labour supply (1-7 survey)	5.1	82	10	▲	5
2.1.2.5 Vocational enrollment (% of students)	1.6	4	121	▲	5
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.5	3	109	▼	-3
2.1.2.7 Quality of vocational education (1-7 survey)	4.7	57	26	▲	12
2.1.2.8 STEM graduates (%)	27.7	49	27	▲	3
2.1.2.9 Digital skills (1-7 survey)	5.3	84	13	▲	8
2.1.2.10 Critical thinking (1-7 survey)	5.0	82	11	▲	5
2.2 Employment		93	2	▲	1
2.2.1 Employment input		100	1	▲	2
2.2.1.1 Hiring and firing practices (1-7 survey)	5.1	84	6	▲	9
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	5.3	87	5	▼	-1
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		71	15	▲	1
2.2.2.1 Women in labour force (% female-male)	54.8	41	125	●	0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	6.0	98	2	▲	3
2.2.2.4 Knowledge insentive employment (%)	36.1	58	31	●	0

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	97 711	67	14	▲	5
2.2.2.6 ALP effectiveness (1-7 survey)	4.5	71	26	▲	1
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.2	67	19	▼	-3
2.2.2.8 Impact of taxes on workers (1-7 survey)	6.1	97	3	●	0
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		61	25	▲	3
2.3.1 Innovation input		58	29	▲	7
2.3.1.1 R&D spendings (% of GDP)	1.0	35	36	▲	25
2.3.1.2 IPR score	7.6	81	20	▲	1
2.3.2 Innovation output		62	21	▲	4
2.3.2.1 Trademark applications per th. pop.	2.0	63	23	▼	-3
2.3.2.2 Patent applications per th. pop.	0.19	62	26	●	0
2.3.2.3 R&D journals per th. pop.	0.23	12	54	▲	1
2.3.2.4 Researchers in R&D per mln.pop.	2 407	31	34	▼	-1
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	4.50	86	13	●	0
2.4 Technology		67	37	▲	28
2.4.1 Technology input		61	85	▼	-23
2.4.1.1 ICT affordability	3.4	41	120	▼	-30
2.4.1.2 ICT access index	7.2	77	33	▲	11
2.4.2 Technology output		69	18	▲	56
2.4.2.1 ICT goods and services export (% of exp.)	2.1	17	132	▼	-15
2.4.2.2 Mobile broadband per 100 pop.	156.7	97	2	▲	27
2.5 Entrepreneurship		76	14	▲	3
2.5.1 Entrepreneurship input		81	27	▲	40
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	3.8	93	12	▲	22
2.5.1.3 Procedures to register a business	2.0	92	3	▲	35
2.5.1.4 Cost to start a business (% GNI per cap)	13.4	55	87	▼	-4
2.5.2 Entrepreneurship output		73	14	▼	-9
2.5.2.1 Global Entrepreneurship Index	53.5	60	24	▼	-5
2.5.2.2 New corporate registrations per th. pop.	2.1	30	37	●	0
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	5.2	88	8	▼	-6
2.6 Statistics		52	112	●	0
2.6.1 Statistical fullness (%)	0.76	52	112	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

United Kingdom

Global Labour Resilience Index 2020

GLRI 2015 Rank 9 ●

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
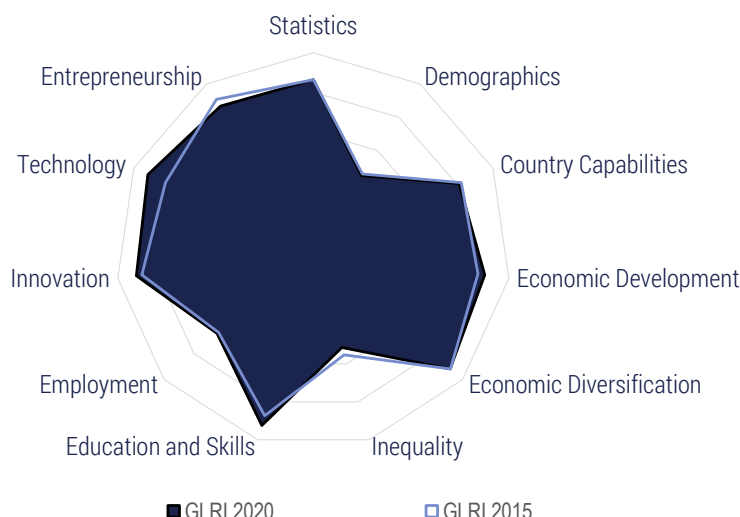

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		92	15	●	0
1.1 Demographics		34	123	▲	4
1.1.1 Share of older population (% of total population)	18.7	34	123	▲	4
1.2 Country Capabilities		83	11	▽	-3
1.2.1 Economic Complexity Index	1.6	83	11	▽	-3
1.3 Economic Development		76	16	▽	-1
1.3.1 Income per capita (PPP)	40 158	58	23	▲	1
1.3.2 Dependence on natural resources (% of GDP)	0.4	90	33	▲	3
1.3.3 Tertiarisation of economy (% of GDP)	70.5	87	8	▲	2
1.4 Economic Diversification		80	16	▲	4
1.4.1 Concentration of exports	0.1	92	24	▲	15
1.4.2 Diversity	361	68	15	▲	4
1.5 Inequality		76	41	▽	-1
1.5.1 Income inequality	33.2	76	41	▽	-1
2. Policy Pillar		88	8	▲	1
2.1 Education and skills		84	9	▲	1
2.1.1 Education and skills input		83	11	▽	-2
2.1.1.1 Government education spendings (% of GDP)	5.5	52	30	▲	2
2.1.1.2 Tertiary public education spendings (% of gov.exp)	25.6	51	37	▲	18
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	17 261	83	6	▽	-2
2.1.1.4 Years of schooling	13.2	93	9	▲	1
2.1.1.5 Staff training (1-7 survey)	4.8	69	23	▲	1
2.1.2 Education and skills output		86	7	▲	6
2.1.2.1 Tertiary attainment rate (% of pop 25+)	33.9	73	7	▲	1
2.1.2.2 PISA score	504	71	10	▲	7
2.1.2.3 Skillset of graduates (1-7 survey)	4.8	69	27	▽	-6
2.1.2.4 Skilled labour supply (1-7 survey)	5.2	84	8	▲	8
2.1.2.5 Vocational enrollment (% of students)	34.6	74	15	▲	3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	19.3	66	21	▲	1
2.1.2.7 Quality of vocational education (1-7 survey)	4.7	57	27	▲	3
2.1.2.8 STEM graduates (%)	26.3	46	33	▲	4
2.1.2.9 Digital skills (1-7 survey)	4.9	75	30	▲	4
2.1.2.10 Critical thinking (1-7 survey)	5.1	83	10	▲	1
2.2 Employment		61	21	▲	15
2.2.1 Employment input		49	62	▲	31
2.2.1.1 Hiring and firing practices (1-7 survey)	5.1	84	5	▲	19
2.2.1.2 Worker's rights (1-7 score)	80.4	58	36	▲	29
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.5	63	37	▲	13
2.2.1.4 Tax wedge (% of labour cost)	30.9	53	10	▽	-1
2.2.1.5 ALP spendings (% of GDP)	0.5	18	28	●	0
2.2.2 Employment output		69	17	▲	2
2.2.2.1 Women in labour force (% female-male)	84.3	77	46	▲	2
2.2.2.2 Gender pay gap (% of employees)	16.4	47	35	▽	-5
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	5.7	91	5	▲	1
2.2.2.4 Knowledge insentive employment (%)	47.4	76	8	▲	6
2.2.2.5 Labour productivity (PPP)	81 334	56	27	▽	-1
2.2.2.6 ALP effectiveness (1-7 survey)	4.2	64	34	▽	-5
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.1	64	26	▽	-2
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.3	53	41	●	0
2.2.2.9 Earnings quality (PPP)	16.8	51	18	●	0
2.2.2.10 Quality of the working environment (%)	25.8	80	4	▲	10
2.3 Innovation		81	10	▲	2
2.3.1 Innovation input		76	18	●	0
2.3.1.1 R&D spendings (% of GDP)	1.7	61	21	▲	2
2.3.1.2 IPR score	8.1	91	13	▽	-1
2.3.2 Innovation output		86	4	▲	2
2.3.2.1 Trademark applications per th. pop.	1.3	40	45	▲	26
2.3.2.2 Patent applications per th. pop.	0.33	100	1	●	0
2.3.2.3 R&D journals per th. pop.	1.47	74	14	▽	-1
2.3.2.4 Researchers in R&D per mln.pop.	4 377	56	19	▲	2
2.3.2.5 Technicians in R&D per mln.pop.	1 316	57	13	▲	2
2.3.2.6 Creative goods exports (% of goods exp.)	10.73	100	1	●	0
2.4 Technology		75	18	▽	-6
2.4.1 Technology input		92	10	▽	-3
2.4.1.1 ICT affordability	5.7	80	51	▽	-17
2.4.1.2 ICT access index	8.7	96	5	▲	5
2.4.2 Technology output		53	42	▽	-29
2.4.2.1 ICT goods and services export (% of exp.)	7.6	33	73	▽	-20
2.4.2.2 Mobile broadband per 100 pop.	91.4	57	26	▽	-13
2.5 Entrepreneurship		88	3	▲	5
2.5.1 Entrepreneurship input		91	8	▲	8
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	4.5	92	18	▲	28
2.5.1.3 Procedures to register a business	4.0	76	18	▲	20
2.5.1.4 Cost to start a business (% GNI per cap)	0.0	100	1	▲	1
2.5.2 Entrepreneurship output		87	7	▲	5
2.5.2.1 Global Entrepreneurship Index	77.8	92	4	●	0
2.5.2.2 New corporate registrations per th. pop.	10.0	100	1	●	0
2.5.2.3 Venture capital investments (% of GDP)	0.08	78	5	▲	8
2.5.2.4 SME outstanding loans (% of loans)	35.5	41	25	▽	-3
2.5.2.5 Access to loans (1-7 survey)	4.4	71	36	▲	44
2.6 Statistics		97	10	●	0
2.6.1 Statistical fullness (%)	0.98	97	10	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

United States

Global Labour Resilience Index 2020

3

GLRI 2015 Rank 4 ▲

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
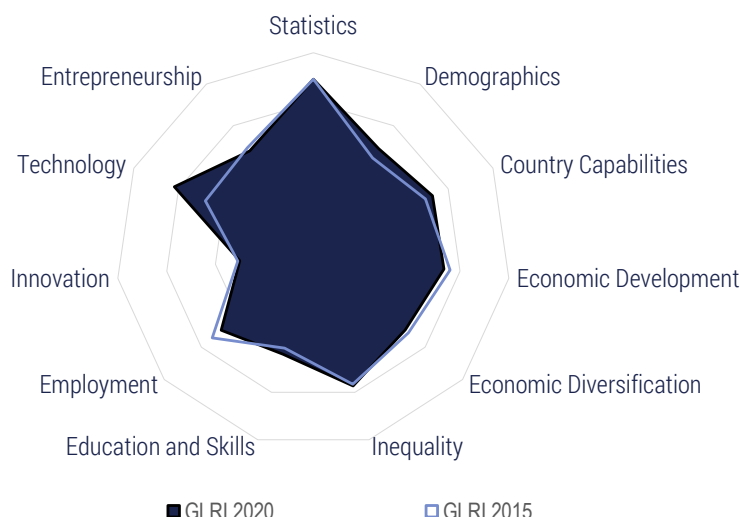

■ GLRI 2020   ▢ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**95**	**9**	▼	-3
1.1 Demographics		45	114	▼	-5
1.1.1 Share of older population (% of total population)	15.8	45	114	▼	-5
1.2 Country Capabilities		81	13	▼	-1
1.2.1 Economic Complexity Index	1.5	81	13	▼	-1
1.3 Economic Development		88	4	●	0
1.3.1 Income per capita (PPP)	55 681	80	10	▼	-1
1.3.2 Dependence on natural resources (% of GDP)	0.5	90	34	▲	3
1.3.3 Tertiarisation of economy (% of GDP)	77.4	97	2	▲	1
1.4 Economic Diversification		92	5	▲	1
1.4.1 Concentration of exports	0.1	94	19	▼	-5
1.4.2 Diversity	474	90	5	▲	1
1.5 Inequality		51	93	▼	-8
1.5.1 Income inequality	41.5	51	93	▼	-8
2. Policy Pillar		**94**	**4**	▲	2
2.1 Education and skills		92	2	▲	2
2.1.1 Education and skills input		97	2	▲	1
2.1.1.1 Government education spendings (% of GDP)	5.0	46	50	▲	8
2.1.1.2 Tertiary public education spendings (% of gov.exp)	27.5	55	26	▲	6
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	18 369	89	4	▲	1
2.1.1.4 Years of schooling	13.8	97	5	▲	1
2.1.1.5 Staff training (1-7 survey)	5.8	97	2	●	0
2.1.2 Education and skills output		89	4	▲	7
2.1.2.1 Tertiary attainment rate (% of pop 25+)	35.0	75	3	●	0
2.1.2.2 PISA score	495	67	22	▲	3
2.1.2.3 Skillset of graduates (1-7 survey)	5.9	97	2	▲	12
2.1.2.4 Skilled labour supply (1-7 survey)	5.8	100	1	●	0
2.1.2.5 Vocational enrollment (% of students)	n/a	n/a	n/a		
2.1.2.6 Vocational enrollment of 15-24 olds (%)	1.3	5	94	●	0
2.1.2.7 Quality of vocational education (1-7 survey)	5.7	81	2	▲	5
2.1.2.8 STEM graduates (%)	17.9	30	83	▲	9
2.1.2.9 Digital skills (1-7 survey)	5.8	100	2	▼	-1
2.1.2.10 Critical thinking (1-7 survey)	5.7	100	1	▲	5
2.2 Employment		64	14	▲	2
2.2.1 Employment input		48	73	▲	15
2.2.1.1 Hiring and firing practices (1-7 survey)	5.6	99	2	▲	6
2.2.1.2 Worker's rights (1-7 score)	67.0	30	83	▼	-18
2.2.1.3 Hiring of foreign labour (1-7 survey)	5.0	79	7	▲	15
2.2.1.4 Tax wedge (% of labour cost)	29.6	56	8	▲	2
2.2.1.5 ALP spendings (% of GDP)	0.2	9	33	●	0
2.2.2 Employment output		77	8	▲	2
2.2.2.1 Women in labour force (% female-male)	82.2	74	55	▼	-2
2.2.2.2 Gender pay gap (% of employees)	18.2	41	37	▼	-5
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	5.8	93	3	●	0
2.2.2.4 Knowledge insentive employment (%)	38.0	61	26	▲	4

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	114 990	79	10	▼	-2
2.2.2.6 ALP effectiveness (1-7 survey)	5.7	98	2	▲	7
2.2.2.7 Labour-employer cooperation (1-7 survey)	5.7	86	6	▲	33
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.9	69	13	▲	25
2.2.2.9 Earnings quality (PPP)	17.6	55	16	▲	1
2.2.2.10 Quality of the working environment (%)	83.1	65	17	▼	-6
2.3 Innovation		91	2	▲	2
2.3.1 Innovation input		95	6	▲	2
2.3.1.1 R&D spendings (% of GDP)	2.8	100	1	▲	9
2.3.1.2 IPR score	8.1	91	14	▲	2
2.3.2 Innovation output		85	5	▼	-1
2.3.2.1 Trademark applications per th. pop.	1.4	44	40	▲	14
2.3.2.2 Patent applications per th. pop.	1.86	100	1	●	0
2.3.2.3 R&D journals per th. pop.	1.25	63	21	▼	-2
2.3.2.4 Researchers in R&D per mln.pop.	4 256	55	22	●	0
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	16.76	100	1	●	0
2.4 Technology		92	5	▲	4
2.4.1 Technology input		95	5	▲	1
2.4.1.1 ICT affordability	6.4	91	15	●	0
2.4.1.2 ICT access index	8.2	90	15	▼	-1
2.4.2 Technology output		80	8	▲	2
2.4.2.1 ICT goods and services export (% of exp.)	15.7	57	31	▲	8
2.4.2.2 Mobile broadband per 100 pop.	120.0	74	11	▼	-2
2.5 Entrepreneurship		87	4	▼	-1
2.5.1 Entrepreneurship input		80	30	▼	-10
2.5.1.1 Time dealing with gov. regulations (%)	n/a	n/a	n/a		
2.5.1.2 Time to start a business (days)	5.6	90	28	▼	-8
2.5.1.3 Procedures to register a business	6.0	61	56	▼	-18
2.5.1.4 Cost to start a business (% GNI per cap)	1.1	87	26	▼	-4
2.5.2 Entrepreneurship output		94	2	▲	1
2.5.2.1 Global Entrepreneurship Index	83.6	100	1	●	0
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	0.40	100	1	●	0
2.5.2.4 SME outstanding loans (% of loans)	17.9	21	38	▼	-5
2.5.2.5 Access to loans (1-7 survey)	5.5	97	2	▲	13
2.6 Statistics		86	33	●	0
2.6.1 Statistical fullness (%)	0.93	86	33	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

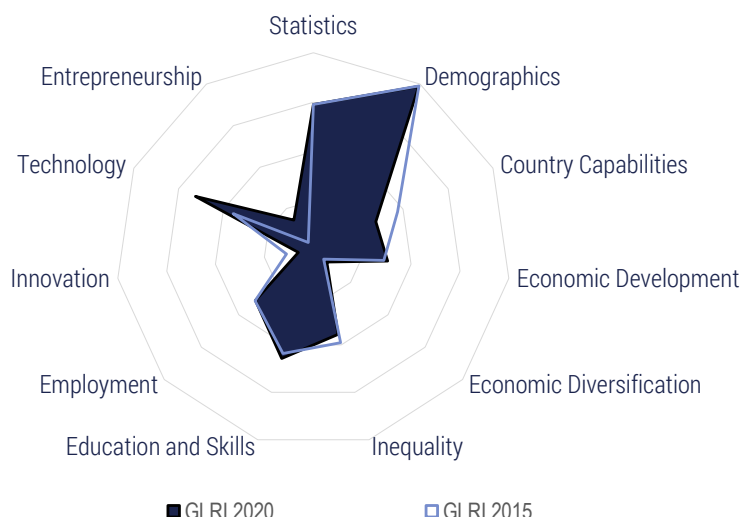## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**54**	**81**	▲	1
1.1 Demographics		49	106	▲	6
1.1.1 Share of older population (% of total population)	14.8	49	106	▲	6
1.2 Country Capabilities		53	53	●	0
1.2.1 Economic Complexity Index	0.2	53	53	●	0
1.3 Economic Development		53	49	▼	-4
1.3.1 Income per capita (PPP)	20 916	30	55	▼	-1
1.3.2 Dependence on natural resources (% of GDP)	1.6	74	65	▼	-15
1.3.3 Tertiarisation of economy (% of GDP)	60.8	72	39	▲	7
1.4 Economic Diversification		49	74	▼	-1
1.4.1 Concentration of exports	0.2	77	66	▲	1
1.4.2 Diversity	123	22	83	▼	-7
1.5 Inequality		57	82	▲	1
1.5.1 Income inequality	39.5	57	82	▲	1
2. Policy Pillar		**49**	**59**	▼	-3
2.1 Education and skills		44	77	▲	4
2.1.1 Education and skills input		49	75	▼	-5
2.1.1.1 Government education spendings (% of GDP)	4.9	45	53	▲	20
2.1.1.2 Tertiary public education spendings (% of gov.exp)	24.8	49	41	▼	-4
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	8.9	60	79	▼	-6
2.1.1.5 Staff training (1-7 survey)	3.6	36	90	▼	-2
2.1.2 Education and skills output		46	83	▲	6
2.1.2.1 Tertiary attainment rate (% of pop 25+)	11.5	25	63	▲	8
2.1.2.2 PISA score	424	40	49	▲	8
2.1.2.3 Skillset of graduates (1-7 survey)	4.1	50	65	▼	-31
2.1.2.4 Skilled labour supply (1-7 survey)	4.0	52	79	▼	-5
2.1.2.5 Vocational enrollment (% of students)	23.4	50	29	▲	10
2.1.2.6 Vocational enrollment of 15-24 olds (%)	10.7	37	45	▲	4
2.1.2.7 Quality of vocational education (1-7 survey)	4.4	50	44	▼	-13
2.1.2.8 STEM graduates (%)	17.5	29	86	▲	4
2.1.2.9 Digital skills (1-7 survey)	4.5	62	51	▼	-8
2.1.2.10 Critical thinking (1-7 survey)	2.9	26	111	▼	-18
2.2 Employment		49	45	▼	-1
2.2.1 Employment input		66	22	▼	-5
2.2.1.1 Hiring and firing practices (1-7 survey)	2.6	13	122	▼	-4
2.2.1.2 Worker's rights (1-7 score)	95.9	91	8	▲	1
2.2.1.3 Hiring of foreign labour (1-7 survey)	5.0	77	10	▲	9
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		33	88	●	0
2.2.2.1 Women in labour force (% female-male)	75.6	66	78	▲	7
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.0	34	98	▼	-1
2.2.2.4 Knowledge insentive employment (%)	20.9	33	71	▼	-3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	45 117	31	59	▲	4
2.2.2.6 ALP effectiveness (1-7 survey)	3.8	54	49	▼	-4
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.3	4	143	▼	-8
2.2.2.8 Impact of taxes on workers (1-7 survey)	2.6	12	139	▼	-24
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		30	57	▼	-3
2.3.1 Innovation input		37	51	▲	7
2.3.1.1 R&D spendings (% of GDP)	0.4	15	70	▲	9
2.3.1.2 IPR score	6.2	58	41	▼	-1
2.3.2 Innovation output		23	62	▼	-7
2.3.2.1 Trademark applications per th. pop.	1.6	51	30	▼	-8
2.3.2.2 Patent applications per th. pop.	0.15	51	30	▼	-7
2.3.2.3 R&D journals per th. pop.	0.23	13	53	▲	9
2.3.2.4 Researchers in R&D per mln.pop.	668	9	61	▲	1
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.01	1	101	▼	-1
2.4 Technology		62	54	▲	1
2.4.1 Technology input		74	52	▲	7
2.4.1.1 ICT affordability	4.8	65	85	▼	-4
2.4.1.2 ICT access index	7.2	77	36	▲	10
2.4.2 Technology output		47	61	▲	1
2.4.2.1 ICT goods and services export (% of exp.)	2.2	18	126	▼	-57
2.4.2.2 Mobile broadband per 100 pop.	102.0	63	18	▲	32
2.5 Entrepreneurship		48	83	▼	-22
2.5.1 Entrepreneurship input		50	120	▼	-35
2.5.1.1 Time dealing with gov. regulations (%)	19.2	33	100	▼	-21
2.5.1.2 Time to start a business (days)	6.5	88	36	▼	-15
2.5.1.3 Procedures to register a business	5.0	68	38	▼	-19
2.5.1.4 Cost to start a business (% GNI per cap)	22.5	47	105	▲	2
2.5.2 Entrepreneurship output		50	49	▲	14
2.5.2.1 Global Entrepreneurship Index	35.0	36	48	▼	-3
2.5.2.2 New corporate registrations per th. pop.	1.3	19	50	▼	-14
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	4.1	64	49	▲	33
2.6 Statistics		69	59	●	0
2.6.1 Statistical fullness (%)	0.85	69	59	●	0

Whiteshield Partners
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)
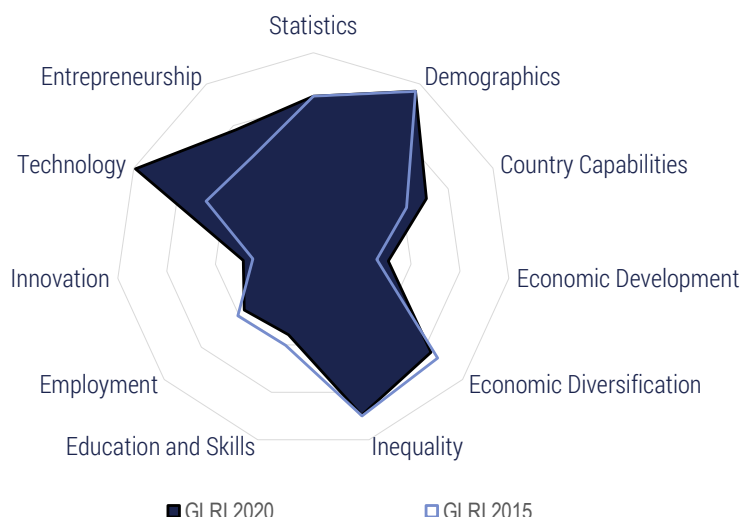

- ■ GLRI 2020   □ GLRI 2015

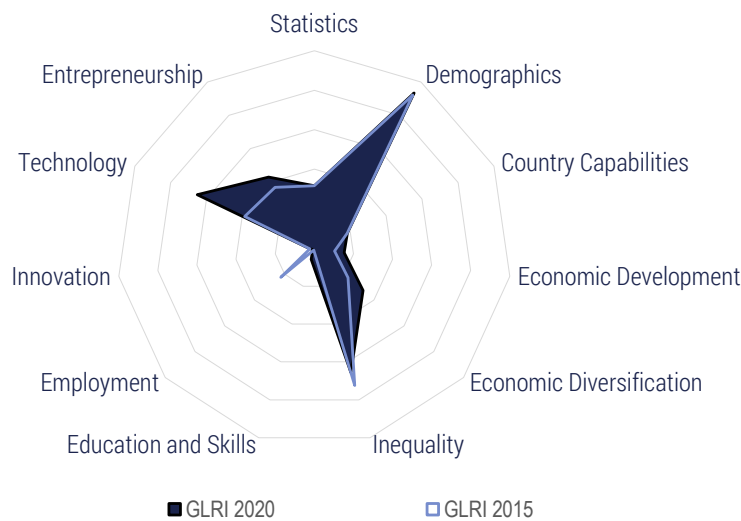## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**19**	**140**	▼	-2
1.1 Demographics		79	68	⬤	0
1.1.1 Share of older population (% of total population)	6.8	79	68	⬤	0
1.2 Country Capabilities		28	104	▼	-26
1.2.1 Economic Complexity Index	-0.9	28	104	▼	-26
1.3 Economic Development		30	105	▲	7
1.3.1 Income per capita (PPP)	17 131	25	61	▼	-5
1.3.2 Dependence on natural resources (% of GDP)	11.8	32	118	▲	7
1.3.3 Tertiarisation of economy (% of GDP)	51.7	58	92	▲	18
1.4 Economic Diversification		7	140	⬤	0
1.4.1 Concentration of exports	0.7	9	140	▼	-1
1.4.2 Diversity	40	6	131	▲	6
1.5 Inequality		35	117	▼	-2
1.5.1 Income inequality	46.9	35	117	▼	-2
2. Policy Pillar		**29**	**115**	▲	5
2.1 Education and skills		46	70	▼	-1
2.1.1 Education and skills input		55	47	▲	13
2.1.1.1 Government education spendings (% of GDP)	6.9	68	10	▲	1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	22.6	44	54	▲	4
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	10.3	70	58	▲	13
2.1.1.5 Staff training (1-7 survey)	3.4	29	113	▼	-14
2.1.2 Education and skills output		43	92	▼	-8
2.1.2.1 Tertiary attainment rate (% of pop 25+)	25.1	54	21	▲	17
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.8	43	89	▼	-26
2.1.2.4 Skilled labour supply (1-7 survey)	3.2	32	129	▼	-13
2.1.2.5 Vocational enrollment (% of students)	5.4	12	95	▼	-1
2.1.2.6 Vocational enrollment of 15-24 olds (%)	2.0	8	87	▼	-5
2.1.2.7 Quality of vocational education (1-7 survey)	3.8	35	86	▼	-10
2.1.2.8 STEM graduates (%)	26.4	46	31	▼	-3
2.1.2.9 Digital skills (1-7 survey)	3.6	40	101	▼	-13
2.1.2.10 Critical thinking (1-7 survey)	3.0	31	96	▼	-9
2.2 Employment		31	109	▲	7
2.2.1 Employment input		52	47	▲	36
2.2.1.1 Hiring and firing practices (1-7 survey)	1.6	1	145	⬤	0
2.2.1.2 Worker's rights (1-7 score)	77.3	52	43	▲	14
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.9	48	83	▲	8
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		17	140	▼	-12
2.2.2.1 Women in labour force (% female-male)	61.9	49	112	▼	-9
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	1.4	1	144	⬤	0
2.2.2.4 Knowledge insentive employment (%)	19.2	31	80	▼	-22

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	27 550	19	84	▼	-23
2.2.2.6 ALP effectiveness (1-7 survey)	1.7	5	133	▼	-5
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.5	12	133	▲	11
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.7	38	89	▼	-9
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		6	134	▼	-14
2.3.1 Innovation input		5	129	▼	-7
2.3.1.1 R&D spendings (% of GDP)	0.1	5	106	▼	-26
2.3.1.2 IPR score	3.0	5	124	▼	-1
2.3.2 Innovation output		7	103	▼	-12
2.3.2.1 Trademark applications per th. pop.	0.8	25	71	▼	-5
2.3.2.2 Patent applications per th. pop.	0.02	6	97	▼	-32
2.3.2.3 R&D journals per th. pop.	0.03	2	95	▼	-8
2.3.2.4 Researchers in R&D per mln.pop.	284	4	74	▼	-7
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	126	▼	-1
2.4 Technology		52	78	▲	10
2.4.1 Technology input		69	66	▼	-5
2.4.1.1 ICT affordability	5.8	81	48	▲	4
2.4.1.2 ICT access index	5.2	51	74		
2.4.2 Technology output		35	100	▲	19
2.4.2.1 ICT goods and services export (% of exp.)	8.0	34	72	▲	31
2.4.2.2 Mobile broadband per 100 pop.	44.6	28	93	▲	4
2.5 Entrepreneurship		15	144	⬤	0
2.5.1 Entrepreneurship input		1	145	⬤	0
2.5.1.1 Time dealing with gov. regulations (%)	27.6	4	112	⬤	0
2.5.1.2 Time to start a business (days)	230.0	1	137	⬤	0
2.5.1.3 Procedures to register a business	20.0	1	144	⬤	0
2.5.1.4 Cost to start a business (% GNI per cap)	351.6	1	137	▼	-2
2.5.2 Entrepreneurship output		36	93	▲	27
2.5.2.1 Global Entrepreneurship Index	13.8	7	117	▼	-7
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.9	58	70	▲	39
2.6 Statistics		59	95	⬤	0
2.6.1 Statistical fullness (%)	0.80	59	95	⬤	0

Vietnam

Global Labour Resilience Index 2020

GLRI 2015 Rank 69 ⬆

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Statistics, Demographics, Country Capabilities, Economic Development, Economic Diversification, Inequality, Education and Skills, Employment, Innovation, Technology, Entrepreneurship
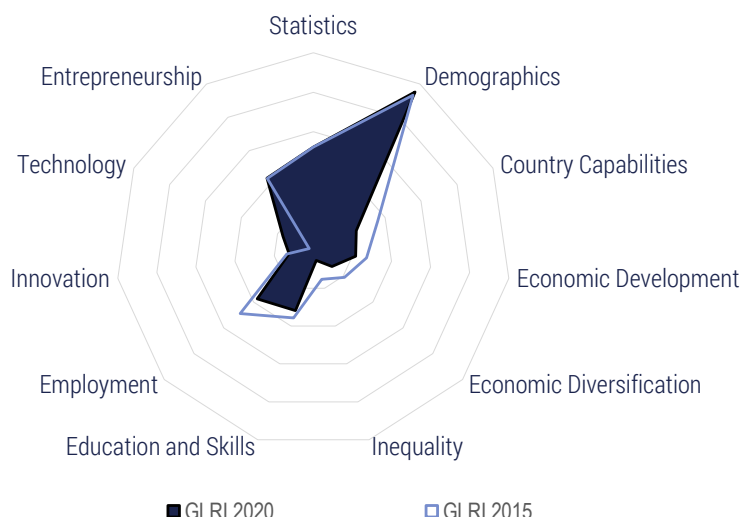
■ GLRI 2020   ☐ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**66**	**59**	●	0
1.1 Demographics		77	77	●	0
1.1.1 Share of older population (% of total population)	7.4	77	77	●	0
1.2 Country Capabilities		50	59	▲	13
1.2.1 Economic Complexity Index	0.1	50	59	▲	13
1.3 Economic Development		31	103	▲	19
1.3.1 Income per capita (PPP)	6 609	10	105	▲	2
1.3.2 Dependence on natural resources (% of GDP)	2.9	64	78	▲	14
1.3.3 Tertiarisation of economy (% of GDP)	41.2	43	130	▼	-3
1.4 Economic Diversification		63	40	▼	-2
1.4.1 Concentration of exports	0.2	82	49	▼	-4
1.4.2 Diversity	240	44	37	▼	-5
1.5 Inequality		70	52	▲	2
1.5.1 Income inequality	35.3	70	52	▲	2
2. Policy Pillar		**49**	**61**	▲	11
2.1 Education and skills		36	98	▼	-12
2.1.1 Education and skills input		37	107	▼	-8
2.1.1.1 Government education spendings (% of GDP)	4.3	39	71	▼	-41
2.1.1.2 Tertiary public education spendings (% of gov.exp)	15.0	27	104	▲	5
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	3 287	16	62	▼	-3
2.1.1.4 Years of schooling	7.6	49	93	▼	-4
2.1.1.5 Staff training (1-7 survey)	3.7	39	78	▼	-11
2.1.2 Education and skills output		43	93	▼	-24
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	502	70	15	▼	-5
2.1.2.3 Skillset of graduates (1-7 survey)	3.3	30	127	▼	-26
2.1.2.4 Skilled labour supply (1-7 survey)	3.7	44	101	▼	-11
2.1.2.5 Vocational enrollment (% of students)	n/a	n/a	n/a		
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	3.5	28	112	▼	-10
2.1.2.8 STEM graduates (%)	22.7	39	55	▼	-11
2.1.2.9 Digital skills (1-7 survey)	3.7	41	96	▼	-17
2.1.2.10 Critical thinking (1-7 survey)	2.9	27	110	▼	-30
2.2 Employment		37	85	▲	3
2.2.1 Employment input		44	86	▼	-15
2.2.1.1 Hiring and firing practices (1-7 survey)	4.1	54	45	▲	24
2.2.1.2 Worker's rights (1-7 score)	68.0	32	81	▼	-1
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.8	45	94	▼	-26
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		35	86	▲	5
2.2.2.1 Women in labour force (% female-male)	88.1	81	27	▼	-3
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.5	44	60	▲	24
2.2.2.4 Knowledge insentive employment (%)	10.3	16	104	▲	3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	11 142	8	114	▲	4
2.2.2.6 ALP effectiveness (1-7 survey)	3.0	36	76	▼	-17
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.2	33	93	▼	-32
2.2.2.8 Impact of taxes on workers (1-7 survey)	4.0	47	61	▲	33
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		29	62	▲	4
2.3.1 Innovation input		30	74	▲	18
2.3.1.1 R&D spendings (% of GDP)	0.5	19	62	▲	13
2.3.1.2 IPR score	5.1	40	74	▲	12
2.3.2 Innovation output		27	55	▲	2
2.3.2.1 Trademark applications per th. pop.	0.5	17	86	▲	10
2.3.2.2 Patent applications per th. pop.	0.06	19	58	▲	11
2.3.2.3 R&D journals per th. pop.	0.03	3	94	▲	6
2.3.2.4 Researchers in R&D per mln.pop.	701	10	58	▼	-2
2.3.2.5 Technicians in R&D per mln.pop.	71	4	66	●	0
2.3.2.6 Creative goods exports (% of goods exp.)	1.74	51	29	●	0
2.4 Technology		79	13	▲	45
2.4.1 Technology input		73	56	▲	11
2.4.1.1 ICT affordability	6.8	98	3	▲	35
2.4.1.2 ICT access index	4.4	42	93		
2.4.2 Technology output		79	9	▲	48
2.4.2.1 ICT goods and services export (% of exp.)	31.2	100	1	▲	48
2.4.2.2 Mobile broadband per 100 pop.	46.6	29	88	▼	-21
2.5 Entrepreneurship		58	54	▲	25
2.5.1 Entrepreneurship input		77	41	▲	18
2.5.1.1 Time dealing with gov. regulations (%)	1.7	94	12	▲	26
2.5.1.2 Time to start a business (days)	17.0	67	95	▲	18
2.5.1.3 Procedures to register a business	8.0	45	92	●	0
2.5.1.4 Cost to start a business (% GNI per cap)	6.5	66	64	▼	-13
2.5.2 Entrepreneurship output		43	71	▲	34
2.5.2.1 Global Entrepreneurship Index	23.2	20	82	●	0
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.9	59	69	▲	41
2.6 Statistics		62	79	●	0
2.6.1 Statistical fullness (%)	0.81	62	79	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Yemen, Rep.

Global Labour Resilience Index 2020

136

GLRI 2015 Rank 139 ⬆

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

Legend: ■ GLRI 2020 □ GLRI 2015

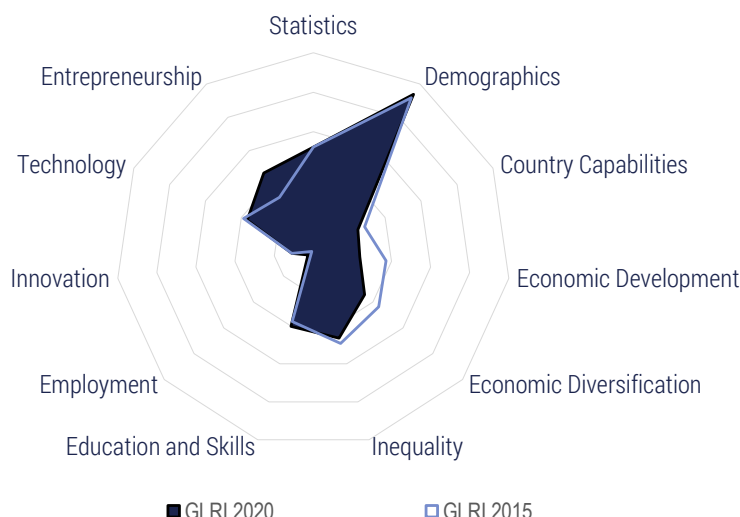## Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**38**	**121**	▲	10
1.1 Demographics		93	18	●	0
1.1.1 Share of older population (% of total population)	2.9	93	18	●	0
1.2 Country Capabilities		18	117	▼	-3
1.2.1 Economic Complexity Index	-1.4	18	117	▼	-3
1.3 Economic Development		15	132	▲	10
1.3.1 Income per capita (PPP)	2 285	3	129	▼	-16
1.3.2 Dependence on natural resources (% of GDP)	1.9	71	71	▲	51
1.3.3 Tertiarisation of economy (% of GDP)	13.5	1	145	▼	-1
1.4 Economic Diversification		33	112	▲	14
1.4.1 Concentration of exports	0.4	57	106	▲	21
1.4.2 Diversity	57	9	119	▲	3
1.5 Inequality		66	67	▼	-19
1.5.1 Income inequality	36.7	66	67	▼	-19
2. Policy Pillar		**16**	**140**	●	0
2.1 Education and skills		6	143	▲	2
2.1.1 Education and skills input		7	143	▼	-1
2.1.1.1 Government education spendings (% of GDP)	5.2	48	45	▲	1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	n/a	n/a	n/a		
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	81	1	75	●	0
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	2.6	6	135	▼	-1
2.1.2 Education and skills output		16	142	▲	2
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	2.7	13	138	▼	-1
2.1.2.4 Skilled labour supply (1-7 survey)	3.4	36	117	▲	3
2.1.2.5 Vocational enrollment (% of students)	0.3	1	136	▼	-3
2.1.2.6 Vocational enrollment of 15-24 olds (%)	0.2	2	113	▼	-1
2.1.2.7 Quality of vocational education (1-7 survey)	2.5	6	136	●	0
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	2.9	21	131	▲	4
2.1.2.10 Critical thinking (1-7 survey)	2.3	13	131	▲	4
2.2 Employment		1	145	▼	-9
2.2.1 Employment input		20	137	▼	-72
2.2.1.1 Hiring and firing practices (1-7 survey)	2.7	15	120	▼	-54
2.2.1.2 Worker's rights (1-7 score)	n/a	n/a	n/a		
2.2.1.3 Hiring of foreign labour (1-7 survey)	3.5	36	111	▼	-28
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		1	145	●	0
2.2.2.1 Women in labour force (% female-male)	8.4	1	143	●	0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.1	15	137	▼	-6
2.2.2.4 Knowledge insentive employment (%)	17.0	27	90	▼	-2

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	5 930	4	126	▼	-36
2.2.2.6 ALP effectiveness (1-7 survey)	1.8	8	130	▲	1
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.8	21	120	▼	-36
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.5	32	104	▲	18
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		2	140	●	0
2.3.1 Innovation input		2	135	●	0
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a		
2.3.1.2 IPR score	2.8	2	125	●	0
2.3.2 Innovation output		3	119	▲	1
2.3.2.1 Trademark applications per th. pop.	0.2	6	110	▲	1
2.3.2.2 Patent applications per th. pop.	0.00	1	120	▼	-11
2.3.2.3 R&D journals per th. pop.	0.00	1	133	▼	-6
2.3.2.4 Researchers in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.5 Technicians in R&D per mln.pop.	n/a	n/a	n/a		
2.3.2.6 Creative goods exports (% of goods exp.)	n/a	n/a	n/a		
2.4 Technology		65	41	▲	39
2.4.1 Technology input		65	76	▼	-25
2.4.1.1 ICT affordability	4.7	63	89	●	0
2.4.1.2 ICT access index	n/a	n/a	n/a		
2.4.2 Technology output		62	26	▲	86
2.4.2.1 ICT goods and services export (% of exp.)	30.1	98	8	▲	73
2.4.2.2 Mobile broadband per 100 pop.	6.0	5	141	▼	-15
2.5 Entrepreneurship		43	106	▲	8
2.5.1 Entrepreneurship input		65	84	▼	-14
2.5.1.1 Time dealing with gov. regulations (%)	1.9	94	15	▲	1
2.5.1.2 Time to start a business (days)	40.5	21	132	▼	-10
2.5.1.3 Procedures to register a business	6.0	61	56	▼	-18
2.5.1.4 Cost to start a business (% GNI per cap)	73.5	27	132	●	0
2.5.2 Entrepreneurship output		26	126	▲	7
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a		
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a		
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	2.4	24	135	▼	-5
2.6 Statistics		32	136	●	0
2.6.1 Statistical fullness (%)	0.66	32	136	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
1. Structural Pillar		**10**	**144**	▽	**-7**
1.1 Demographics		95	9	▲	4
1.1.1 Share of older population (% of total population)	2.5	95	9	▲	4
1.2 Country Capabilities		24	112	▽	-30
1.2.1 Economic Complexity Index	-1.1	24	112	▽	-30
1.3 Economic Development		22	122	▽	-5
1.3.1 Income per capita (PPP)	3 748	5	116	●	0
1.3.2 Dependence on natural resources (% of GDP)	15.9	25	123	▽	-4
1.3.3 Tertiarisation of economy (% of GDP)	54.1	62	78	▽	-2
1.4 Economic Diversification		13	137	▽	-9
1.4.1 Concentration of exports	0.7	16	137	▽	-8
1.4.2 Diversity	58	9	118	▽	-19
1.5 Inequality		5	131	▽	-1
1.5.1 Income inequality	57.1	5	131	▽	-1
2. Policy Pillar		**26**	**122**	▽	**-10**
2.1 Education and skills		32	110	▽	-15
2.1.1 Education and skills input		24	129	▽	-12
2.1.1.1 Government education spendings (% of GDP)	1.1	1	140	▽	-2
2.1.1.2 Tertiary public education spendings (% of gov.exp)	25.8	51	36	▲	9
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a		
2.1.1.4 Years of schooling	n/a	n/a	n/a		
2.1.1.5 Staff training (1-7 survey)	3.5	32	103	▽	-16
2.1.2 Education and skills output		48	73	▽	-19
2.1.2.1 Tertiary attainment rate (% of pop 25+)	n/a	n/a	n/a		
2.1.2.2 PISA score	n/a	n/a	n/a		
2.1.2.3 Skillset of graduates (1-7 survey)	3.9	44	80	▽	-16
2.1.2.4 Skilled labour supply (1-7 survey)	4.6	70	35	▲	2
2.1.2.5 Vocational enrollment (% of students)	n/a	n/a	n/a		
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a		
2.1.2.7 Quality of vocational education (1-7 survey)	3.7	34	93	▽	-19
2.1.2.8 STEM graduates (%)	n/a	n/a	n/a		
2.1.2.9 Digital skills (1-7 survey)	3.7	41	97	▲	5
2.1.2.10 Critical thinking (1-7 survey)	2.9	27	107	▽	-38
2.2 Employment		38	83	▽	-24
2.2.1 Employment input		51	52	▽	-14
2.2.1.1 Hiring and firing practices (1-7 survey)	3.8	45	68	▽	-49
2.2.1.2 Worker's rights (1-7 score)	71.1	38	59	▲	30
2.2.1.3 Hiring of foreign labour (1-7 survey)	4.5	62	38	▽	-11
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a		
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a		
2.2.2 Employment output		29	107	▽	-20
2.2.2.1 Women in labour force (% female-male)	88.7	82	24	▲	6
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a		
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	3.4	42	69	▽	-6
2.2.2.4 Knowledge insentive employment (%)	7.3	12	109	▲	3

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020	
2.2.2.5 Labour productivity (PPP)	9 652	7	117	▽	-3
2.2.2.6 ALP effectiveness (1-7 survey)	2.2	18	113	▽	-16
2.2.2.7 Labour-employer cooperation (1-7 survey)	3.8	21	119	▽	-54
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.7	39	87	▽	-54
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a		
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a		
2.3 Innovation		12	114	▽	-2
2.3.1 Innovation input		22	98	▽	-5
2.3.1.1 R&D spendings (% of GDP)	0.3	10	84	▲	1
2.3.1.2 IPR score	4.7	34	89	▽	-13
2.3.2 Innovation output		3	120	▽	-2
2.3.2.1 Trademark applications per th. pop.	0.2	7	109	▽	-5
2.3.2.2 Patent applications per th. pop.	0.00	1	117	▽	-6
2.3.2.3 R&D journals per th. pop.	0.01	1	118	▲	3
2.3.2.4 Researchers in R&D per mln.pop.	41	1	102	●	0
2.3.2.5 Technicians in R&D per mln.pop.	63	4	70	▽	-2
2.3.2.6 Creative goods exports (% of goods exp.)	0.00	1	119	▽	-20
2.4 Technology		17	140	▲	4
2.4.1 Technology input		21	134	●	0
2.4.1.1 ICT affordability	2.5	27	136	▽	-6
2.4.1.2 ICT access index	2.5	17	121	▲	9
2.4.2 Technology output		19	133	▲	8
2.4.2.1 ICT goods and services export (% of exp.)	2.1	17	131	▲	8
2.4.2.2 Mobile broadband per 100 pop.	32.2	21	105	▲	14
2.5 Entrepreneurship		43	101	▽	-10
2.5.1 Entrepreneurship input		64	85	▽	-4
2.5.1.1 Time dealing with gov. regulations (%)	8.8	70	64	▲	4
2.5.1.2 Time to start a business (days)	8.5	84	50	▽	-14
2.5.1.3 Procedures to register a business	7.0	53	70	▽	-15
2.5.1.4 Cost to start a business (% GNI per cap)	34.2	40	115	●	0
2.5.2 Entrepreneurship output		28	125	▽	-28
2.5.2.1 Global Entrepreneurship Index	19.6	15	94	▲	14
2.5.2.2 New corporate registrations per th. pop.	0.5	8	74	▽	-5
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a		
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a		
2.5.2.5 Access to loans (1-7 survey)	3.1	41	115	▽	-40
2.6 Statistics		52	112	●	0
2.6.1 Statistical fullness (%)	0.76	52	112	●	0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Breakdown of Global Labour Resilience Results by Sub-Pillar Score (1-100)

- Statistics
- Entrepreneurship
- Technology
- Innovation
- Employment
- Education and Skills
- Demographics
- Country Capabilities
- Economic Development
- Economic Diversification
- Inequality

■ GLRI 2020   □ GLRI 2015

Breakdown of Global Labour Resilience Results by Indicator

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
1. Structural Pillar		38	123	▼ -33
1.1 Demographics		94	17	▲ 4
1.1.1 Share of older population (% of total population)	2.8	94	17	▲ 4
1.2 Country Capabilities		25	108	▼ -11
1.2.1 Economic Complexity Index	-1.1	25	108	▼ -11
1.3 Economic Development		24	118	▼ -27
1.3.1 Income per capita (PPP)	2 688	4	127	▼ -2
1.3.2 Dependence on natural resources (% of GDP)	7.0	45	104	▼ -11
1.3.3 Tertiarisation of economy (% of GDP)	45.7	49	116	▼ -65
1.4 Economic Diversification		34	105	▼ -21
1.4.1 Concentration of exports	0.4	54	112	▼ -31
1.4.2 Diversity	86	15	101	▼ -11
1.5 Inequality		46	101	▼ -2
1.5.1 Income inequality	43.2	46	101	▼ -2
2. Policy Pillar		25	127	▲ 2
2.1 Education and skills		40	89	▲ 2
2.1.1 Education and skills input		47	80	▲ 4
2.1.1.1 Government education spendings (% of GDP)	6.1	59	23	▲ 1
2.1.1.2 Tertiary public education spendings (% of gov.exp)	16.8	31	91	▼ -2
2.1.1.3 Gov. and hh spending per tertiary student (PPP$)	n/a	n/a	n/a	
2.1.1.4 Years of schooling	8.5	56	85	● 0
2.1.1.5 Staff training (1-7 survey)	3.7	37	84	▲ 2
2.1.2 Education and skills output		41	100	● 0
2.1.2.1 Tertiary attainment rate (% of pop 25+)	3.3	8	87	▼ -3
2.1.2.2 PISA score	n/a	n/a	n/a	
2.1.2.3 Skillset of graduates (1-7 survey)	3.9	46	78	▲ 3
2.1.2.4 Skilled labour supply (1-7 survey)	4.2	57	62	▼ -6
2.1.2.5 Vocational enrollment (% of students)	n/a	n/a	n/a	
2.1.2.6 Vocational enrollment of 15-24 olds (%)	n/a	n/a	n/a	
2.1.2.7 Quality of vocational education (1-7 survey)	3.5	28	113	▲ 1
2.1.2.8 STEM graduates (%)	30.2	54	15	▲ 26
2.1.2.9 Digital skills (1-7 survey)	3.8	44	91	▼ -9
2.1.2.10 Critical thinking (1-7 survey)	3.1	33	89	▲ 9
2.2 Employment		4	144	▲ 1
2.2.1 Employment input		1	140	● 0
2.2.1.1 Hiring and firing practices (1-7 survey)	2.6	12	123	▲ 4
2.2.1.2 Worker's rights (1-7 score)	62.9	21	90	▲ 4
2.2.1.3 Hiring of foreign labour (1-7 survey)	2.3	1	137	● 0
2.2.1.4 Tax wedge (% of labour cost)	n/a	n/a	n/a	
2.2.1.5 ALP spendings (% of GDP)	n/a	n/a	n/a	
2.2.2 Employment output		24	126	● 0
2.2.2.1 Women in labour force (% female-male)	88.3	82	26	● 0
2.2.2.2 Gender pay gap (% of employees)	n/a	n/a	n/a	
2.2.2.3 Capacity to attract and retain talent (1-7 survey)	2.3	20	132	▼ -37
2.2.2.4 Knowledge insentive employment (%)	6.6	10	112	▼ -1

Variable	Value	Score	GLRI 2020 rank	Rank change GLRI 2015-2020
2.2.2.5 Labour productivity (PPP)	3 993	3	135	▼ -1
2.2.2.6 ALP effectiveness (1-7 survey)	1.6	3	135	● 0
2.2.2.7 Labour-employer cooperation (1-7 survey)	4.1	29	101	▲ 19
2.2.2.8 Impact of taxes on workers (1-7 survey)	3.9	43	75	▲ 14
2.2.2.9 Earnings quality (PPP)	n/a	n/a	n/a	
2.2.2.10 Quality of the working environment (%)	n/a	n/a	n/a	
2.3 Innovation		11	120	▼ -1
2.3.1 Innovation input		20	108	▼ -3
2.3.1.1 R&D spendings (% of GDP)	n/a	n/a	n/a	
2.3.1.2 IPR score	3.8	19	118	▲ 1
2.3.2 Innovation output		2	124	▼ -5
2.3.2.1 Trademark applications per th. pop.	0.1	5	116	▼ -1
2.3.2.2 Patent applications per th. pop.	0.00	1	121	▼ -22
2.3.2.3 R&D journals per th. pop.	0.02	2	100	▲ 6
2.3.2.4 Researchers in R&D per mln.pop.	89	2	89	● 0
2.3.2.5 Technicians in R&D per mln.pop.	10	1	99	● 0
2.3.2.6 Creative goods exports (% of goods exp.)	0.01	1	99	▼ -1
2.4 Technology		37	110	▼ -32
2.4.1 Technology input		35	120	▼ -38
2.4.1.1 ICT affordability	3.8	47	113	▼ -104
2.4.1.2 ICT access index	2.9	22	114	▼ -1
2.4.2 Technology output		41	82	▼ -2
2.4.2.1 ICT goods and services export (% of exp.)	12.4	47	44	▲ 53
2.4.2.2 Mobile broadband per 100 pop.	38.1	24	97	▼ -45
2.5 Entrepreneurship		46	88	▲ 36
2.5.1 Entrepreneurship input		60	92	▲ 18
2.5.1.1 Time dealing with gov. regulations (%)	3.2	89	26	▼ -5
2.5.1.2 Time to start a business (days)	32.0	38	120	▲ 17
2.5.1.3 Procedures to register a business	9.0	37	112	● 0
2.5.1.4 Cost to start a business (% GNI per cap)	110.0	21	133	● 0
2.5.2 Entrepreneurship output		38	85	▲ 38
2.5.2.1 Global Entrepreneurship Index	n/a	n/a	n/a	
2.5.2.2 New corporate registrations per th. pop.	n/a	n/a	n/a	
2.5.2.3 Venture capital investments (% of GDP)	n/a	n/a	n/a	
2.5.2.4 SME outstanding loans (% of loans)	n/a	n/a	n/a	
2.5.2.5 Access to loans (1-7 survey)	2.8	34	129	▼ -9
2.6 Statistics		52	112	● 0
2.6.1 Statistical fullness (%)	0.76	52	112	● 0

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

APPENDIX III: SELECTED DATA TABLES

Table 8: GLRI 2020 ranking for top 10 countries with evolution of GLRI 2019-2020

Country	GLRI 2020 Rank	GLRI2020 Score (1-100)	1. Structural Pillar Rank	Structural pillar score (1-100)	2. Policy Pillar Rank	Policy pillar score (1-100)	Trend 2019-2020
Switzerland	1	98	10	95	1	100	1
Singapore	2	97	6	97	2	97	-1
United States	3	95	9	95	4	94	0
Denmark	4	95	12	93	3	95	0
Netherlands	5	93	4	99	7	90	4
Sweden	6	93	8	95	5	91	0
Germany	7	91	1	100	10	86	0
Finland	8	90	21	87	6	91	-3
United Kingdom	9	90	15	92	8	88	3
Belgium	10	87	2	100	16	81	1

Note: Germany's rank change adjusted to take into account impact of adjustments in methodology between GLRI 2019 and GRLI2020

Source: Whiteshield Partners

Table 9: GLRI 2020 ranking with evolution of GLRI 2015-2020

Country	GLRI 2020 Rank	GLRI2020 Score (1-100)	1. Structural Pillar Rank	Structural pillar score (1-100)	2. Policy Pillar Rank	Policy pillar score (1-100)	Trend 2015-2020
Switzerland	1	98	10	95	1	100	2
Singapore	2	97	6	97	2	97	-1
United States	3	95	9	95	4	94	1
Denmark	4	95	12	93	3	95	1
Netherlands	5	93	4	99	7	90	2
Sweden	6	93	8	95	5	91	-4
Germany	7	91	1	100	10	86	1
Finland	8	90	21	87	6	91	-2
United Kingdom	9	90	15	92	8	88	0
Belgium	10	87	2	100	16	81	0
Luxembourg	11	87	5	99	18	81	0
Austria	12	85	3	100	22	78	3
Korea, Rep.	13	85	13	92	15	81	3
France	14	84	11	94	19	79	-1
Norway	15	82	43	74	9	87	-1
Israel	16	82	26	84	14	82	2
Ireland	17	82	18	88	20	79	-5
Japan	18	81	23	85	21	78	1
Iceland	19	80	38	76	13	82	1
Canada	20	80	36	78	17	81	-3
United Arab Emirates	21	78	31	81	23	77	12
Czech Republic	22	78	7	97	26	68	-1
New Zealand	23	76	60	63	12	83	-1
Estonia	24	76	35	78	24	74	1
Slovenia	25	74	14	92	32	65	-2
China	26	74	19	88	29	67	1
Australia	27	73	89	52	11	84	-3
Spain	28	73	24	84	28	67	-2
Malaysia	29	71	48	72	25	70	2
Italy	30	70	20	87	35	62	-2
Slovak Republic	31	70	17	89	37	61	1
Poland	32	70	16	90	41	59	-2
Portugal	33	69	45	73	27	67	-4
Malta	34	68	53	70	30	67	0
Lithuania	35	67	40	75	34	63	5
Bahrain	36	66	52	71	33	63	2
Cyprus	37	65	41	75	39	60	0
Hungary	38	65	27	83	44	56	-3
Latvia	39	65	47	72	36	62	-3
Thailand	40	62	32	79	45	54	1
Qatar	41	62	80	56	31	65	-2

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Country	GLRI 2020 Rank	GLRI2020 Score (1-100)	1. Structural Pillar Rank	Structural pillar score (1-100)	2. Policy Pillar Rank	Policy pillar score (1-100)	Trend 2015-2020
Serbia	42	61	39	76	47	53	3
Turkey	43	61	25	84	57	49	1
Romania	44	59	44	73	49	52	6
Jordan	45	59	30	81	65	47	1
India	46	58	29	81	68	47	-3
Mauritius	47	58	54	70	50	52	-5
Moldova	48	57	42	74	60	49	0
Lebanon	49	57	22	85	76	42	3
Russian Federation	50	57	92	50	40	60	-3
Mexico	51	56	46	72	62	48	4
Croatia	52	56	37	78	73	45	-1
Oman	53	56	88	52	42	57	13
Costa Rica	54	55	82	54	43	56	4
Ukraine	55	55	50	71	66	47	-6
Montenegro	56	55	61	63	54	51	0
Bulgaria	57	55	62	63	53	51	0
Vietnam	58	55	59	66	61	49	11
Indonesia	59	54	57	68	64	48	0
Kazakhstan	60	54	77	57	51	52	3
Georgia	61	54	87	52	46	54	-1
Philippines	62	53	49	72	74	44	3
Chile	63	53	125	37	38	61	-9
Greece	64	53	67	60	56	49	-11
Nepal	65	53	28	82	87	38	3
Albania	66	52	68	59	58	49	1
Egypt, Arab Rep.	67	52	34	78	85	38	6
Uruguay	68	51	81	54	59	49	-6
Tunisia	69	50	33	78	91	36	9
Armenia	70	49	85	53	63	48	-6
Brunei Darussalam	71	49	106	46	52	51	19
Kuwait	72	49	79	56	71	46	8
South Africa	73	49	104	46	55	50	-3
Azerbaijan	74	48	122	38	48	53	-3
Saudi Arabia	75	48	93	49	67	47	-1
Panama	76	47	66	60	78	40	-15
Macedonia, FYR	77	46	69	59	79	40	-5
Pakistan	78	46	51	71	100	33	-3
Kenya	79	46	70	59	83	39	0
Rwanda	80	46	100	47	72	45	6
Morocco	81	45	76	57	82	39	-4
El Salvador	82	45	56	68	98	34	1
Argentina	83	45	73	58	84	39	-1
Sri Lanka	84	45	63	62	90	37	0
Bosnia and Herzegovina	85	45	58	67	99	33	-4
Kyrgyz Republic	86	45	55	69	102	33	3
Dominican Republic	87	44	74	57	88	37	1
Jamaica	88	44	120	39	70	46	6
Brazil	89	43	96	48	77	41	-13
Trinidad and Tobago	90	42	102	46	80	40	5
Guatemala	91	42	72	58	96	34	2
Ghana	92	42	132	33	69	46	0
Barbados	93	41	65	61	109	31	3
Bangladesh	94	41	71	58	107	32	9
Cabo Verde	95	41	83	53	95	34	-4
Gambia, The	96	40	64	61	112	30	10
Paraguay	97	40	115	41	81	40	5
Honduras	98	40	101	47	89	37	6
Colombia	99	40	111	43	86	38	0
Seychelles	100	40	84	53	101	33	-3
Senegal	101	39	78	56	110	31	-16
Peru	102	38	108	45	94	35	5
Botswana	103	38	136	27	75	43	8
Sierra Leone	104	38	75	57	119	28	16
Uganda	105	37	99	47	106	32	-18

Country	GLRI 2020 Rank	GLRI2020 Score (1-100)	1. Structural Pillar Rank	Structural pillar score (1-100)	2. Policy Pillar Rank	Policy pillar score (1-100)	Trend 2015-2020
Iran, Islamic Rep.	106	37	110	43	97	34	7
Mongolia	107	37	114	41	92	35	-7
Algeria	108	37	103	46	105	32	18
Liberia	109	36	109	44	103	32	-11
Tajikistan	110	36	90	52	117	28	-5
Cote d'Ivoire	111	35	107	45	113	29	-10
Lao PDR	112	35	98	48	118	28	5
Namibia	113	34	130	33	93	35	1
Nicaragua	114	33	116	41	114	29	-6
Tanzania	115	33	91	50	130	24	-3
Burundi	116	33	97	48	126	25	6
Ecuador	117	32	128	34	108	32	4
Cambodia	118	32	105	46	129	25	7
Guinea	119	31	135	28	104	32	-9
Mali	120	31	112	43	128	25	-11
Bhutan	121	30	86	53	136	19	11
Ethiopia	122	30	124	37	121	27	1
Malawi	123	30	127	34	120	28	1
Bolivia	124	29	133	31	116	29	9
Zimbabwe	125	29	123	38	127	25	-9
Cameroon	126	29	126	36	124	25	-7
Benin	127	29	118	41	132	23	-9
Lesotho	128	28	129	34	125	25	-13
Nigeria	129	27	139	21	111	31	-1
Myanmar	130	27	94	49	139	16	12
Belize	131	26	95	49	141	15	-4
Mauritania	132	26	119	39	135	20	5
Venezuela, RB	133	25	140	19	115	29	1
Gabon	134	24	131	33	134	20	10
Burkina Faso	135	24	137	27	133	22	1
Yemen, Rep.	136	23	121	38	140	16	3
Mozambique	137	23	141	19	123	26	-8
Madagascar	138	21	117	41	142	12	-7
Congo, Dem. Rep.	139	21	142	17	131	24	-4
Zambia	140	20	144	10	122	26	-10
Chad	141	20	138	24	137	18	-1
Guyana	142	18	134	31	143	11	-1
Haiti	143	15	113	43	145	1	-5
Angola	144	13	143	16	144	11	1
Suriname	145	12	145	1	138	17	-2

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Table 10: GLRI 2020 structural pillar scores and ranks

Countries	1. Structural pillar	1. Rank	1.1 Demographics	1.1 Rank	1.2 Country Capabilities	1.2 Rank	1.3 Economic Development	1.3 Rank	1.4 Economic Diversification	1.4 Rank	1.5 Inequality	1.5 Rank
Germany	100	1	23	142	92	3	77	13	96	3	80	25
Belgium	100	2	34	124	75	19	80	9	87	10	92	12
Austria	100	3	32	128	86	8	77	12	89	9	84	21
Netherlands	99	4	32	127	73	23	81	6	90	8	91	14
Luxembourg	99	5	50	104			100	1	69	32	74	46
Singapore	97	6	53	98	88	5	95	2	53	66		
Czech Republic	97	7	31	129	87	6	64	35	80	14	97	3
Sweden	95	8	29	137	86	7	75	17	79	20	88	18
United States	95	9	45	114	81	13	88	4	92	5	51	93
Switzerland	95	10	34	122	95	2	90	3	58	52	78	31
France	94	11	29	136	78	15	78	10	91	6	77	35
Denmark	93	12	30	133	75	21	76	15	80	15	91	14
Korea, Rep.	92	13	50	103	90	4	67	26	62	44	81	24
Slovenia	92	14	30	130	84	10	65	32	71	29	99	2
United Kingdom	92	15	34	123	83	11	76	16	80	16	76	41
Poland	90	16	39	118	75	20	58	42	90	7	83	22
Slovak Republic	89	17	46	111	76	18	63	36	62	43	96	5
Ireland	88	18	51	102	76	17	86	5	47	80	80	26
China	88	19	62	90	73	22	47	70	97	2	60	78
Italy	87	20	17	144	77	16	74	19	100	1	69	55
Finland	87	21	23	141	84	9	69	23	67	35	94	7
Lebanon	85	22	72	83	53	55	66	30	64	39	80	26
Japan	85	23	1	145	100	1	78	11	76	23	79	30
Spain	84	24	30	131	66	31	73	20	95	4	67	64
Turkey	84	25	73	81	62	38	59	40	86	11	50	95
Israel	84	26	59	97	82	12	74	18	56	59	59	80
Hungary	83	27	32	125	80	14	61	39	72	27	84	20
Nepal	82	28	82	62			40	85	62	42	77	37
India	81	29	81	63	56	43	37	88	81	13	68	58
Jordan	81	30	90	37	50	60	51	53	58	54	74	44
United Arab Emirates	81	31	100	1	54	50	56	47	48	78		
Thailand	79	32	60	96	68	29	49	60	76	24	66	66
Tunisia	78	33	73	80	55	46	45	73	67	34	77	37
Egypt, Arab Rep.	78	34	85	55	47	65	34	92	72	28	80	26
Estonia	78	35	30	132	71	25	61	38	77	21	77	35
Canada	78	36	39	119	65	33	69	22	69	30	73	47
Croatia	78	37	29	138	68	30	58	43	80	18	82	23
Iceland	76	38	49	107			80	8	29	119	92	13
Serbia	76	39	37	120	63	35	47	69	75	25	90	16
Lithuania	75	40	32	126	69	28	66	31	79	19	63	68
Cyprus	75	41	53	101	63	37	76	14	45	84	73	47
Moldova	74	42	61	95	45	72	49	62	57	56	97	3
Norway	74	43	40	117	66	32	65	33	42	90	93	9
Romania	73	44	36	121	72	24	57	44	72	26	68	61
Portugal	73	45	22	143	62	39	67	29	85	12	69	56
Mexico	72	46	78	72	70	27	48	63	63	41	46	104
Latvia	72	47	29	135	64	34	62	37	76	22	73	51
Malaysia	72	48	80	66	70	26	42	78	59	51	53	91
Philippines	72	49	86	52	63	36	48	64	52	68	56	86
Ukraine	71	50	41	115	60	41	35	91	66	36	100	1
Pakistan	71	51	88	43	36	92	43	77	59	47	75	42
Bahrain	71	52	95	7	54	48	56	46	34	107		
Malta	70	53	30	134			81	7	41	95	87	19
Mauritius	70	54	61	94	47	64	67	28	53	63	68	59
Kyrgyz Republic	69	55	87	47	48	63	25	114	42	91	93	8
El Salvador	68	56	73	82	53	51	49	59	58	55	62	74
Indonesia	68	57	84	57	46	68	33	95	69	31	61	76

Countries	1. Structural pillar	1. Rank	1.1 Demographics	1.1 Rank	1.2 Country Capabilities	1.2 Rank	1.3 Economic Development	1.3 Rank	1.4 Economic Diversification	1.4 Rank	1.5 Inequality	1.5 Rank
Bosnia and Herzegovina	67	58	40	116	59	42	47	65	68	33	76	39
Vietnam	66	59	77	77	50	59	31	103	63	40	70	52
New Zealand	63	60	46	112	55	47	67	27	59	49		
Montenegro	63	61	47	109			52	52	48	79	80	29
Bulgaria	63	62	25	140	61	40	53	51	80	17	63	68
Sri Lanka	62	63	65	89	42	75	55	48	60	46	56	84
Gambia, The	61	64	96	4			31	102	27	123	68	61
Barbados	61	65	47	110			68	25	51	69		
Panama	60	66	74	79	53	52	65	34	56	58	27	124
Greece	60	67	27	139	53	54	68	24	59	50	68	63
Albania	59	68	53	99	41	80	41	80	49	75	88	17
Macedonia, FYR	59	69	53	100	52	58	45	74	54	62	69	57
Kenya	59	70	94	15	37	87	31	104	57	57	53	90
Bangladesh	58	71	85	54	29	102	44	75	34	106	78	33
Guatemala	58	72	86	49	42	77	46	71	65	38	31	120
Argentina	58	73	62	91	48	62	50	54	55	60	54	89
Dominican Republic	57	74	78	73	47	66	47	68	59	48	39	112
Sierra Leone	57	75	95	13			5	144	42	93	73	47
Morocco	57	76	78	70	35	94	40	84	58	53	57	82
Kazakhstan	57	77	77	74	42	78	33	96	24	128	93	9
Senegal	56	78	93	23	36	91	32	98	50	70	55	87
Kuwait	56	79	95	12	44	73	50	57	24	127		
Qatar	56	80	99	2	39	83	50	58	24	126		
Uruguay	54	81	49	106	53	53	53	49	49	74	57	82
Costa Rica	54	82	68	86	56	45	57	45	50	73	31	120
Cabo Verde	53	83	88	44			50	56	35	102	35	118
Seychelles	53	84	71	85			71	21	29	120	36	116
Armenia	53	85	61	92	45	70	33	97	44	85	75	43
Bhutan	53	86	86	53			27	110	30	116	63	68
Georgia	52	87	48	108	47	67	49	61	52	67	62	73
Oman	52	88	96	5	45	71	32	101	33	111		
Australia	52	89	45	113	38	86	59	41	46	83	68	59
Tajikistan	52	90	91	35	27	105	23	119	41	96	73	47
Tanzania	50	91	93	26	23	113	20	125	54	61	62	72
Russian Federation	50	92	49	105	56	44	37	90	46	81	63	71
Saudi Arabia	49	93	92	33	49	61	39	86	21	132		
Myanmar	49	94	82	61	29	99	24	117	53	64	61	76
Belize	49	95	90	38			50	55	43	88	17	126
Brazil	48	96	71	84	54	49	46	72	61	45	17	126
Burundi	48	97	95	14			17	130	27	124	60	78
Lao PDR	48	98	89	40	25	110	20	124	46	82	66	65
Uganda	47	99	96	3	34	95	18	128	50	72	48	99
Rwanda	47	100	93	24			26	112	32	113	45	106
Honduras	47	101	87	48	39	84	41	81	53	65	25	125
Trinidad and Tobago	46	102	66	88	46	69	44	76	34	108	55	87
Algeria	46	103	80	65	24	111	23	121	23	129	92	11
South Africa	46	104	84	58	52	56	40	83	65	37	1	133
Cambodia	46	105	87	46	33	97	32	100	42	92		
Brunei Darussalam	46	106	86	50			47	67	12	138		
Cote d'Ivoire	45	107	93	20	37	90	23	120	37	101	51	93
Peru	45	108	77	75	37	89	32	99	48	77	46	102
Liberia	44	109	93	25	33	96	14	137	29	118	70	52
Iran, Islamic Rep.	43	110	83	60	40	81	29	107	29	117	56	85
Colombia	43	111	74	78	52	57	41	82	43	89	27	123
Mali	43	112	95	11	37	88	14	135	13	135	76	39
Haiti	43	113	86	51			24	115	25	125	53	92
Mongolia	41	114	89	41	27	106	9	141	28	121	78	31
Paraguay	41	115	80	67	42	76	42	79	38	99	30	122
Nicaragua	41	116	83	59	29	101	33	94	48	76	38	113

Countries	1. Structural pillar	1. Rank	1.1 Demographics	1.1 Rank	1.2 Country Capabilities	1.2 Rank	1.3 Economic Development	1.3 Rank	1.4 Economic Diversification	1.4 Rank	1.5 Inequality	1.5 Rank
Madagascar	41	117	93	21	20	115	19	126	50	71	48	97
Benin	41	118	92	31			26	113	34	110	33	119
Mauritania	39	119	93	27	14	120	9	142	35	103	78	34
Jamaica	39	120	67	87	42	79	47	66	30	114	40	111
Yemen, Rep.	38	121	93	18	18	117	15	132	33	112	66	67
Azerbaijan	38	122	81	64	30	98	15	133	4	142	95	6
Zimbabwe	38	123	94	17	25	108	24	118	34	105	46	101
Ethiopia	37	124	91	34	16	118	14	134	42	94	58	81
Chile	37	125	61	93	43	74	37	89	44	87	36	114
Cameroon	36	126	93	28	26	107	28	108	37	100	36	114
Malawi	34	127	93	19	35	93	24	116	21	131	42	109
Ecuador	34	128	77	76	29	100	34	93	34	109	42	109
Lesotho	34	129	87	45			29	106	41	97	14	130
Namibia	33	130	91	36	39	82	38	87	44	86	1	133
Gabon	33	131	88	42	25	109	20	123	18	133	62	74
Ghana	33	132	92	32	28	103	17	129	30	115	45	105
Bolivia	31	133	79	69	23	114	28	109	35	104	44	107
Guyana	31	134	84	56			12	138	27	122	42	108
Guinea	28	135	93	30	1	124	12	140	22	130	74	44
Botswana	27	136	89	39	39	85	53	50	2	144	17	126
Burkina Faso	27	137	95	6	8	123	12	139	13	136	70	52
Chad	24	138	95	10			8	143	3	143	46	102
Nigeria	21	139	94	16	11	122	27	111	5	141	47	100
Venezuela, RB	19	140	79	68	28	104	30	105	7	140	35	117
Mozambique	19	141	93	29	19	116	14	136	39	98	15	129
Congo, Dem. Rep.	17	142	93	22	16	119	1	145	14	134	50	96
Angola	16	143	95	8	12	121	18	127	1	145	48	98
Zambia	10	144	95	9	24	112	22	122	13	137	5	131
Suriname	1	145	78	71			17	131	12	139	4	132

Source: Whiteshield Partners

Table 11: GLRI 2020 policy pillar scores and ranks

Country	2. Policy Pillar	2. Rank	2.1 Education	2.1 Rank	2.2 Employment	2.2 Rank	2.3 Innovation	2.3 Rank	2.4 Technology	2.4 Rank	2.5 Entrepreneurship	2.5 Rank	2.6 Statistics	2.6 Rank
Switzerland	100	1	100	1	88	4	100	1	84	10	74	20	93	22
Singapore	97	2	80	13	100	1	90	4	97	4	94	2	62	79
Denmark	95	3	90	3	83	5	86	5	86	8	80	8	93	22
United States	94	4	92	2	64	14	91	2	92	5	87	4	86	33
Sweden	91	5	84	8	66	13	84	6	88	7	80	9	97	10
Finland	91	6	89	4	69	12	80	12	98	2	76	16	86	33
Netherlands	90	7	87	5	80	7	81	11	83	11	72	24	90	26
United Kingdom	88	8	84	9	61	21	81	10	75	18	88	3	97	10
Norway	87	9	84	7	75	9	80	14	74	20	75	19	90	26
Germany	86	10	84	6	62	18	90	3	75	19	69	28	93	22
Australia	84	11	78	15	52	40	75	16	77	15	84	5	97	10
New Zealand	83	12	76	17	61	22	67	22	67	38	100	1	90	26
Iceland	82	13	73	20	78	8	70	19	78	14	84	6	73	51
Israel	82	14	79	14	54	33	72	18	72	25	77	12	100	1
Korea, Rep.	81	15	60	33	34	98	82	9	100	1	76	17	100	1
Belgium	81	16	80	12	62	19	79	15	65	40	69	27	97	10
Canada	81	17	82	10	60	23	75	17	65	43	78	10	90	26
Luxembourg	81	18	76	19	83	6	68	20	73	23	74	21	76	43
France	79	19	67	25	58	27	80	13	72	27	67	31	97	10
Ireland	79	20	69	21	71	11	49	31	72	24	78	11	100	1
Japan	78	21	69	22	44	68	82	8	98	3	55	61	90	26
Austria	78	22	77	16	59	26	83	7	76	17	52	69	90	26
United Arab Emirates	77	23	82	11	93	2	61	25	67	37	76	14	52	112
Estonia	74	24	76	18	43	70	47	33	85	9	72	23	97	10
Malaysia	70	25	69	23	63	17	55	27	77	16	62	38	76	43
Czech Republic	68	26	66	26	37	87	64	23	73	22	51	71	100	1
Portugal	67	27	58	37	46	55	52	30	61	57	71	25	100	1
Spain	67	28	52	49	50	43	53	28	67	39	64	36	100	1
China	67	29	50	54	47	53	68	21	74	21	77	13	69	59
Malta	67	30	62	29	63	16	36	44	82	12	75	18	66	71
Qatar	65	31	55	45	89	3	42	36	61	60	67	32	62	79
Slovenia	65	32	65	27	33	101	61	24	62	53	59	51	97	10
Bahrain	63	33	57	39	55	32	32	51	92	6	73	22	59	95
Lithuania	63	34	62	31	38	81	39	38	69	33	62	37	97	10
Italy	62	35	55	42	46	54	59	26	67	36	43	104	93	22
Latvia	62	36	60	34	35	96	30	58	71	30	69	29	97	10
Slovak Republic	61	37	57	38	32	104	37	41	72	28	59	48	100	1
Chile	61	38	55	44	49	48	35	45	53	77	68	30	97	10
Cyprus	60	39	62	28	54	34	30	56	72	26	64	34	73	51
Russian Federation	60	40	50	53	48	51	52	29	71	29	46	91	86	33
Poland	59	41	58	36	34	99	47	32	69	32	41	115	100	1
Oman	57	42	67	24	48	50	29	60	61	58	70	26	66	71
Costa Rica	56	43	59	35	51	41	34	49	68	34	48	81	76	43
Hungary	56	44	46	65	37	86	40	37	63	47	48	77	100	1
Thailand	54	45	43	80	45	64	37	42	65	44	61	40	76	43
Georgia	54	46	43	82	53	37	24	75	54	74	76	15	76	43
Serbia	53	47	54	47	34	97	44	35	61	56	48	80	80	37
Azerbaijan	53	48	54	48	72	10	15	102	51	82	65	33	62	79
Romania	52	49	42	83	60	25	28	63	63	48	42	110	83	36
Mauritius	52	50	47	59	49	49	25	68	49	90	82	7	66	71
Kazakhstan	52	51	46	68	45	56	24	72	63	49	58	53	80	37
Brunei Darussalam	51	52	56	41	53	39	29	61	59	63	64	35	52	112
Bulgaria	51	53	46	69	45	60	28	65	55	72	59	50	80	37
Montenegro	51	54	61	32	55	31	27	66	54	76	59	49	56	100
South Africa	50	55	44	78	44	65	32	52	47	96	61	39	80	37
Greece	49	56	47	60	28	117	34	47	47	97	50	73	97	10

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Country	2. Policy Pillar	2. Rank	2.1 Education	2.1 Rank	2.2 Employment	2.2 Rank	2.3 Innovation	2.3 Rank	2.4 Technology	2.4 Rank	2.5 Entrepreneurship	2.5 Rank	2.6 Statistics	2.6 Rank
Turkey	49	57	38	92	25	129	44	34	62	55	44	99	90	26
Albania	49	58	48	57	58	28	19	87	49	89	53	65	76	43
Uruguay	49	59	44	77	49	45	30	57	62	54	48	83	69	59
Moldova	49	60	47	58	40	77	24	73	64	45	54	63	73	51
Vietnam	49	61	36	98	37	85	29	62	79	13	58	54	62	79
Mexico	48	62	45	73	26	126	34	48	55	71	43	107	97	10
Armenia	48	63	43	81	61	20	24	74	58	67	56	60	56	100
Indonesia	48	64	49	55	41	73	24	70	52	79	49	74	80	37
Jordan	47	65	45	72	31	108	27	67	63	50	60	43	69	59
Ukraine	47	66	52	50	35	93	36	43	54	75	43	102	73	51
Saudi Arabia	47	67	54	46	54	36	31	54	52	80	46	93	56	100
India	47	68	48	56	42	72	39	39	36	114	58	56	69	59
Ghana	46	69	42	84	50	44	17	96	70	31	48	85	62	79
Jamaica	46	70	47	64	54	35	19	89	46	100	61	41	62	79
Kuwait	46	71	41	86	55	30	33	50	51	83	58	55	49	121
Rwanda	45	72	30	115	63	15	34	46	36	113	57	58	62	79
Croatia	45	73	44	79	27	119	29	59	63	51	43	105	76	43
Philippines	44	74	51	51	36	90	17	92	59	62	46	94	69	59
Botswana	43	75	55	43	36	91	23	80	39	108	59	46	62	79
Lebanon	42	76	50	52	30	112	19	88	60	61	60	42	52	112
Brazil	41	77	36	96	15	139	38	40	63	46	37	121	76	43
Panama	40	78	38	93	37	88	23	76	46	99	45	98	73	51
Macedonia, FYR	40	79	29	119	28	118	23	78	65	42	60	44	56	100
Trinidad and Tobago	40	80	45	75	33	102	22	81	49	86	57	57	56	100
Paraguay	40	81	29	117	41	74	21	83	55	73	45	97	69	59
Morocco	39	82	28	121	21	135	24	71	56	70	59	47	69	59
Kenya	39	83	45	74	45	57	20	85	41	105	47	86	59	95
Argentina	39	84	45	71	29	116	25	69	52	81	31	136	73	51
Egypt, Arab Rep.	38	85	41	88	23	131	22	82	49	87	56	59	62	79
Colombia	38	86	41	87	26	128	19	86	46	98	41	114	80	37
Nepal	38	87	19	135	39	78	14	106	62	52	53	67	62	79
Dominican Republic	37	88	31	111	40	76	23	77	38	109	53	68	62	79
Honduras	37	89	38	91	26	125	12	115	57	69	42	111	69	59
Sri Lanka	37	90	46	66	27	120	16	101	35	115	58	52	62	79
Tunisia	36	91	47	61	11	143	23	79	59	64	35	126	66	71
Mongolia	35	92	34	104	31	110	9	125	59	66	48	84	56	100
Namibia	35	93	36	99	37	89	14	107	45	101	49	75	56	100
Peru	35	94	33	106	30	114	17	97	40	107	46	89	69	59
Cabo Verde	34	95	30	113	56	29	2	142	47	94	54	62	45	124
Guatemala	34	96	35	102	39	79	14	109	24	136	53	66	69	59
Iran, Islamic Rep.	34	97	47	62	16	138	28	64	47	95	32	134	62	79
El Salvador	34	98	25	129	27	123	16	99	49	85	41	113	73	51
Bosnia and Herzegovina	33	99	30	116	14	140	31	53	58	68	33	130	62	79
Pakistan	33	100	36	97	22	132	10	122	47	93	48	76	66	71
Seychelles	33	101	56	40	53	38	10	121	32	122	42	112	35	135
Kyrgyz Republic	33	102	35	100	30	111	6	133	49	88	50	72	56	100
Liberia	32	103	35	103	44	66	17	94	42	104	46	92	42	130
Guinea	32	104	22	132	50	42	1	145	47	92	60	45	45	124
Algeria	32	105	37	95	12	142	14	108	68	35	26	141	69	59
Uganda	32	106	22	131	45	61	11	118	31	123	42	109	73	51
Bangladesh	32	107	26	124	26	127	7	130	59	65	47	87	59	95
Ecuador	32	108	47	63	17	137	17	95	43	102	31	135	66	71
Barbados	31	109	23	130	44	67	30	55	61	59	54	64	8	141
Senegal	31	110	34	105	35	95	18	90	25	132	52	70	56	100
Nigeria	31	111	35	101	47	52	8	127	30	124	40	117	56	100
Gambia, The	30	112	42	85	60	24	6	135	17	141	46	90	45	124
Cote d'Ivoire	29	113	33	108	45	63	10	123	30	125	39	118	56	100
Nicaragua	29	114	26	126	49	46	13	113	33	120	44	100	45	124

Country	2. Policy Pillar	2. Rank	2.1 Education	2.1 Rank	2.2 Employment	2.2 Rank	2.3 Innovation	2.3 Rank	2.4 Technology	2.4 Rank	2.5 Entrepreneurship	2.5 Rank	2.6 Statistics	2.6 Rank
Venezuela, RB	29	115	46	70	31	109	6	134	52	78	15	144	59	95
Bolivia	29	116	46	67	14	141	11	119	33	119	37	122	66	71
Tajikistan	28	117	44	76	49	47	4	137	30	126	38	119	42	130
Lao PDR	28	118	29	120	44	69	3	139	37	111	48	79	45	124
Sierra Leone	28	119	37	94	38	82	17	93	35	116	36	124	42	130
Malawi	28	120	25	127	45	58	17	91	27	129	36	125	52	112
Ethiopia	27	121	29	118	27	121	14	110	25	133	34	129	69	59
Zambia	26	122	32	110	38	83	12	114	17	140	43	101	52	112
Mozambique	26	123	13	142	33	100	12	117	33	121	40	116	62	79
Cameroon	25	124	33	107	37	84	15	104	28	128	35	127	45	124
Lesotho	25	125	30	112	32	103	3	138	36	112	37	123	52	112
Burundi	25	126	17	137	27	124	6	132	40	106	48	78	52	112
Zimbabwe	25	127	40	89	4	144	11	120	37	110	46	88	52	112
Mali	25	128	25	128	45	59	12	116	17	138	28	139	62	79
Cambodia	25	129	21	134	32	105	4	136	42	103	32	133	59	95
Tanzania	24	130	32	109	27	122	16	98	11	144	45	95	56	100
Congo, Dem. Rep.	24	131	21	133	30	113	9	126	27	131	45	96	52	112
Benin	23	132	27	122	40	75	16	100	11	143	43	103	42	130
Burkina Faso	22	133	15	140	38	80	13	112	24	135	21	143	66	71
Gabon	20	134	30	114	45	62	15	103	27	130	48	82	1	143
Mauritania	20	135	13	141	17	136	13	111	49	84	30	137	42	130
Bhutan	19	136	26	125	42	71	9	124	48	91	29	138	8	141
Chad	18	137	15	139	31	107	8	128	34	117	21	142	49	121
Suriname	17	138	62	30	23	130	14	105	22	137	33	132	1	143
Myanmar	16	139	27	123	35	94	2	141	34	118	33	131	18	139
Yemen, Rep.	16	140	6	143	1	145	2	140	65	41	43	106	32	136
Belize	15	141	39	90	22	133	20	84	24	134	38	120	1	143
Madagascar	12	142	18	136	36	92	7	131	1	145	35	128	32	136
Guyana	11	143	16	138	21	134	7	129	29	127	42	108	11	140
Angola	11	144	1	145	31	106	2	143	14	142	28	140	49	121
Haiti	1	145	5	144	29	115	2	144	17	139	1	145	25	138

Source: Whiteshield Partners

Table 12: Average GLRI 2020 performance by income group

Region	Number of Countries	Average GLRI	Average Structural Score	Average Policy Score	Average Labour Resilience Gap
High income	50	72	77	69	8
Upper middle income	41	46	54	43	11
Lower middle income	33	39	52	33	19
Low income	21	31	42	25	16
All countries	145	51	60	47	13

Source: Whiteshield Partners

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Table 13: Top 10 countries by GLRI 2020 results and income group

GLRI top 10	Structural pillar top 10	Policy pillar top 10	Labour Resilience Gap top 10
High-income countries	(50 in total)		
Switzerland	Germany	Switzerland	Croatia
Singapore	Belgium	Singapore	Poland
United States	Austria	Denmark	Barbados
Denmark	Netherlands	United States	Czech Republic
Netherlands	Luxembourg	Sweden	Slovak Republic
Sweden	Singapore	Finland	Hungary
Germany	Czech Republic	Netherlands	Slovenia
Finland	Sweden	United Kingdom	Italy
United Kingdom	United States	Norway	Austria
Belgium	Switzerland	Germany	Panama
Upper-midde income	countries (41 in total)		
China	China	Malaysia	Lebanon
Malaysia	Lebanon	China	Turkey
Thailand	Turkey	Russian Federation	Belize
Serbia	Jordan	Costa Rica	Bosnia and Herzegovina
Turkey	Thailand	Thailand	Jordan
Romania	Serbia	Georgia	Sri Lanka
Jordan	Romania	Serbia	Thailand
Mauritius	Mexico	Azerbaijan	Mexico
Lebanon	Malaysia	Romania	Guatemala
Russian Federation	Mauritius	Mauritius	Serbia
Lower-middle income	countries (33 in total)		
India	India	Moldova	Tunisia
Moldova	Tunisia	Vietnam	Egypt, Arab Rep.
Ukraine	Egypt, Arab Rep.	Indonesia	Pakistan
Vietnam	Moldova	Ukraine	Kyrgyz Republic
Indonesia	Philippines	India	El Salvador
Philippines	Ukraine	Ghana	India
Egypt, Arab Rep.	Pakistan	Philippines	Bhutan
Tunisia	Kyrgyz Republic	Morocco	Myanmar
Pakistan	El Salvador	Kenya	Philippines
Kenya	Indonesia	Egypt, Arab Rep.	Bangladesh
Low-income countries	(21 in total)		
Nepal	Nepal	Rwanda	Nepal
Rwanda	Gambia, The	Nepal	Haiti
Gambia, The	Sierra Leone	Liberia	Gambia, The
Sierra Leone	Tajikistan	Guinea	Sierra Leone
Uganda	Tanzania	Uganda	Madagascar
Liberia	Burundi	Gambia, The	Tanzania
Tajikistan	Uganda	Tajikistan	Burundi
Tanzania	Rwanda	Sierra Leone	Tajikistan
Burundi	Liberia	Malawi	Yemen, Rep.
Guinea	Mali	Ethiopia	Mali

Source: Whiteshield Partners

APPENDIX IV: SOURCE AND DEFINITIONS OF GLRI NATIONAL AND REGIONAL INDICATORS

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

SOURCES AND DEFINITIONS OF GLRI

1 Structural Pillar

1.1 Demographics sub-pillar

Share of older population
Share of older population | 2018

Description: Ratio of people aged 65 years old and above as % of total population.

Rationale: A high share of older population as a percentage of total population has a negative impact on labour market resilience. It can create bottlenecks for the available workforce and potential skill gaps since older generations are in general less adaptable to change and less familiar with new technologies. Both lead to a less resilient labour market.

Source: World Bank, World Bank staff estimates based on age/sex distributions of United Nations Population Division's World Population Prospects.

1.2 Country capabilities sub-pillar

Economic complexity
Economic Complexity Index | 2017

Description: The Economic Complexity Index (ECI) is a holistic measure of the productive capabilities of countries. In particular, the ECI looks to explain the knowledge accumulated in a population and that is expressed in the economic activities present in a country. ECI is a measure of economic complexity containing information about both the diversity of a country's export and their sophistication. Calculated based on the SITC export data.

Rationale: An increasing level of economic complexity has a positive impact on labour resilience. Economic complexity reflects the level of economic sophistication of a country and its ability to use technology and engage in creative destruction processes. This allows it to offset the impact of automation on job destruction through the creation of new jobs. There is also a statistically significant negative impact of economic complexity on

inequality indicating that complex economies are better suited to address the issue of polarized-labour markets and the destruction of low and medium skilled jobs induced by technological disruptions.

Source: Atlas of Economic Complexity, Harvard.

1.3 Economic development sub-pillar

Income per capita
GDP per capita, PPP (constant 2011 international $) | Last available to 2018

Description: GDP per capita based on purchasing power parity (PPP). GDP at purchasers' prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2011 international dollars. Countries' values in this indicator are capped at 97 percentile.

Rationale: The level of GDP/capita has a positive impact on labour market resilience. A lower GDP/capita reflects a lower production function thus lower labour demand and a higher unemployment rate. A high long-term unemployment rate is associated with low labour market resilience. A higher GDP/capita reflects higher economic development and sufficient resources to invest in innovation and technology and develop resilience to technological change.

Source: World Bank, World Bank national accounts data, and OECD National Accounts data files.

Dependence on natural resources
Total natural resources rents (% of GDP) | Last available to 2017

Description: Total natural resources rents are the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents. Initial values in this indicator were changed using the logarithm formula described in the Appendix I.

Rationale: A significant dependence of country's economy on natural resources negatively affects labour resilience, since the economy is highly affected by external shocks such as changes in exchange rates and world commodity prices. The labour market in these economies depends on the resource market and, therefore, is less resilient.

Source: Estimates based on sources and methods described in "The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium" (World Bank, 2011).

Tertiarisation of the economy
Services, value added (% of GDP) | Last available 2018

Description: Share of services as a component of the GDP (%) per country. Services correspond to ISIC divisions 50-99 and they include value added in wholesale and retail trade (including hotels and restaurants), transport, and government, financial, professional, and personal services such as education, health care, and real estate services. Also included are imputed bank service charges, import duties, and any statistical discrepancies noted by national compilers as well as discrepancies arising from rescaling. Value added is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The industrial origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3 or 4.

Rationale: The level of tertiarisation of an economy has a positive impact on labour market resilience. Economies with a higher share of services as a proportion of their economy are able to capture the positive impact of technological disruption on job creation. As such job creation occurs mainly in services, this helps to avoid some of the negative impact of de-industrialization trends associated with technological development.

Source: World Bank, World Bank national accounts data, and OECD National Accounts data files.

1.4 Economic diversification sub-pillar

Concentration of exports
HH export concentration index | 2017

Description: Product concentration index for merchandise exports. The Herfindahl-Hirschmann market concentration index is a measure of export concentration. A country with exports concentrated in very few markets will have an index value close to 1. Similarly, a country with a perfectly diversified export portfolio will have an index close to zero. Countries' values in this indicator are capped at 98 percentile.

Rationale: The level of concentration of exports has a negative impact on labour market resilience. Less concentration allows the economy to be more resilient since it is not dependent on one or a few sectors and is less affected by the cyclical changes of sectors. It leads to a broader and more diversified structure of employment and thus a more reliable and resilient labour market. The level of export concentration impacts other GLRI indicators such as the level of economic development and economic capabilities. It should be noted that many developing countries are particularly vulnerable to the high level of their export concentration.

Source: UNCTAD secretariat calculations, based on UNCTAD, UNCTADStat Merchandise Trade Matrix.

Diversity
Diversity | 2017

Description: an indicator taken from Economic Complexity theory. A measure of how many different types of products a country is able to make. The production of a good requires a specific set of know-how; therefore, a country's total diversity is another way of expressing the amount of collective know-how held within that country. Calculated as a number of products for which the country has Revealed Comparative Advantage. Countries' values in this indicator are capped at 99 percentile.

Rationale: positively affects labour resilience. Higher diversity means that the country is less dependent on international markets for imports, and less affected by cyclical changes in individual sectors. It leads to a broader and more diversified structure of employment and thus more reliable and resilient labour market. Diversified economies are more likely to benefit from job creation induced by

technological disruptions and less impacted by job destruction induced by automation.

Source: Atlas of economic Complexity by Harvard.

1.5 Inequality sub-pillar

Income inequality
GINI index (World Bank estimate) | Last available to 2017

Description: Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus, a Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. Countries' values in this indicator are capped at 99 percentile.

Rationale: The level of income inequality has a negative impact on labour market resilience. High income inequality reflects a bi-polarized labour market between low-skilled and high-skilled workers as well as a high wage gap between both. Low-skilled, low-paid workers are less resilient to technological disruptions since their occupations are more likely to be replaced rather than complemented by technological innovation. With low levels of education, low-skilled workers are less likely to achieve job-reconversion. The effect of automation on job destruction will thus affect unequal countries more.

Source: World Bank, Development Research Group. Data is based on primary household survey data obtained from government statistical agencies and World Bank country departments.

2 Policy Pillar

2.1 Education and skills sub-pillar

Education and skills input

Education expenditure

Government education spending
Government expenditure on education (% GDP)| Last available to 2018

Description: General government expenditure on education (current, capital, and transfers) is expressed as a percentage of GDP. It includes expenditure funded by transfers from international sources to government.

Rationale: There is a significant positive impact of government education expenditure on the employment rate and thus labour market resilience. It is important to consider this variable because tertiary education attainment and quality alone are not sufficient measures. Public investments in the whole educational system matter to achieve a more educated and more resilient labour market.

Source: United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.

Tertiary public education spending
Government expenditure on tertiary education (% government expenditure on education)| Last available to 2018

Description: Government expenditure on tertiary education as a percentage of total government education expenditure.

Rationale: The level of tertiary education expenditure has a positive impact on the resilience of the labour force as higher education is linked with a higher employability. In general, knowledge-intensive jobs requiring tertiary education are less threatened by the risk of automation and are more adaptable to a technology-rich workplace.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Source: United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.

Government and household spending per tertiary student
Initial government and household funding per tertiary student, PPP$ | Last available to 2017

Description: This is the sum of two indicators: Initial government funding per tertiary student (PPP$) and Initial household funding per tertiary student (PPP$). Initial government funding per tertiary student (PPP$) is the total general (local, regional and central) government expenditure (current and capital) on a tertiary education minus international transfers to government for education, divided by the number of student enrolled at tertiary level of education expressed at purchasing power parity (PPP$). Initial household funding per tertiary student (PPP$) is the total payments of households (pupils, students and their families) for educational institutions (such as for tuition fees, exam and registration fees, contribution to Parent-Teacher associations or other school funds, and fees for canteen, boarding and transport), plus purchases outside of educational institutions (such as for uniforms, textbooks, teaching materials, or private classes), minus government education transfers to households (such as scholarships or other education-specific financial aid) expressed at purchasing power parity (PPP$). Countries' values in this indicator are capped at 97 percentile

Rationale: The level of government and household tertiary education expenditure has a positive impact on the resilience of the labour force as higher government and household contribution to tertiary education is linked to higher enrolment, attainment and quality of higher tertiary education, which is linked with a higher employability, because jobs requiring tertiary education are less threatened by the risk of automation and are more adaptable to a technology-rich workplace.

Source: United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.

Schooling

Years of schooling
Mean years of schooling| Last available to 2018

Description: Average number of completed years of education of a country's population aged 25 years and older, excluding years spent repeating individual grades.

Rationale: The number of years of schooling has a positive impact on labour resilience. More years of study allows more knowledge and skills to be acquired by students. This, in turn, increases productivity, which makes the workforce more resilient to job disruptions.

Source: United Nations Educational, Scientific and Cultural Organization (UNESCO); Wittgenstein Centre for Demography and Global Human Capital.

Corporate policy

Staff training
Extent of staff training| 2018

Description: Response to the survey question "In your country, to what extent do companies invest in training and employee development?" [1 = not at all; 7 = to a great extent].

Rationale: The extent of staff training has a positive impact on the resilience of the labour market. Investing in personnel training increases the skills of workers in areas that are currently in demand in the market. Thus, workers are not only unlikely to be rendered obsolete due to the automation of their activities but will also be able to find another job more quickly if necessary. Thus, staff training makes employees more resilient to job disruption.

Source: WEF GCI 4.0 World Economic Forum, Executive Opinion Survey.

Education and skills output

Educational attainment

Tertiary attainment rate
Educational attainment (Doctoral, Bachelor, Masters), population 25+ (%) | Last available to 2018

Description: The percentage of population aged 25 and over that attained or completed Doctoral, Masters or Bachelor or equivalent.

Rationale: Significant positive impact of educational attainment on labour market resilience. A higher rate of tertiary education attainment means a higher level of potential future knowledge intensive workers. A better educated workforce with a higher level of qualifications is a factor of labour resilience. More specifically, higher education increases job resilience to technological disruptions since educated, knowledge-intensive workers are less threatened by technological innovation. They are more likely to see their job complemented rather than replaced by technology.

Workforce participants with higher degrees tend to have a greater mobility, more adaptability and more ease in job-reconversion thanks to their educational background and skills in "learning to learn".

Source: United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.

Education quality

PISA score
PISA average scales in reading, mathematics, and science| Last available to 2018

Description: Average scores of 15-year-old students on the PISA (Program for International Students Assessment) science, mathematics and reading literacy scale.

Rationale: PISA score has a positive effect on labour market resilience. PISA scores reflect the quality of the pre-tertiary educational system. Studies confirm that focusing on tertiary education is not sufficient to measure educational outcomes. The quality of education and thus of workers' skills is

linked to high quality secondary education as a first step to high employability and resilience in the workforce.

Source: NCES, National Centre for Education Statistics.

Skillset of graduates
Skillset of graduates| Last available to 2018

Description: Average answer to the question: In your country, to what extent do graduating students possess the skills needed by businesses at the following levels: a, Secondary education; b, Tertiary education [1 = not at all; 7 = to a great extent].

Rationale: The skillset of graduates has a positive effect on labour market resilience. The number of skilled workers in the job market is not sufficient for labour resilience. The skills of labour supply have to match the skills required in the workplace. Skills mismatches and skills gaps lead to higher unemployment, lower productivity and longer job searches, thus reducing the resilience of the labour market.

Source: WEF Executive Opinion Survey.

Skilled labour supply
Ease of finding skilled employees| 2018

Description: Response to the survey question "In your country, to what extent can companies find people with the skills required to fill their vacancies?" [1 = not at all; 7 = to a great extent].

Rationale: A skilled labour supply that matches the needs of the job market has a positive effect on labour market resilience. The ease of finding skilled employees, which is facilitated by effective recruitment agencies, databases and platforms on which workers can offer their services and employers can post vacancies, makes workers more mobile, and job finding easier and faster. This makes workers less threatened by job disruption.

Source: WEF GCI 4.0, World Economic Forum, Executive Opinion Survey.

Vocational education

Vocational enrolment of students
Percentage of students in secondary education enrolled in vocational programs, both sexes (%) | Last available to 2018

Description: Total number of students enrolled in vocational programs at a secondary level of education, expressed as a percentage of the total number of students enrolled in all programs (vocational and general) at that level. Education that is designed for learners to acquire the knowledge, skills and competencies specific to a particular occupation or trade or class of occupations or trades. Vocational education may have work-based components (e.g. apprenticeships). Countries' values in this indicator are capped at 99 percentile.

Rationale: Significant positive impact of vocational enrolment on labour market resilience. Vocational training helps to train specialized workers according to the evolving needs of the labour market. When well implemented, these programs allow a workforce to avoid skill gaps between employees' competencies and employers' needs thus increasing the resilience of the labour market through increased productivity, sustainability and suitability in the labour force. Vocational training also provides an efficient pathway to help the unemployed to re-orient themselves and find new jobs, increasing labour mobility and professional reconversion opportunities.

Source: United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.

Vocational enrolment of 15-24 olds
Proportion of 15-24 year-olds enrolled in vocational education, both sexes (%) | Last available to 2018

Description: Total number of 15-24 year olds enrolled in vocational programs, expressed as a percentage of the total number of people aged 15-24. Education that is designed for learners to acquire the knowledge, skills and competencies specific to a particular occupation or trade or class of occupations or trades. Vocational education may have work-based components (e.g. apprenticeships).

Countries' values in this indicator are capped at 99 percentile.

Rationale: Significant positive impact of vocational enrolment among young people on labour market resilience. A large proportion of people enroled in vocational education contributes to the resilience of the labour market, since workers enroled in vocational training courses in general obtain qualifications that are in demand on the market. Vocational education is often provided by employers who are in need of people with certain qualifications, which provides these people with a job guarantee and reduces the risk of dismissal due to external shocks.

Source: United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.

Quality of vocational education
Quality of vocational training| 2018

Description: Response to the survey question "In your country, how do you assess the quality of vocational training?" [1 = extremely poor; among the worst in the world; 7 = excellent; among the best in the world].

Rationale: Significant positive impact of quality of vocational training on labour market resilience. High quality of vocational training allows for the training of specialized workers according to the evolving needs of the labour market. When well implemented, these programs help to avoid skill gaps between employees' competencies and employers' needs, thus increasing the resilience of the labour market through increased productivity, sustainability and suitability in the labour force. It is also an efficient pathway to help the unemployed to re-orient themselves and find new jobs thus increasing labour mobility and professional reconversion opportunities.

Source: World Economic Forum GCI 4.0

Digital skills

STEM graduates
Percentage of graduates from Science, Technology, Engineering and Mathematics programs in tertiary education (%) | Last available to 2018

Description: Percentage of persons who, during the reference academic year, have successfully completed a Science, Technology, Engineering or Mathematics tertiary education program, both sexes (%).

Rationale: The percentage of STEM graduates has a positive effect on labour market resilience. People who have graduated from these programs are in the most demand in the labour market. These people are at less risk from the effects of digital disruption.

Source: United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.

Digital skills
Digital skills among active population| 2018

Description: Response to the survey question "In your country, to what extent does the active population possess sufficient digital skills (e.g. computer skills, basic coding, digital reading)?" [1 =not all; 7 = to a great extent].

Rationale: There is a significant positive impact of digital skills on labour market resilience. People with a high level of digital skills are less threatened by technological innovation. They are more likely to be complemented rather than replaced by technology. They have a greater adaptability to a technology-rich environment.

Source: World Economic Forum, Executive Opinion Survey.

Soft skills

Critical thinking
Critical thinking in teaching| 2018

Description: Response to the survey question "In your country, how do you assess the style of teaching?" [1 = frontal, teacher based, and focused on memorizing; 7 = encourages creative and critical individual thinking].

Rationale: The level of critical thinking has a positive impact on the resilience of the labour force. Teaching which includes the development of critical thinking in students contributes to a person's ability to correctly assess various situations and efficiently adapt to a changing environment, including the situation in the labour market. People with developed critical thinking better understand what skills are currently needed in the labour market and can accordingly work on developing the necessary skills, making them more resilient to job disruptions. Critical thinking is also one of the human attributes, which is most difficult to automate, increasing the potential resilience of those who have this skill.

Source: WEF GCI 4.0, World Economic Forum, Executive Opinion Survey.

2.2 Employment Sub-pillar

Employment input

Labour policy

Hiring and firing practices
Hiring and firing practices | Last available to 2018

Description: Answer to the question: In your country, how would you characterize the hiring and firing of workers? [1 = heavily impeded by regulations; 7 = extremely flexible], 1-7 (best).

Rationale: There is a significant positive impact of hiring and firing practices on employment rate and thus labour market resilience. Greater flexibility in hiring and firing practices encourages firms to create more jobs. Moreover, it also incentivises them to innovate more and engage in the creative destructive process, ultimately creating new jobs to compensate for job destruction brought about by innovation.

Source: World Economic Forum; Executive Opinion Survey.

Worker's rights
Worker's rights | 2018

Description: Score adapted from the ITUC Global Rights Index, which measures the level of protection of internationally recognized core labour standards. The scale of this indicator ranges from 1 (no protection) to 7 (high protection). Dimensions of labour protection include civil rights, the right to bargain collectively, the right to strike, the right to associate freely, and the right of access to due process. The indicator does not consider firing regulations. If country's value in this indicator is zero, then it is set as missing in the GLRI ranking, because zero values are outstanding comparing to the values of other countries. Moreover, all zero values in the source ITUC data contain the comment "Country classified ex officio by ITUC as category 5 (No guarantee of rights) on the basis of the assessment of concrete conditions in the country".

Rationale: The level of workers' rights has a positive impact on the employment rate and thus labour market resilience. In countries where there is significant protection of the rights of workers, the dismissal of an employee may cost the employer more than retraining and upskilling. Thus, workers are more resilient to job disruptions.

Source: International Trade Union Confederation (ITUC); World Economic Forum.

Hiring foreign labour
Ease of hiring foreign labour| 2018

Description: Response to the survey question "In your country, how restrictive are regulations related to the hiring of foreign labour?" [1 = highly restrictive; 7 = not restrictive at all].

Rationale: Ease of hiring foreign labour has a positive impact on labour market resilience. More lenient restrictions on the hiring of foreign labour allow companies to source and hire the best talent and spur more dynamic and innovative economies.

Source: World Economic Forum, Executive Opinion Survey.

Cost of labour

Tax wedge
Tax wedge |2018

Description: Tax wedge is defined as the ratio between the amount of taxes paid by an average single worker (a single person at 100% of average earnings) without children and the corresponding total labour cost for the employer. The average tax wedge measures the extent to which tax on labour income discourages employment. This indicator is measured as a percentage of labour cost. A lower limit threshold has been set for this indicator at the level of 1 percentile.

Rationale: Significant negative impact of tax wedge on labour market resilience. A higher tax wedge means that the firms have less incentives to create jobs and hire additional workers. It might also lead to a higher rate of informal employment which negatively impacts labour resilience.

Source: OECD tax statistics.

Active Labour Market policy

ALP spending
Public expenditure and participant stocks on LMP (% of GDP) | Last available to 2018

Description: Government spending (as % of GDP) on all programs aiming to help unemployed people as well as people outside the labour force to find jobs. This includes all policies for increasing incentives to seek employment, employability of job seekers and job opportunities.

Rationale: Active labour market policies have a significant positive impact on labour resilience. They reduce obstacles to employment by helping unemployed people to enter the labour market more easily through placement services, job subsidies, counselling and job search programs. Active labour policies also allow professional reconversion and the upskilling of unemployed people through vocational training, helping them become more resilient to technological disruptions.

Source: OECD data on labour market programs.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Employment output

Gender balance

Women in labour force
Ratio of female to male labour force participation rate (%) |2018

Description: The labour force participation rate is the proportion of the population aged 15 and older that is economically active; that is all people who supply labour for the production of goods and services during a specified period. The ratio of female to male labour force participation is calculated by dividing the female labour force participation rate by the male labour force participation rate and multiplying by 100. A lower limit threshold has been set for this indicator at the level of 1 percentile.

Rationale: Significant positive impact on labour market resilience. High ratio of female to male labour force means that the country uses all its labour resources and potential. This is especially relevant in countries showing high rates of female education and yet low rates of female participation in the labour force.

Source: ILOSTAT database.

Gender pay gap
Gender pay gap | Last available to 2018

Description: The gender pay gap is unadjusted and defined as the difference between median earnings women relative to median earnings of men. Data refers to full-time employees and to self-employed. Values in this indicator are capped at 98 percentile.

Rationale: There is a negative impact of gender pay gap on labour market resilience. A high gender pay gap indicates that the remunerating system is based on gender rather than talent. A labour market where positions and remunerations are not driven by talent and abilities is less resilient since it is fundamentally negatively biased.

Source: OECD Employment Outlook.

Talent and skills

Capacity to retain and attract talent
Country capacity to retain and attract talent | Last available to 2018

Description: Average of two indicators: country capacity to retain talent and country capacity to attract talent. First indicator: country capacity to retain talent, measured on a scale of 1-7. Does your country retain talented people? [1 = the best and brightest leave to pursue opportunities in other countries; 7 = the best and brightest stay and pursue opportunities in the country]. Second indicator: country capacity to attract talent, measured on a scale of 1-7. Does your country attract talented people from abroad? [1 = not at all; 7 = attracts the best and brightest from around the world].

Rationale: There is a positive effect of attracting and retaining talent on labour market resilience. Ability to attract and retain talent along with the Global Talent Competitiveness Index shows a country's ability to build a very highly skilled labour force, not only adaptable to technological disruptions but also able to innovate and lead innovation, raising competitiveness and productivity. A labour market with a high concentration of talent is thus a more resilient one.

Source: World Economic Forum; Executive Opinion Survey.

Knowledge intensive employment
Share of knowledge intensive employees, (%)| Last available to 2016

Description: Share of workforce employed in knowledge-intensive activities (%).

Rationale: Significant positive impact of knowledge-intensive employment on labour market resilience. Technological job destruction has so far primarily affected routine manual and cognitive labour. Non-routine cognitive jobs and knowledge-intensive jobs are more resilient to technological disruptions since technological innovations in these jobs tend to be complementary and not substitutional. Knowledge-intensive workers will likely be able to adapt and incorporate innovations into their roles, using them to increase their productivity.

Productivity of labour

Labour productivity
Labour productivity per employee (GDP constant 2011 international $ in PPP) | 2018

Description: Defined as output per worker. These indicators are part of the ILO Estimates and Projections series, analysed in the ILO's World Employment and Social Outlook reports. This measure of labour productivity is calculated using data on GDP (in constant 2011 international dollars in PPP) derived from the World Development Indicators database of the World Bank. To compute labour productivity as GDP per worker, ILO estimates for total employment are used. Countries' values in this indicator are capped at 97 percentile.

Rationale: There is a significant positive impact of labour productivity on labour market resilience. High labour productivity is characteristic of more resilient jobs that tend to be more difficult to replace with technology and automation. A high level of labour productivity also reflects a good match of skills in the labour market.

Source: ILO database.

Employment support

ALP effectiveness
Active labour market policies effectiveness | Last available to 2018

Description: Average answer to the question: In your country, to what extent do labour market policies help unemployed people to reskill and find new employment (including skills matching, retraining, etc.)? [1 = not at all; 7 = to a great extent].

Rationale: There is a significant positive impact of ALP effectiveness on labour market resilience. Active labour policies help to reduce obstacles to employment by helping the unemployed to re-enter the job market more easily through placement services, job subsidies, counselling and job search programs. Active labour policies also allow professional reconversion and the upskilling of unemployed people through vocational training, thus helping them to become more resilient to technological disruptions.

Source: World Economic Forum, Executive Opinion Survey.

Labour-employer cooperation
Cooperation in labour-employer relations | Last available to 2018

Description: Cooperation in labour-employer relations, measured on a scale of 1-7. In your country, how would you characterize labour-employer relations? [1 = generally confrontational; 7 = generally cooperative].

Rationale: There is a significant positive impact of good labour-employer cooperation on labour market resilience. Cooperation between labour and employers allows the enhancement of collaboration between the different actors who impact labour resilience, reduces the costs of labour-employee relations and may make automation less likely. It helps employees to adapt more easily and work with employers to increase skills matching, productivity and decrease employee turnover.

Source: World Economic Forum; Executive Opinion Survey.

Impact of taxes on workers
Effect of taxation on incentives to work | Last available to 2018

Description: Effect of taxation on incentives to work, measured on a scale of 1-7. In your country, to what extent do taxes reduce the incentive to work? [1 = significantly reduce the incentive to work; 7 = do not reduce incentive to work at all].

Rationale: A tax system that does not reduce the incentive to work has a positive impact on labour market resilience. A taxation system that increases the incentive to work increases labour force participation and encourages unemployed workers to reduce the length of their job search. This increases flows from unemployment to employment and raises resilience.

Job quality

Earnings quality
Earnings quality (in constant prices, at constant PPPs) | Last available to 2014

Description: Job quality refers to multiple aspects of employment that contribute to well-being of workers and represents an inherently multi-dimensional construct. The OECD job quality database focuses on three key dimensions. These are earnings quality, labour market security and the quality of the working environment. Earnings quality captures the extent to which earnings contribute to workers' well-being in terms of average earnings and their distribution across the workforce.

Rationale: There is a significant positive impact of earnings quality on employment and labour market resilience. A high level of earnings strengthens the desire of people to find work and provides an additional opportunity to strengthen their skills through training in paid courses and continuous higher education which increases resilience to job disruption.

Source: OECD statistics.

Quality of the working environment
Quality of the working environment (%) | Last available to 2015

Description: Job quality refers to multiple aspects of employment that contribute to well-being of workers and represents an inherently multi-dimensional construct. The OECD job quality database focuses on three key dimensions. These are earnings quality, labour market security and quality of the working environment. Quality of the working environment captures non-economic aspects of jobs including the nature and content of the work performed, working-time arrangements and workplace relationships. These are measured as incidence of job strain characterized as high job demands with low job resources.

Rationale: Low job quality has a negative effect on labour resilience. A low quality working environment increases employee fatigue, increases the probability of illness and reduces the employee's desire to work. This culminates in several negative effects which reduce resilience to job disruption.

Source: OECD statistics.

2.3 Innovation Sub-pillar

Innovation input

Expenditure on R&D

R&D spending
Gross R&D expenditure (% GDP) | Last available to 2017

Description: Gross domestic expenditure on research and development (R&D), expressed as a percentage of GDP. This includes both capital and current expenditures in the four main sectors: business enterprise, government, higher education and private non-profit. R&D covers basic research, applied research, and experimental development. Countries' values in this indicator are capped at 93 percentile.

Rationale: There is a significant positive impact of R&D expenditure on labour market resilience. Gross R&D expenditure is a policy input, encouraging and leading to further innovation.
At the firm level, innovation – both labour-friendly product innovations and labour-saving process innovation- is believed to have positive impact on employment. Innovation ultimately allows the firm to become more competitive, gain market share and thus create more jobs. At the sector level, this positive impact might be mitigated by the reaction of competitors and the ability of others to assimilate the technology. However, on balance, innovation allows the economy of a country to gain more competitiveness and firms to increase market share compared to foreign competitors, increasing growth, job creation and labour market resilience to technological disruptions.

Source: United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.

WHITESHIELD PARTNERS
STRATEGY & PUBLIC POLICY ADVISORY

Intellectual property

IPR score
Intellectual property rights score | Last available to 2018

Description: The IPRI scores the underlining institutions of a strong property rights regime: the legal and political environment, physical property rights, and intellectual property rights. It is the world's only index entirely dedicated to the measurement of intellectual and physical property rights.

Rationale: A high level of intellectual property protection positively impacts the labour market resilience. Gross R&D expenditure, government R&D expenditure and intellectual property legislation are all policy inputs encouraging and leading to more innovation. At the firm level innovation – both labour-friendly product innovation and labour-saving process innovation – is believed to have positive impact on employment. Innovation ultimately allows the firm to become more competitive, gain market share and thus create more jobs. Policy inputs that increase innovation allow the economy of the country to gain more competitiveness and firms to increase market share compared to foreign competitors, thus increasing growth, job creation and labour market resilience to technological disruptions.

Source: Property Rights Alliance.

Innovation output

Innovation products

Trademark applications
Trademark applications per 1000 pop., sum of resident and non-residents | Last available to 2017

Description: Number of trademark applications divided by population size*1000. Trademark applications filed are applications to register a trademark with a national or regional Intellectual Property (IP) office. A trademark is a distinctive sign which identifies certain goods or services as those produced or provided by a specific person or enterprise. A trademark provides protection to the owner of the mark by ensuring the exclusive right to use it to identify goods or services, or to authorize another to use it in return for payment. The period of protection varies, but a trademark can be renewed indefinitely beyond the time limit on payment of additional fees. Countries' values in this indicator are capped at 94 percentile.

Rationale: There is a significant positive impact of trademarks applications on labour market resilience. Trademark applications reflect higher product innovation which (as explained previously) is labour-friendly both at the firm, sector and overall economy level, leading to the creation of new jobs.

Source: World Intellectual Property Organization (WIPO).

Patent applications
Patent applications per 1000 pop., sum of resident and non-residents | Last available to 2017

Description: Number of patent applications of residents and nonresidents divided by population size*1000. Patent applications are worldwide patent applications filed through the Patent Cooperation Treaty procedure or with a national patent office for exclusive rights to an invention: a product or process that provides a new way of doing something or offers a new technical solution to a problem. A patent provides protection for the invention to the owner of the patent for a limited period, generally 20 years. Countries' values in this indicator are capped at 90 percentile.

Rationale: There is a significant positive impact of patent applications on labour market resilience. This reflects higher levels of product innovation which (as explained previously) is labour-friendly both at the firm, sector and overall economy level, leading to the creation of new jobs.

Source: World Intellectual Property Organization (WIPO).

Innovation environment

R&D journals
Scientific and technical journal articles per 1000 pop. | Last available to 2016

Description: Number of scientific and technical journal articles divided by population size*1000.

Scientific and technical journal articles refer to the number of scientific and engineering articles published in the following fields: physics, biology, chemistry, mathematics, clinical medicine, biomedical research, engineering and technology, and earth and space sciences. Countries' values in this indicator are capped at 97 percentile.

Rationale: There is a significant positive impact of scientific R&D publications on labour market resilience. A high number of scientific and technical journal articles reflect the knowledge intensity within a country and its potential to be an innovation leader. This increases both the dynamism of the economy and labour resilience.

Source: World Bank, National Science Foundation, Science and Engineering Indicators.

Researchers in R&D
Researchers in R&D per 1 million pop.| Last available to 2017

Description: The number of researchers engaged in research & development (R&D), expressed per million of population. Researchers are professionals who conduct research and improve or develop concepts, theories, models, techniques, instrumentation and software of operational methods. R&D covers basic research, applied research, and experimental development. Countries' values in this indicator are capped at 99 percentile.

Rationale: The number of R&D research personnel in a country has a positive effect on labour resilience. Firstly, a high number of researchers in R&D reflects a source of employment for a significant number of people in the economy which illustrates one of the ways R&D can allow an economy to create new jobs. Secondly, a high number of researchers in R&D allow the country to reach a higher level of innovation which creates further employment opportunities in new areas, increasing labour force resilience.

Source: United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.

Technicians in R&D
Technicians in R&D per 1 million. pop.| Last available to 2017

Description: The number of technicians participating in research & development (R&D), expressed per million of population. Technicians and equivalent staff are people who perform scientific and technical tasks involving the application of concepts and operational methods, normally under the supervision of researchers. R&D covers basic research, applied research, and experimental development. Countries' values in this indicator are capped at 97 percentile.

Rationale: The number of technical R&D staff in a country has a positive effect on labour resilience. Firstly, a high number of technicians in R&D reflects a source of employment for a significant number of people in the economy which illustrates one of the ways R&D can allow an economy to create new jobs. Moreover, a high number of technicians in R&D allow the country to reach a higher level of innovation which further creates employment opportunities

Source: United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.

<u>Innovation trade</u>

Creative goods exports
Shares of creative goods exports (% of total good exports) | Last available to 2015

Description: Creative goods exports as percentage of total goods exports.

Rationale: There is a significant positive impact of creative goods exports on labour market resilience. Creative goods reflect higher levels of product innovation (as explained previously labour-friendly both at the firm, sector and overall economy level), leading to the creation of new jobs. They are also dependent on creativity, a human attribute difficult to automate, making jobs involved in creative products more resilient. These countries' values in this indicator are also capped at 93 percentile.

Source: UNCTAD database.

2.4 Technology Sub-pillar:

Technology input

ICT affordability

ICT affordability
Affordability of ICT infrastructure | Last available to 2016

Description: 4th pillar in Networked Readiness Index by WEF. The affordability pillar (three variables) assesses the cost of accessing ICT, either via mobile telephone or fixed broadband internet, as well as the level of competition in the internet and telephony sectors that determine this cost.

Rationale: The affordability of ICT has a positive impact on labour market resilience. In the context of digitalization, access to the Internet and mobile communications is a necessary condition for people to develop digital skills. In addition, a low cost of access allows people to find upskilling resources and learning programs/platforms and thus to increase their personal resilience by enabling them to retrain in demanded skills and to find work more quickly in case of dismissal.

Source: WEF, the Global Information Technology Report.

ICT access
ICT access index | 2017

Description: the first of 3 sub-indexes included to the ICT Development Index (IDI), which is a valuable tool for benchmarking the most important indicators for measuring the information society. The access sub-index captures ICT readiness, and includes five infrastructure and access indicators: fixed-telephone subscriptions/100 inhabitants, mobile-cellular telephone subscriptions/100 inhabitants, international Internet bandwidth (bits/s) per user, percentage of households with a computer and percentage of households with Internet access. Countries' values in this indicator are capped at 96 percentile.

Rationale: ICT access has a positive impact on labour market resilience, because it allows the population greater access to technology, making citizens more familiar with technological innovations, enabling their adoption and use, including professionally.

Source: United Nations International Telecommunication Union (UN ITU).

Technology output

ICT trade

ICT goods and services export
Average of ICT goods export and communication services export (averages, which are % of corresponding total goods and services export) | Last available to 2018

Description: Average of ICT goods export and communication services export. Information and communication technology goods include computers and peripheral equipment, communication equipment, consumer electronic equipment, electronic components, and other information and technology goods (miscellaneous). Communications, computer, information, and other services cover international telecommunications; computer data; news-related service transactions between residents and non-residents; construction services; royalties and license fees; miscellaneous business, professional, and technical services; personal, cultural, and recreational services; manufacturing services on physical inputs owned by others; and maintenance and repair services and government services not included elsewhere.

Rationale: Information and Communication Technology goods and services have a positive impact on labour resilience. The indicator reflects the degree of usage of technology in the economy. A technologically-rich business environment reflects a potential position as a leader in new technologies increasing, the global competitiveness of the country and thus employment growth. Moreover, it is also correlated with a high share of ICT-intensive sectors which are more likely to create new jobs in the future economy.

Source: United Nations Conference on Trade and Developments UNCTADstat database, International Monetary Fund, Balance of Payments Statistics Yearbook and data files.

ICT infrastructure

Mobile broadband subscriptions
Mobile broadband subscriptions (per 100 pop.)| Last available to 2018

Description: Number of mobile broadband subscriptions per 100 people.

Rationale: Significant positive impact of mobile subscriptions on labour market resilience. Mobile broadband access allows the population easier access to technology and is indicative of a knowledge economy. With fast internet access, the population has better access to information and online training and is likely more familiar with technological innovations, helping them adopt and use them with more ease, including professionally. A knowledge economy is also more resilient to technological change.

Source: International Telecommunication Union.

2.5 Entrepreneurship Sub-pillar

Entrepreneurship input

Doing business

Time dealing with government regulations
Time spent dealing with the requirements of government regulations (% of senior management time) | Last available to 2018

Description: Time spent dealing with the requirements of government regulations is the proportion of senior management's time, in a typical week, that is spent dealing with the requirements imposed by government regulations (e.g., taxes, customs, labour regulations, licensing and registration, including dealings with officials, and completing forms). Countries' values in this indicator are capped at 98 percentile.

Rationale: Negative impact on labour resilience. Time spent on regulation requirements distracts from business management, reduces the profits of firms and counteracts both the normal activities of existing organizations and the opening of new firms. A business-friendly environment allows a country to sustain a higher number of new businesses and is attractive to investment, which will ultimately create new jobs and increase employment thus contributing to the resilience of the labour market.

Source: World Bank, Enterprise Surveys.

Start a business

Time to start a business
Time required to start a business (days) |2018

Description: Time required to start a business is the number of calendar days needed to complete the procedures to legally operate a business. If a procedure can be hastened at additional cost, the fastest procedure, independent of cost, is chosen. Countries' values in this indicator are capped at 94 percentile.

Rationale: A longer time to start a business has a negative impact on labour resilience. Time spent on business formation requirements constitutes a burden on business management and in particular to entrepreneurship and the starting of new firms. This harms the functioning of the labour market, as it is a barrier to the creation of new businesses, rendering it less resilient.

Source: World Bank, Doing Business project.

Procedures to register a business
Start-up procedures to register a business (number) |2018

Description: Start-up procedures are those required to start a business, including interactions to obtain necessary permits and licenses and to complete all inscriptions, verifications, and notifications to start operations. Data is for businesses with specific characteristics of ownership, size, and type of production. Countries' values in this indicator are capped at 99 percentile.

Rationale: Negative impact on labour resilience. Time spent on start-up requirements constitutes a burden on business management and in particular to entrepreneurship and the starting of new firms. This harms the functioning of the labour market, rendering it less resilient.

Source: World Bank, Doing Business project.

Cost to start a business
Cost to start a business (% GNI per capita) |2018

Description: Cost to register a business is normalized by presenting it as a percentage of gross national income (GNI) per capita.

Rationale: A higher cost to start a business has a negative impact on labour resilience. A high cost of opening a business disincentivises new business formation. This reduces employment, which makes the labour market less resilient with lower levels of job creation.

Source: World Bank, Doing Business project.

Entrepreneurship output

<u>Entrepreneurship activity</u>

Global Entrepreneurship Index
Global Entrepreneurship Index | Last available to 2018

Description: The Global Entrepreneurship Index is an annual index that measures the health of the entrepreneurial ecosystems in each of 137 countries. It then ranks the performance of these against each other. This provides a picture of how each country performs in both the domestic and international context. The GEDI methodology collects data on the entrepreneurial attitudes, abilities and aspirations of the local population and then weights these against the prevailing social and economic 'infrastructure' – this includes aspects such as broadband connectivity and the transport links to external markets. This process creates 14 'pillars' which GEDI uses to measure the health of the regional ecosystem.

Rationale: A better level of entrepreneurship activity has a positive impact on labour resilience. A business environment friendly to entrepreneurship fosters a greater number of new businesses which will ultimately create new jobs and increase employment thus contributing to the resilience of the labour market.

Source: Global Entrepreneurship and Development Institute.

New corporate registrations
New businesses registered per 1000 pop. | Last available to 2016

Description: New businesses registered divided by population *1000. New businesses registered are the number of new limited liability corporations registered in the calendar year. Countries' values in this indicator are capped at 92 percentile.

Rationale: A higher level of business creation has a positive impact on labour resilience. New businesses create new jobs and increase employment thus contributing to the resilience of the labour market.

Source: World Bank Entrepreneurship Survey.

<u>Access to finance</u>

Venture capital investment
Venture capital investments (% of GDP) |2017

Description: Investments in seed/start-ups at the early stage and later stages of company development as a percentage of GDP. Countries' values in this indicator are capped at 89 percentile.

Rationale: Venture capital availability has a positive impact on labour resilience. Venture capital investments help to open new businesses, particularly in innovative sectors of the economy, creating new jobs and increasing the resilience of the labour market.

Source: OECD, Entrepreneurship at a Glance.

SME outstanding loans
Share of SME outstanding loans (% of total outstanding business loans) | Last available to 2017

Description: SME outstanding loans as a share of total outstanding business loans.

Rationale: A high proportion of SME loans has a positive impact on labour resilience. SMEs account for up to 60% of employment in most economies. Access to capital allows SMEs to invest in R&D and expansion, providing both technological progress and job creation, which counteracts job disruption.

Source: OECD, Centre for Entrepreneurship, SMEs, Local Development and Tourism (CFE).

Access to loans
Ease of access to loans | Last available to 2018

Description: Answer to the question "In your country, how easy is it for businesses to obtain a bank loan?" [1 = extremely difficult; 7 = extremely easy].

Rationale: Ease of access to loan financing has a positive impact on labour resilience. Access to capital allows companies to invest in R&D and expansion which provides both technological progress and job creation. This helps counteract digital job disruption.

Source: WEF, Executive Opinion Survey.

2.6 Statistics Sub-pillar:

Statistical fullness
Statistical fullness | 2018

Description: Share of the number of country indicators for the GLRI available out of the total number of indicators.

Rationale: The completeness of available data on the country directly affects the quality of the country's GLRI ranking. It is also indicative of the extent of evidence based policy making. The statistics indicator is added to the index as a weighting factor: the more information which is available about the country, the more reliable the value of the country's GLRI rank and the higher the country in the ranking.
Source: Whiteshield Partners calculation.

SOURCES AND DEFINITIONS OF REGIONAL GLRI

1 Structural Pillar

1.1 Demographics sub-pillar

Share of older population
Share of older population | 2018

Description: Ratio of people aged 65 years old and above as % of total population.

Rationale: A high share of older population has a negative impact on labour market resilience. It can create bottlenecks for the available workforce and potential skill gaps since older generations tend to be less adaptable to change and less familiar with new technologies. Both lead to a less resilient labour market.

Source: OECD regional statistics.

1.2 Economic development sub-pillar

Disposable household income per head *Disposable household income, USD per head, constant prices, constant PPP, base year 2010 | 2016*

Description: Household disposable income measures the income of households (wages and salaries, self-employed income, income from unincorporated enterprises, social benefits, etc.), after taking into account net interest and dividends received and the payment of taxes and social contributions.

Rationale: The level of disposable household income per head has a positive impact on labour market resilience. A lower disposable income reflects a lower production function thus lower labour demand and a higher unemployment rate. A high long-term unemployment rate is associated with low labour market resilience. A higher disposable income per head reflects higher economic development and sufficient resources to invest in innovation and technology and develop resilience to technological change.

Source: OECD regional statistics.

1.3 Economic diversification sub-pillar

Concentration of exports
HH export concentration index | 2018

Description: The HHI index for product exports is a measure of export concentration. A country with exports concentrated in very few markets will have an index value close to 1. Similarly, a country with a perfectly diversified export portfolio will have an index close to 0.

Rationale: The level of concentration of exports has a negative impact on labour market resilience. Less concentration allows the economy to be more resilient since it is not dependent on one or a few sectors and it is less affected by the cyclical changes of sectors. It leads to a broader and more diversified structure of employment and thus a more reliable and resilient labour market. The level of export concentration impacts on other UK LRI indicators such as the level of economic development.

Source: Whiteshield Partners calculations based on National export statistics, e.g. RTS export data for the UK GLRI.

1.4 Inequality sub-pillar

Income inequality
Gini (at disposable income, after taxes and transfers) | 2011

Description: The Gini coefficient is based on the comparison of cumulative proportions of the population against cumulative proportions of income they receive, and it ranges between 0 in the case of perfect equality and 1 in the case of perfect inequality.

Rationale: The level of income inequality has a negative impact on labour market resilience. High income inequality reflects a bi-polarized labour market between low-skilled and high-skilled workers as well as a high wage gap between both. Low-skilled, low-paid workers are less resilient to technological disruptions since their occupations are more likely to be replaced rather than complemented by technological innovation. With low levels of education, low-skilled workers are

less likely to achieve job-reconversion. The effect of automation on job destruction will thus affect unequal regions more.

Source: OECD regional statistics.

.

2 Policy Pillar

2.1 Education and skills sub-pillar

Education expenditure

Education spending per head
Public education spending per population | 2017-2018

Description: Public spending on education includes direct expenditure on educational institutions as well as educational-related public subsidies given to households and administered by educational institutions. Public spending includes expenditure on schools, universities and other public and private institutions delivering or supporting educational services.

Rationale: There is a significant positive impact of public education expenditure on the employment rate, labour skills and qualifications and thus labour market resilience.

Source: United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics, National export statistics, e.g. PESA 2018 for the UK GLRI.

Share of labour force with tertiary education
Share of labour force with tertiary education (in % of labour force) | 2017

Description: Labour force with tertiary education is defined as the share of people in labour force having completed the highest level of education as a proportion of the whole labour force. This includes both theoretical programs leading to advanced research or high skill professions such as medicine and more vocational programs leading to the labour market.

Rationale: The level of tertiary education expenditure has a positive impact on the resilience of the labour force as higher education linked to a higher employability. In general, knowledge-intensive jobs

requiring tertiary education are less threatened by the risk of automation and are more adaptable to a technology-rich workplace.

Source: OECD regional statistics.

2.2 Employment Sub-pillar

Gender balance

Gender difference in participation rates *Participation rate gender difference, 15-64 years old (female-male) | 2016*

Description: The labour force participation rate is calculated as the labour force divided by the total working-age population. Gender difference means the difference between the female participation rate and male participation rate.

Rationale: Balanced gender participation rates, reflected in higher women-men participation rate difference, have a positive impact on labour market resilience. High gender difference indicates that remuneration is based on gender rather than talent. A labour market where positions and remuneration are not driven by talent and abilities is less resilient since it is negatively biased. Also this indicator can reflect the fact that, unlike men, women are less likely to work full-time, more likely to be employed in lower-paid occupations, less likely to progress in their careers and therefore are less resilient in labour market.

Source: OECD regional statistics.

Labour force participation

Participation rate of working age
Participation rate 15-64 (% labour force 15-64 over population 15-64) | 2016

Description: Labour force participation rate is the proportion of the population aged 15 and older that is economically active: all people who supply labour for the production of goods and services during a specified period.

Rationale: There is a positive effect of labour force participation rate on labour market resilience. A higher participation rate means more people involved in the labour market. These people are less in danger of

future poverty and thus they are more resilient in the labour market.

Source: OECD regional statistics.

Part-time employment incidence
Part-time employment incidence (% part-time employees over total employment) | 2018

Description: Part-time employment is defined as people in employment (whether employees or self-employed) who usually work less than 30 hours per week in their main job. Employed people are those aged 15 and over who report that they have worked in gainful employment for at least one hour in the previous week or who had a job but were absent from work during the reference week while having a formal job attachment. This indicator shows the proportion of persons employed part-time among all employed persons.

Rationale: There is a negative effect of part time employment on labour market resilience. Part-time employed people are more prone to dismissal compared to full-time people, and therefore a high share of such people in the labour force makes it less resilient.

Source: OECD regional statistics.

Talent and skills

Knowledge intensive employment
Share of employment in knowledge-intensive services (% of total employment) | 2017

Description: Share of workforce employed in knowledge-intensive activities in the total employment (%).

Rationale: There is a significant positive impact of knowledge-intensive employment on labour market resilience. Technological job destruction has been related so far more to routine manual and cognitive labour. Non-routine cognitive jobs and knowledge-intensive jobs are more resilient to technological disruptions since technological innovations in these jobs are in general complementary and not substitutional and knowledge-intensive workers will be able to adapt to incorporate these innovations and use them to increase their productivity.

Source: OECD regional statistics.

Employment in high-technology manufacturing
Share of employment in high-technology manufacturing (in % of total employment) | 2017

Description: Share of workforce employed in high-technology manufacturing in total employment (%).

Rationale: Significant positive impact of employment in high-technology manufacturing on labour market resilience. Non-routine cognitive jobs in high-technology manufacturing are more resilient to technological disruptions since technological innovations in these jobs tend to be complementary and not substitutional and these workers will be able to adapt to incorporate these innovations and use them to increase their productivity.

Source: OECD regional statistics.

Productivity of labour

Labour productivity
Regional Gross Value Added, total activities, USD per worker, constant prices, constant PPP, base year 2010 | 2017

Description: Defined as gross value added of all activities per worker in USD, constant prices, constant PPP, base year 2010.

Rationale: There is a significant positive impact of labour productivity on labour market resilience. High labour productivity is characteristic of more resilient jobs, that are less likely to be completely replaced by technology and automation. A high labour productivity also reflects a good match of skills need and skills of workers in the labour market.

Source: OECD regional statistics.

2.3 Innovation Sub-pillar

Expenditure on R&D

R&D spending
Share of R&D Total Expenditure (in % of GRP) | 2016

Description: Gross regional expenditures on research and development (R&D), expressed as a percent of GRP.

Rationale: There is a significant positive impact of R&D expenditure on labour market resilience. R&D expenditure encourages and leads to more innovation.

At the firm level, innovation – both labour-friendly product innovations and labour-saving process innovation – is believed to have positive impact on employment. Innovation ultimately allows the firm to become more competitive, gain market share and thus create more jobs.

At the sector level this positive impact might be mitigated by the impact on competitors and the business stealing phenomenon.

Overall at the regional level, however, the business stealing phenomenon is compensated for by inter-sectoral job creation leading to a positive general impact of innovation. This is particularly true for countries and regions that are leaders in innovation and the first to implement them. Innovations allow the economy of the country or region to gain competitiveness and firms from that country or region to increase market share compared to external competitors, thus increasing growth, job creation and labour market resilience to technological disruptions.

Source: OECD regional statistics.

Innovation products

Patent applications
PCT patent applications per million inhabitants (fractional count; by inventor and priority year) | 2015

Description: Number of patent applications divided by population size*1000000. Patent applications are worldwide patent applications filed through the Patent Cooperation Treaty procedure or with a national patent office for exclusive rights for an invention – a product

or process that provides a new way of doing something or offers a new technical solution to a problem. A patent provides protection for the invention to the owner of the patent for a limited period, generally 20 years.

Rationale: There is a significant positive impact of patent applications on labour market resilience. This reflects higher levels of product innovation which (as explained previously) is labour-friendly both at the firm, sector and overall economy level, leading to the creation of new jobs.

Source: OECD regional statistics.

Innovation environment

R&D personnel
R&D Total Personnel Rate (in % of total employment) | 2016

Description: The number of workers engaged in Research & Development (R&D), expressed as % of total employment.

Rationale: The number of R&D staff in a region has a positive effect on labour resilience. A high number of people in R&D reflects first a source of employment for a significant number of people in the economy which illustrates one of the ways research and innovation can allow an economy to create new jobs and be resilient to technological disruptions.

Moreover, a high number people employed in R&D allows the region to reach a higher level of innovation with a positive impact on employment as described above.

Source: OECD regional statistics.

2.4 Technology Sub-pillar:
ICT infrastructure

Share of households with internet broadband access
Share of households with internet broadband access (in % of total households) | 2017

Description: Share of households with internet broadband access as % of total households.

Rationale: positive impact of internet broadband on labour market resilience. Broadband access allows allows the population greater access to technology, making citizens more familiar with technological innovations, enabling adoption their and use, including professionally.

Source: OECD regional statistics.

2.5 Entrepreneurship Sub-pillar

New businesses

Enterprise birth rate
Enterprise birth rate per 1000 people | 2018

Description: New businesses registered divided by population *1000.

Rationale: A higher level of business creation has a positive impact on labour resilience. New businesses create new jobs and increase employment thus contributing to the resilience of the labour market.

Source: OECD regional statistics, UK ONS.

Enterprise birth/death rate
Enterprise birth/death rate | 2018

Description: New businesses divided by deaths of businesses during the year.

Rationale: High rate of enterprise births compared to enterprise deaths has a positive influence on labour market resilience. A large rate of births/deaths indicates the development of the economy and the creation of new jobs, which makes the labour market more resilient.

Source: OECD regional statistics, UK ONS.

Survival

Survival rate
Survival rate of newly born enterprises | 2018

Description: 3-year survival rate (% of all firms born 3 years ago having survived - same sector, same size class)

Rationale: A higher level of survival of enterprises has a positive impact on labour resilience. A large survival rate indicates that the firm is sufficiently stable in the market and has a greater chance of continuing to function, which means that it is less likely that jobs created by such enterprises will be reduced.

Source: OECD regional statistics, UK ONS.

APPENDIX V: OVERVIEW OF THE WHITESHIELD PARTNERS CITY RESILIENCE INDEX (CRI)

Whiteshield Partners developed the City Resilience Index © as a tool to provide insights for policy makers in relation to city development. The index utilises a base of 46 indicators to assess cities across the four pillars and eight sub-pillars.

The index allows policy makers to assess where individual cities stand along a range of different measures. It can be leveraged to gain specific insights into the strengths and weaknesses of cities so tailored policy solutions can be developed.

Such analysis can help develop a more comprehensive and analytical approach to city-level policy making and allow a comparative diagnosis of cities' strengths and weaknesses.

A global analysis of the most resilient cities highlights four main characteristics:

Smart. Leverage new technologies to increase efficiency of government services, manage assets and resources more effectively, and enhance the welfare of citizens.

Sustainable. Incorporate into city design the social and environmental impact of development and increase resilience to natural disasters while minimizing energy consumption.

Competitive. Attract businesses, capital and talent to contribute to growth, productivity and higher incomes for citizens.

Inclusive. Combine economic growth, economic opportunities and social support to secure ensure the economic welfare of all citizens.

Cities of the future should aim to achieve a strong balance between each of these characteristics to achieve the highest level of resilience.

Figure 55: Overview of the City Resilience Index Framework

Source: Whiteshield Partners
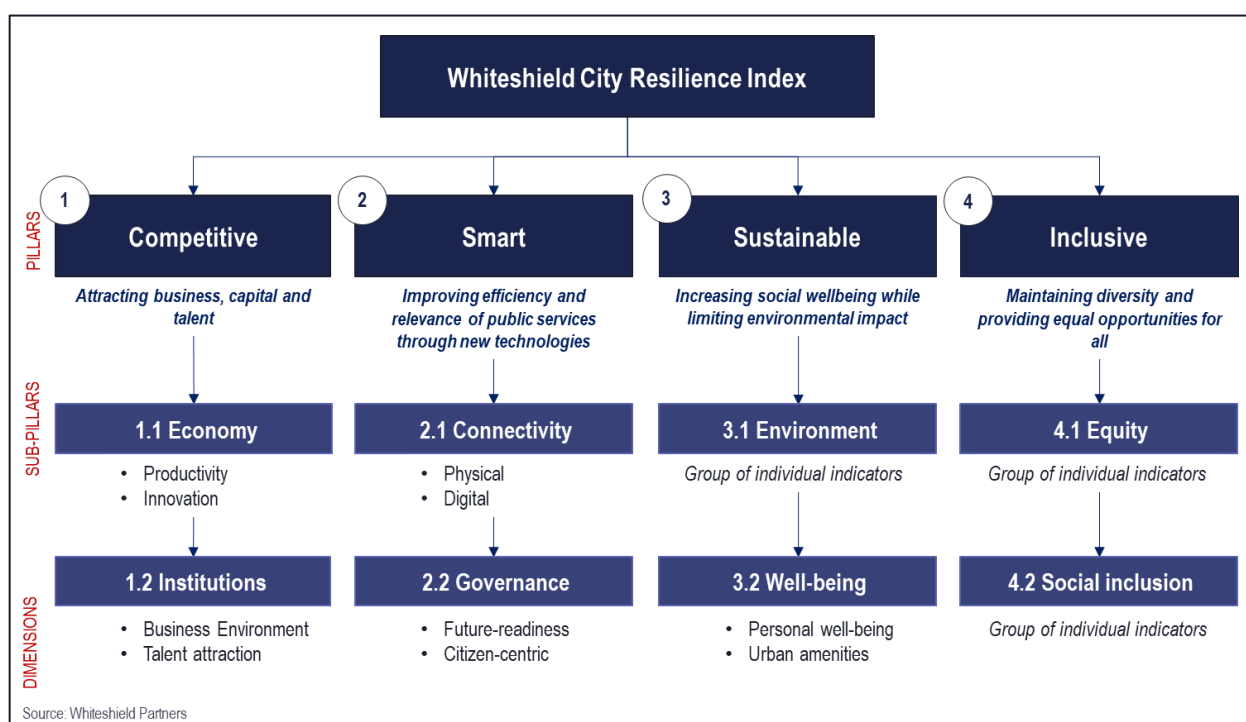
DOWNLOAD THE FULL REPORT AT:
https://www.whiteshieldpartners.com/insights/glri_report