WHITESHIELD

THE GLOBAL LABOUR RESILIENCE INDEX 2025

THE TRANSFORMATIVE IMPACT OF AI ON ECONOMIES & LABOUR MARKETS

In Collaboration with Google

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Suggested Citation: Whiteshield, Global Labour Resilience Index Report 2025

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FOREWORD

Sir Christopher A. Pissarides

Chair of the GLRI Advisory Board,

Regius Professor of Economics, London School of Economics and Political Science, Recipient of the Nobel Prize in Economics, and Whiteshield Special Advisor and Director

WHITESHIELD

The rapid advancement of artificial intelligence (AI) technologies is poised to profoundly reshape labour markets, altering the allocation of workers across occupations, sectors, and regions. Just as industrial revolutions of the past have displaced some jobs while creating others. AI will inevitably render certain roles obsolete while generating new opportunities in emerging fields. However, this transformation is unlikely to comfort those whose livelihoods may be disrupted. Jobs, skills, and occupational identities are deeply personal and location-specific, and the displacement caused by AI presents significant challenges for individuals and communities alike.

Some argue that the skills required for the AI-driven economy are extensions of existing technical and cognitive skills adapted to new tools and processes. Even in such cases, success in the AI economy demands not only technical proficiency but also the development of "soft" skills, such as adaptability, creativity, and critical thinking, which allow workers to collaborate effectively with intelligent systems. Others contend that AI roles demand higher levels of formal education, specialized training, and strong interpersonal and analytical capabilities. Put simply, preparing for an AI-powered future requires equipping workers across all sectors and skill levels with a foundation in AI-relevant knowledge, integrated into educational and lifelong learning systems.

At the same time, the societal impacts of AI adoption vary widely across regions and economic contexts. Different cross-country impacts of AI on labour markets may arise not only from heterogeneous occupational structures, or how well workers are equipped and prepared to work efficiently and effectively side-by-side with machines; importantly, such differences may be driven by the unequal access to AI and data. Analysis finds a high correlation between a country's labour market adaptability to AI and its data and digital infrastructure preparedness. Although many of the emerging and developing economies are already using basic AI technologies (for example in smart farming, credit scoring…), advanced AI technologies are not yet widely adopted despite the tremendous opportunities for economic development that they present. Without thoughtful intervention, the AI revolution risks exacerbating these inequalities, concentrating opportunities in certain geographies and among highly skilled individuals. Policymakers must ensure that the AI transformation follows a more inclusive path, countering these tendencies while addressing entrenched inequalities in access to education, technology, and opportunity. This is one of the key messages from GLRI 2025.

This year's index builds on a comprehensive set of indicators designed to assess labour markets' readiness to embrace AI-driven change. The report emphasizes that public and private actors must work collaboratively to address the multi-faceted effects of AI on labour markets, addressing both demand- and supply-side challenges. This includes creating accessible upskilling and reskilling programs, implementing active labour market policies, and fostering workforce reintegration for those displaced. Training programs must aim to increase productivity while remaining inclusive, prioritizing vulnerable populations, and emphasizing the development of transferable skills that encourage occupational mobility in an evolving job market.

The policy challenges ahead are immense and demand a whole-of-government approach to realize the potential of AI while safeguarding social and economic equity. This report advocates for the strengthening of labour market institutions and the adoption of a citizen-centric framework that places individuals at the heart of decision-making. By integrating citizens' interests and concerns, policies can foster an AI transformation that is not only technologically advanced but also socially inclusive and equitable, ensuring that all segments of society share in its benefits.

FOREWORD

Karan Bhatia

Global Head of Government Affairs & Public Policy, Google

A nation's greatest asset lies in the skills, talents, and productivity of its workforce. Cultivating and effectively utilizing human capital is essential for driving innovation, competitiveness, and prosperity in an increasingly interconnected world.

We now stand at the threshold of a new era that is likely to be defined by the transformative power of artificial intelligence (AI). Like other transformative technologies before it, such as electricity, computers, and the internet, AI promises to reshape the landscape of work, creating new jobs, expanding opportunity, and raising new questions about how to best prepare workers for success.

At Google, we envision a future where AI empowers people across all walks of life to work smarter, not harder. While some fear job displacement, history and economics suggest AI will primarily enhance jobs, not replace them. Indeed, the International Labor Organization predicts AI will mainly augment existing roles. This aligns with a recent Google-Ipsos study where 80% of workers believed AI will change the workplace in the next five years, with most seeing this change as positive.

Already, AI's emergence is making workers more productive and helping them produce higher quality work across a wide range of occupations and tasks. It is also creating entirely new job categories, like AI data architects and AI ethics officers, and allowing workers to focus on building human-centric skills and improving customer experience, by automating repetitive tasks. At the same time, the recent Nobel Prize awarded to Google DeepMind researchers for predicting protein structures demonstrates the potential for AI to advance scientific discovery and help to bring previously unattainable challenges within reach.

Like any major technological transformation, however, the rapid advancement of AI also raises challenges for societies to address. As AI reshapes industries and occupations, we must equip workers not just to adapt, but to thrive. This will require governments, industry, and civil society working together to foster opportunities for continuous learning and skill development that empower workers to leverage AI as a tool for growth.

The Global Labour Resilience Index (GLRI), now in its ninth edition, offers a valuable framework for understanding how labor markets respond to major disruptions, like the COVID-19 pandemic or the 2008 financial crisis. In the context of the AI transformation, the GLRI's insights are more relevant than ever. It provides policymakers with a roadmap to assess national labor markets' readiness for AI-driven changes, identify needed reforms, and build the resilience necessary for inclusive and sustainable growth in this new era.

As the report highlights, AI itself has a role to play in strengthening labor market resilience. It offers the potential to revolutionize how governments serve citizens, enabling a shift from broad, «one-size-fits-all» policies to personalized, «one-to-one» approaches. Powered by big data, advanced analytics, and AI, we are already seeing the emergence of individualized healthcare, customized education, and location-specific economic incentives. This transition to personalized policymaking, particularly in areas impacting the workforce, could fundamentally reshape labor market dynamics.

While there has been a tendency for policymakers to focus on the risks associated with AI, the biggest risk that AI presents may well be missing out on the opportunity it presents. The insights provided by the GLRI offers a springboard for meaningful dialogue among stakeholders and a chance to collectively envision a future where technological advancement and human well-being go hand in hand. By making strategic investments in education, adopting bold and responsible AI policies, and fostering a culture of continuous learning, nations can successfully build adaptable and resilient labor markets that thrive with AI.

ADVISORY BOARD TO 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 organisations, the public sector, non-governmental organisations, business, and academia), participate in their personal capacity. Whiteshield is grateful for the time and support provided by the Advisory Board members.

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ACKNOWLEDGEMENTS

The “Global Labour Resilience Index 2025” (GLRI 2025) is an initiative funded and developed by Whiteshield, a public policy and AI economics firm originating from the Harvard and OECD communities.

The current edition builds on Whiteshield’s proprietary Global Labour Resilience Index (GLRI) and Knowledge Mapping models and was authored by a number of Whiteshield senior executives comprising Fadi Farra, Managing Partner and Director; Anthony ‘O Sullivan, Partner and Director; Raed Safadi, Chief Economist; Elena Balter, Economic Modelling Lead; Alexander Crean, Manager; Merthe Weusthuis, Manager, Alberto Perego, Consultant; and Felipe Oria, Consultant.

The authors would like to extend their gratitude to Google for their partnership and outstanding support, to CEMS and to the members of the GLRI Advisory Board for their invaluable inputs, including Sir Christopher A. Pissarides, Regius Professor of Labour Economics at the London School of Economics (LSE), and recipient of the Nobel Prize in Economics; Samer Atallah, Associate Dean for Graduate Studies and Research, Associate Professor of Economics at School of Business at The American University in Cairo; Jennifer Blanke, Board Member at Symbiotics Investments, Former VP of African Development Bank; Irina Bokova, Whiteshield Director and former Director-General of UNESCO; Patricia Francis, Whiteshield Director and former Assistant Secretary General and Executive Director at International Trade Center; Professor Bernard Hugonnier Director at Whiteshield; Andrew Karolyi, Dean and Harold Bierman Jr., Distinguished Professor of Management at Cornell University, S.C. Johnson Graduate School of Management; John Martin, Former Director of the Directorate for Employment, Labour and Social Affairs at OECD and Whiteshield Expert; Eloic-Anil Peyrache, General Director and Dean, Professor of Economics and Decision Sciences at HEC Paris; Professor Pawel Wojciechowski, Director at Whiteshield.

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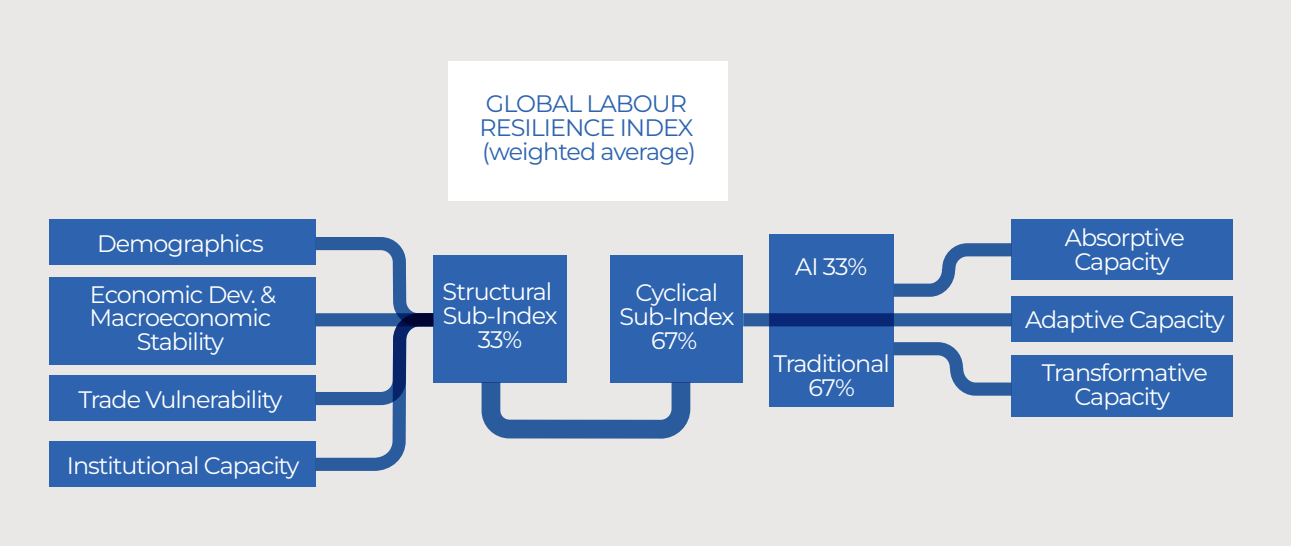
1.1. EXECUTIVE SUMMARY

The advent of artificial intelligence (AI) marks a pivotal transformation in global labour markets, fundamentally reshaping how societies work, learn, and create value. This transformation presents unprecedented opportunities to enhance workforce productivity and innovation, while simultaneously raising critical challenges for economic equality and social stability. The ninth edition of the Global Labour Resilience Index (GLRI) provides evidence-based insights to help policymakers navigate this complex landscape and build truly resilient labour markets

Striving to shape the future of labour markets: Leveraging AI for policies that absorb, adapt, and transform

Drawing on a decade of data across 72 validated indicators, the GLRI framework evaluates both structural factors—including macroeconomic stability, demographics, and institutional capacity—and cyclical elements such as labour policies, education systems, and AI-specific dimensions. This comprehensive approach enables a nuanced understanding of how different economies absorb shocks, adapt to change, and transform in response to AI-driven technological disruption. (Figure 1).

Figure 1. GLRI 2025 Framework

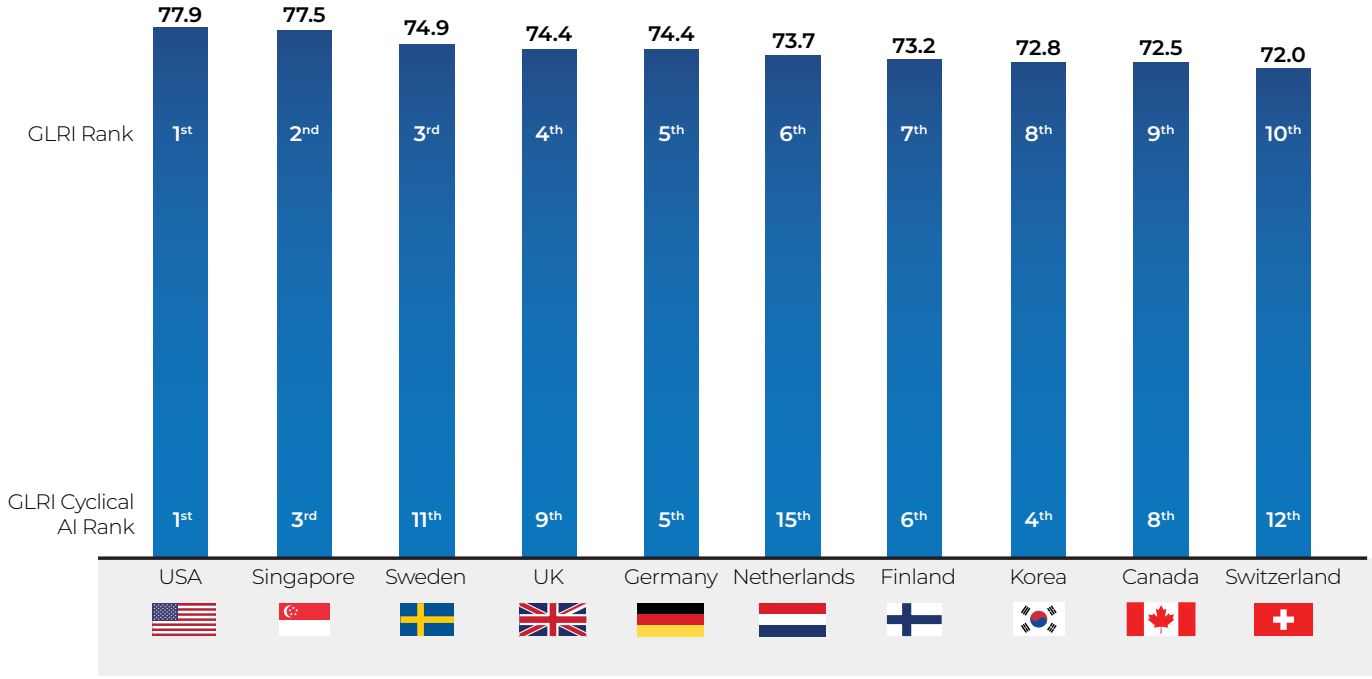


Source: Whiteshield, Global Labour Resilience Index 2025

GLRI 2025 results: The United States, Singapore and Sweden in the lead

The 2025 GLRI rankings highlight three nations that have established exceptional labour market resilience (Figure 2). The United States leads the index through its dynamic entrepreneurial environment, accounting for 60% of global AI investments and fostering a quarter of the world's AI startups. Singapore, in second place, distinguishes itself through exemplary governance (ranked first in the World Governance Index) and comprehensive AI integration across its economy supported by its highly skilled workforce (61% according to ILO). Sweden secures third position through substantial investments in education (6.7% of GDP) and R&D (3.4% of GDP), demonstrating how strong institutional frameworks can enhance both immediate resilience and long-term competitiveness.

Figure 2. Top 10 Countries' Rankings and Scores



Source: Whiteshield, Global Labour Resilience Index 2025.

There are three main pathways to labour market resilience

The analysis identifies three distinct pathways through which nations can improve the resilience of their labour market:

1. **The traditional pathway,** exemplified by Sweden, Norway, and the Netherlands, emphasizes comprehensive social safety nets, universal education access, and stable economic policies.

2. **The AI and innovation-driven pathway,** led by the United States, prioritizes entrepreneurship, R&D investment, and technological advancement.

3. **The blended pathway**, demonstrated by Singapore, successfully combines strong governance frameworks and traditional labour protections with strategic AI investments, achieving both innovation and inclusion.

Rising inequality remains one of the most pressing challenge in labour markets

Rising inequality represents one of the most significant threat to labour market resilience, with AI potentially accelerating this trend if not properly managed. The gap between high-performing and struggling economies continues to widen, as evidenced by the increasing distance between the top 10 and bottom 50 GLRI-ranked countries over the past year.

This divergence manifests itself not only between nations but also within countries. In the United States, for instance, states with strong innovation ecosystems like California, Massachusetts, and Washington demonstrate substantially higher labour market resilience compared to states like Louisiana, Mississippi, and West Virginia. This regional disparity reflects broader patterns of uneven AI adoption, varying educational opportunities, and differing levels of infrastructure investment. Such inequalities create a self-reinforcing cycle: regions with stronger labour market resilience attract more investment and talent, while less resilient areas risk falling further behind. Without targeted intervention, these disparities threaten not only economic stability but also social cohesion and long-term growth potential.

Harnessing Digital Technologies for Labour Market Resilience

The fourth industrial revolution, driven by AI, blockchain and IoT technologies, is fundamentally reshaping labour markets. Beyond the challenges this presents, these technologies also enable a paradigm shift in how countries can strengthen their labour markets. To harness this potential effectively, governments must implement comprehensive digital strategies across four labour market lifecycle areas, including:

- **Area I – Boosting Educational Outcomes:** Technology enables the delivery of increasingly advanced and personalized educational experiences leading to more equitable and better learning outcomes. AI now enables truly personalized learning, adapting to individual needs while aligning with industry requirements. These technologies can transform traditional education systems into dynamic platforms that continuously evolve with market demands.

- **Area II – Supporting the Job Search:** AI-driven platforms significantly improve the efficiency of job-matching by providing personalised matching to job seekers and gig workers. These systems create more flexible labour markets while reducing friction in job transitions and career changes. The development of virtual working models and increases in remote working opportunities also enhance labour market participation rates for disadvantaged groups.

- **Area III – Levelling Up the Workforce:** Large language models and advanced collaboration tools drive huge improvements in labour productivity. Additionally, the development of powerful digital tools such as low-code and non-code apps, graphic design tools, or data visualisation tools democratise access to complex skills and provide efficiencies for individual workers. Particularly set to benefit are small and medium enterprises, which can now access sophisticated capabilities previously reserved for larger organizations, fostering innovation and productivity growth across all sectors.

- **Area IV – Lifelong Learning:** Modern workforce development requires sophisticated systems for ongoing skill acquisition and validation. Blockchain technology enables secure credential verification, while AI provides adaptive learning pathways tailored to individual career trajectories. working opportunities also enhance labour market participation rates for disadvantaged groups.

A Call to Action: Personalizing Labour Policies with Technology

One of the key advantages unlocked by developments in technology, particularly AI, is the ability to personalise services. This is an area where the private sector has forged ahead while the public sector remains far behind. By leveraging AI and data, governments can move from a one-size-fits-all to a citizen-centric policymaking, tailoring interventions to different population segments. Today, policymakers have at their disposal a number of tools to tap into and devise smart, citizen-centric policies:

- **Data Hubs:** Governments need to establish a centralized data hub that aggregates information across a multitude of entities and serves as the foundation for a personalised policy approach.

- **Archetype Design:** By leveraging advanced analytics, policymakers will have the ability to develop targeted interventions for specific population segments, from, for example, urban youth to rural workers.

- **Digital Delivery:** Governments can leverage the breadth of technological tools (either developed in-house, by the private sector, or through PPPs). Modern delivery platforms can integrate various services that support a personalised delivery of policies.

Using new policy instruments that integrate these principles, such as the Whiteshield and Google's Job Accelerator, governments can start a new age of tailored, personalised policies for a truly citizen-centric and inclusive society.

Why Act Now?

The costs of inaction are high: growing inequality, displacement of vulnerable populations, and missed opportunities for higher, sustainable growth. Countries like Singapore, Sweden, and the United States have demonstrated the potential of blending traditional policies with AI-driven innovations. By learning from these models and adopting bold, personalised approaches, governments can empower their labour markets to thrive in the age of AI.

The GLRI provides policymakers with a roadmap to assess national labour markets' readiness for AI-driven changes, identify needed reforms, and build the resilience necessary for inclusive and sustainable growth in this new era.

2. GLRI & AI: KEY INSIGHTS

2.1. AI IMPACT ON LABOUR MARKETS

AI is a unique and unprecedented technology that is experiencing rapid uptake and, in the process, reshaping every aspect of our economic structures. It is also different from previous waves of technological revolutions in three key ways:

1. **Unprecedented Speed:** The rate of capability advancement and adoption outpaces historical patterns of technological change
2. **Broad Scope:** AI affects cognitive as well as manual tasks, impacting previously protected professional and knowledge workers
3. **Deep Integration**: AI has the potential to transform not just individual tasks but entire business processes and organizational structures

AI impact on labour markets is a double-edged sword, bringing both opportunities and challenges.

AI promises to generate productivity gains by helping all economic agents use resources more efficiently and making more informed decisions. Moreover, AI also improves workforce accessibility and inclusivity. Virtual working models support labour participation, particularly for those in remote areas or marginalised groups. In addition new job matching technologies provide better access to remote workers as well as those with disabilities by reducing bias in the hiring process.

For workers, AI might prove to finally bring the long-anticipated increase in leisure time that previous technological revolutions have failed to meaningfully bring forth. With the low-cost automation of increasingly complex tasks, employers may find they can afford to pay more for less work without impacting the bottom line. Indeed, as we have long learned from Ford's introduction of the 5-day workweek, they may increase profitability when increased leisure time results in higher consumer spending.

The transition to the workforce of the future faces two main challenges.

Not only is AI reshaping the distribution of the labour market – replacing some jobs while creating others; it is also altering the nature of the jobs that remain. IMF estimates that 40% of global jobs will be affected by AI, rising to 60% in advanced economies. Approximately half of these jobs are expected to be negatively impacted through displacement or significant transformation[1]. The World Bank estimates that 83 million existing roles will be potentially displaced while 69 million new positions will emerge[2].

In addition, AI is reshaping the nature of work – creating new jobs roles and redefining the skills they require[3]. Over 60% of workers will need reskilling by 2027 to meet AI-driven demands, with a focus on digital literacy, analytical thinking, and adaptability[4]. And while most workers exposed to AI will not require specialised AI skills, organizations are increasingly seeking professionals capable of managing and interpreting AI systems effectively.

AI is redefining job markets

Workers face a rapid evolution of required skills and mounting automation pressures, while future generations must acquire increasingly specialized competencies to successfully enter the labour market. Workers whose skills are directly replaceable by AI will need to reskill. Most others will need to embark on (continuous) upskilling journeys and double down on human-centric skills that will remain valuable in an AI-driven world. This requires effort not only by employees but also by their employers, who are responsible for creating new working models that enable flexible workforce development in response to change.

Moreover, educational institutions will need to ramp up the development of new programs to prepare students for jobs that never existed before and teach them in new ways. With AI potentially 'replacing' the student in examinations and papers, schools will need to change the way they teach, learn, and test. They will also need to become more agile. With the pace of change brought by AI and other macro trends increasingly exceeding education systems' ability to adapt, new, likely technology-driven, education models will need to emerge to serve the rapidly evolving demands of the labour market.

The advent of AI requires a radical rethink of labour market resilience.

The long-term, fundamental change that AI brings to economies will forever alter labour markets. As such, it becomes impossible to evaluate labour market resilience without integrating country readiness to manage and harness AI.

1 *Cazzaniga, M., Jaumotte, F., Li, L., Melina, G., Panton, A. J., Pizzinelli, C., Rockall, E. J., & Tavares, M. M. (2024). Gen-AI: Artificial Intelligence and the Future of Work. Staff Discussion Notes No. 2024001/. International Monetary Fund. DOI: 10.5089979840026254 8.006/.*

2 *World Economic Forum. (2023). Future of Jobs Report 2023. Geneva: World Economic Forum*

3 *Felten, Edward W. and Raj, Manav and Seamans, Robert, How will Language Modelerslike ChatGPT Affect Occupations and Industries? (March 1, 2023).*

4 *World Economic Forum. (2023). The Future of Jobs Report 2023. World Economic Forum Retrieved from https://www.weforum.org/publications/the-future-of-jobs-report-2023/in-full/*

2.2. THE UPDATED GLOBAL LABOUR RESILIENCE FRAMEWORK

The progressive impact of AI on labour markets calls for new measures to assess their resilience.

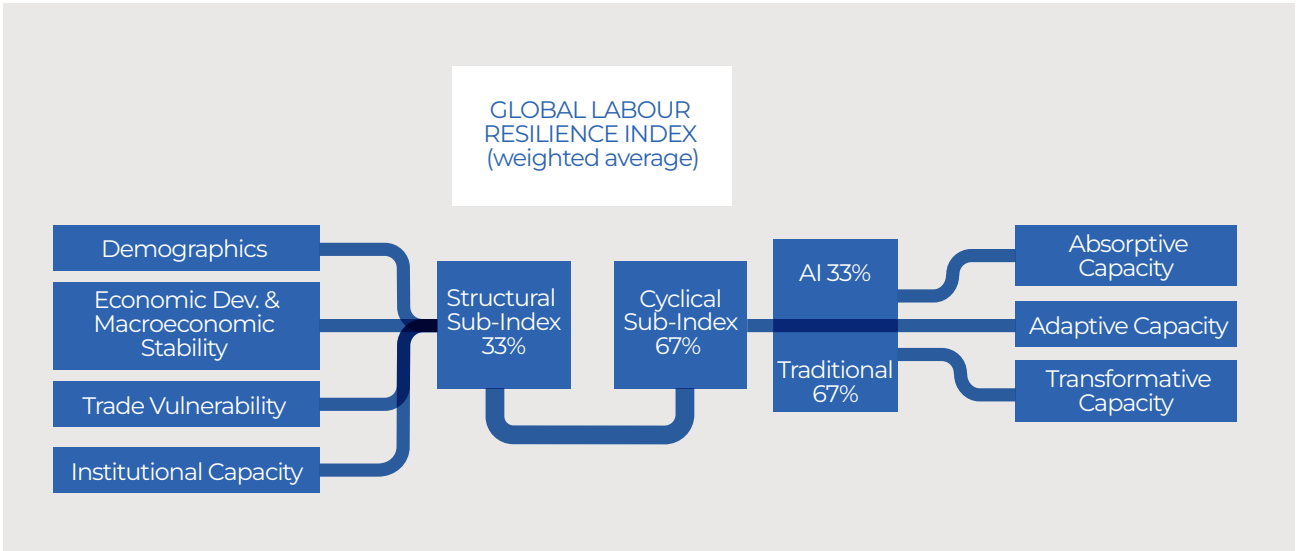
Given the scale and complexity of AI's impact on labour markets, policymakers require new tools and metrics to effectively monitor and respond to these changes. Traditional measures of labour market performance may not fully capture the disruption and opportunities created by AI adoption, including shifts in task composition, demand for new skills, and the reallocation of jobs across sectors. To address this gap, this year's Global Labour Resilience Index (GLRI) has been updated to reflect the realities of AI's influence.

Resilience can be defined as the ability to face and recover from disruptions, regardless of their nature.

A resilient labour market not only generates sustainable demand for a wide range of occupations and provides quality work but also adapts efficiently its structure to meet changing demands for skills and occupations. Such markets are inclusive, sustainable, and capable of withstanding disruptions, such as the one presented by AI, due to their inherent flexibility and adaptability.

The GLRI evaluates countries' resilience both from a structural and cyclical perspective (Figure 3). Full details about the methodology employed in the 2025 edition can be found in Appendix A.

Figure 3. Framework for the Global Labour Resilience Index 2025 – core



Source: Whiteshield, Global Labour Resilience Index 2025

The structural pillar measures the fundamental factors impacting the resilience of labour markets

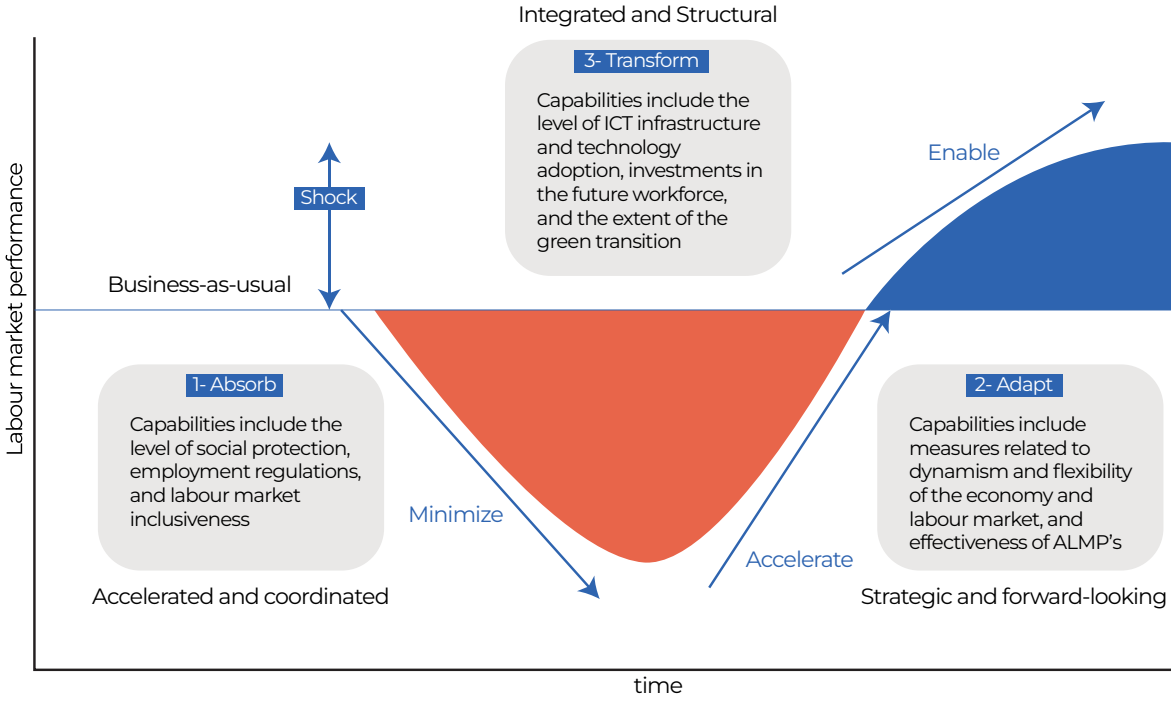
The **Structural sub-index** focuses on the fundamental, long-lasting characteristics that underpin a country's overall capacity for labour resilience. These factors tend not to change quickly and include the depth and maturity of the economy, the stability of its institutions, its demographic makeup, and the degree to which it is exposed or vulnerable to global trade. In essence, the Structural sub-index captures the enduring, baseline conditions that shape a country's ability to handle labour market challenges over time.

The cyclical pillar measures the strength of labour markets' response to disruptions

The **Cyclical sub-index** focuses on countries' capacity to leverage their policies to respond to disruptions. It reflects both near-term responsiveness and the longer-term adaptability required to navigate the full "disruption cycle" (Figure 4), which goes through 3 stages:

1. **Absorptive capacity** defined as the ability to contain the shock and minimise the damage on jobs and workers.
2. **Adaptive capacity** defined as the ability to recover quickly and rapidly creating new jobs to replace the destroyed ones.
3. **Transformative capacity** defined as the ability to align with major future trends and turn long-term stressors into opportunities.

Figure 4. Framework for Cyclical Resilience



Source: Whiteshield, Global Labour Resilience Index 2025

Cyclical resilience is now analysed through two dimensions: In addition to its traditional metrics, this year's edition introduces AI capabilities into the assessment of cyclical responsiveness:

- **The AI dimension** focuses exclusively on AI-specific factors, including AI adoption by workers and firms, AI-driven entrepreneurship and employment, and AI-related R&D and innovation.

- **The Traditional dimension** captures other factors of resilience to future AI-driven disruptions, such as labour protection policies, workforce participation, education and skills, business environment, R&D and innovation, and ICT infrastructure.

The addition of AI metrics has altered the global landscape of labour market resilience.

This transformation is most evident in the geographic diversification of leading economies. The traditionally European-dominated top ten, which previously included nine European nations, now features only six European countries. The shift is even more significant in the AI sub-component of the index, which has only four European countries in the top 10.

Instead, the United States has entered and dominated the top 10 this year. The prime example of what constitutes a resilient labour market in the modern economy, the U.S. rose from the 14th position last year to secure the top spot in index this year. This dramatic improvement is driven by its exceptional AI ecosystem, having attracted more than half of global AI investments over the past decade[5] and hosting over a quarter of the world's AI startups. The US case demonstrates how strong AI readiness can fundamentally strengthen a country's labour market resilience.

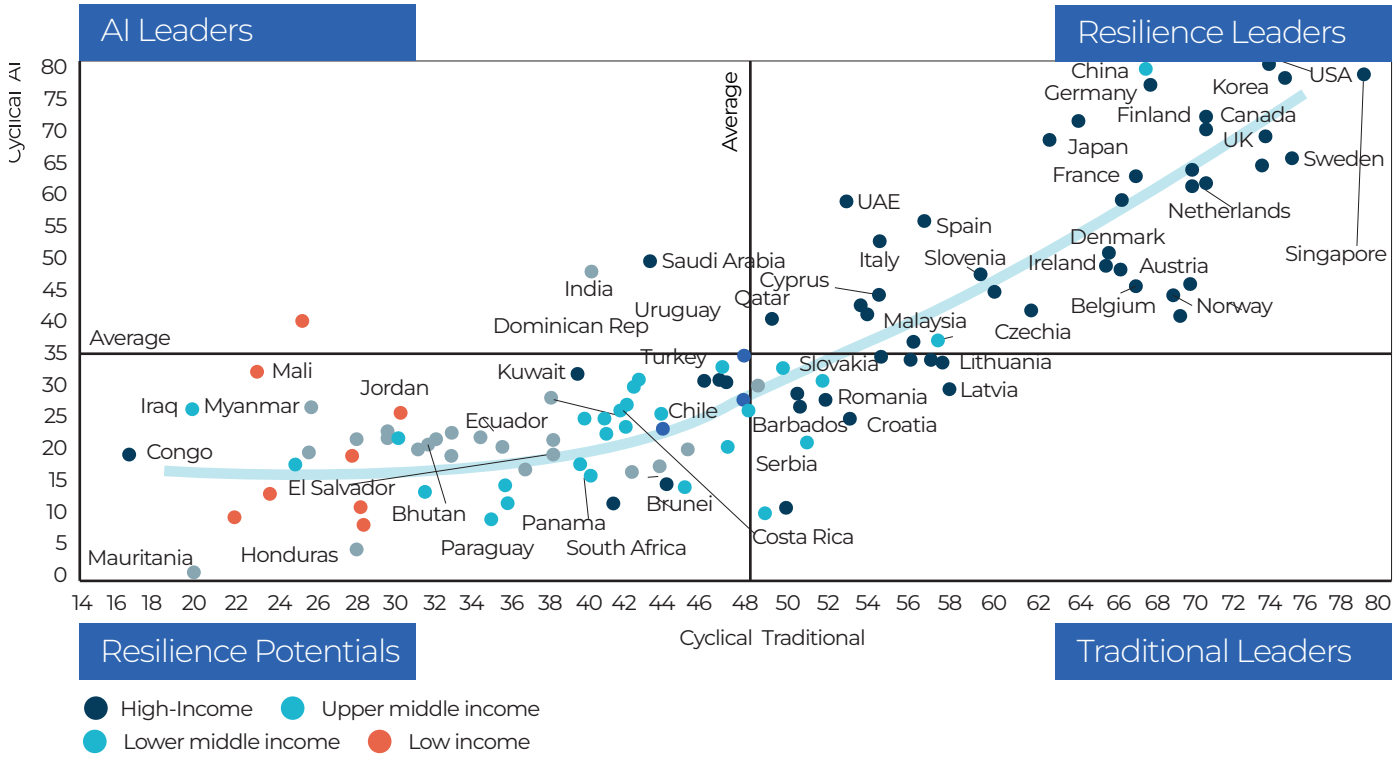
5 *Country Activity Tracker (CAT): Artificial Intelligence. Retrieved from: https://cat.eto.tech/?dataset=Investment&expanded=Summary-metrics*

2.3. PATHWAYS TO RESILIENCE

The most effective strategies for building strong labour market institutions while adequately addressing AI disruption and seizing its opportunities remain primarily prevalent in higher income countries.

The top 20 countries in the AI component of the GLRI are all high-income nations with the exception of China. However, while high income appears to be a prerequisite for AI resilience, it is not sufficient. Many high-income countries lag in AI capabilities despite their economic strengths.

Figure 5. GLRI 2025 Cyclical Dimensions Scores by Country, Traditional vs AI



Source: Whiteshield, Global Labour Resilience Index 2025.

Note: The colours of the country dots represent their income groups, and the light blue curve indicates the trend line. Source: Whiteshield, Global Labour Resilience Index 2025

Based on the GLRI results, we can identify four segments of countries according to their resilience capabilities (Figures 5,6)

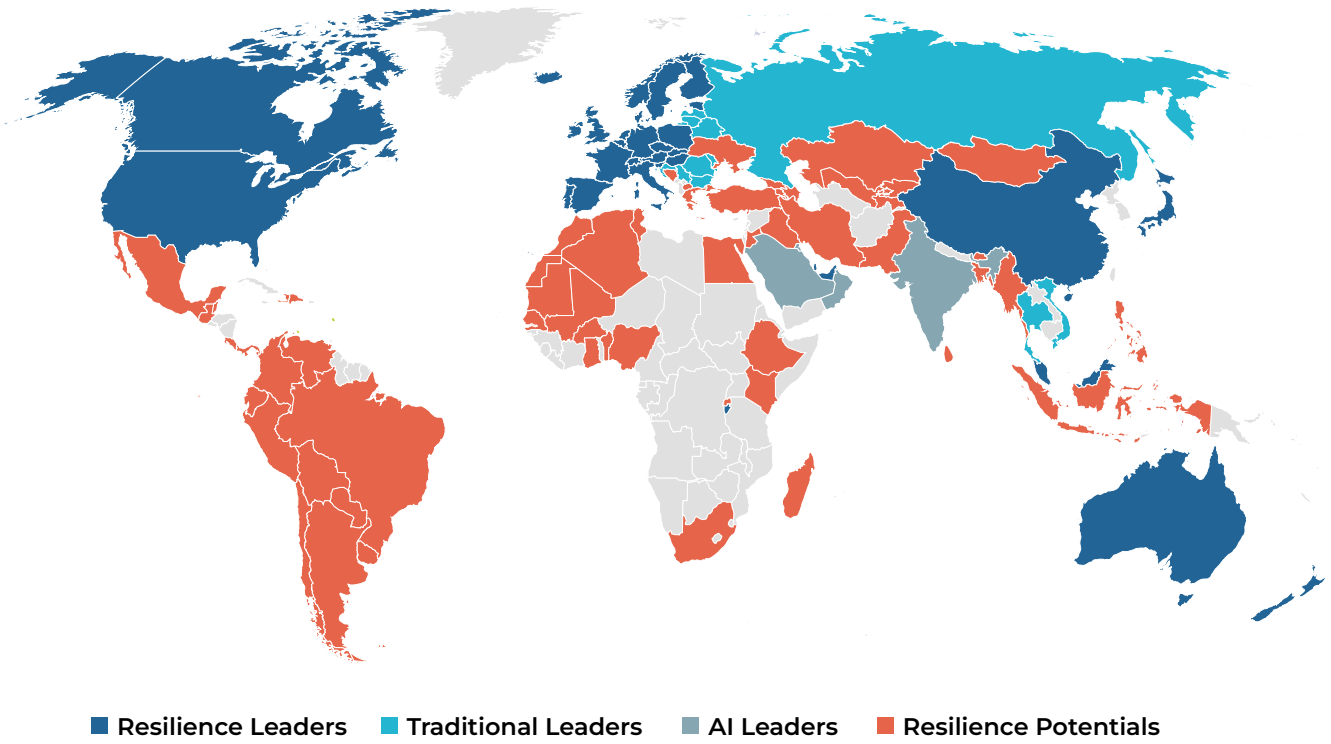
Resilience Leaders: Top-ranked countries in the GLRI index. These countries perform strongly across AI and traditional resilience metrics. They are predominantly high-income democracies, including a significant number from Europe. These countries have typically managed to leverage their traditional labour market strengths to advance their AI capabilities.

AI Leaders: These countries excel in AI capabilities despite weaker traditional resilience. Only 4 countries, including, with the most notable examples being Saudi Arabia and India, can be identified as AI leaders. These countries tout ambitious AI strategies to overcome more fundamental labour market challenges.

Traditional Leaders: These countries excel in traditional labour market policies but have not managed to leverage these to develop AI capabilities. These countries rely on strong foundations but must adapt to the AI-driven economy in order to avoid being left behind.

Resilience Potentials: The lowest ranking countries, representing nations lacking robust capabilities in AI and weaknesses in labour market policy like labour protection, education and skills, business environment and innovation. This segment includes almost all low-income countries and lower middle-income countries that have limited room to invest in labour market resilience and AI. However, Resilience Potentials also include many almost all upper middle-income countries, signalling an alarming delay in the response to AI disruption.

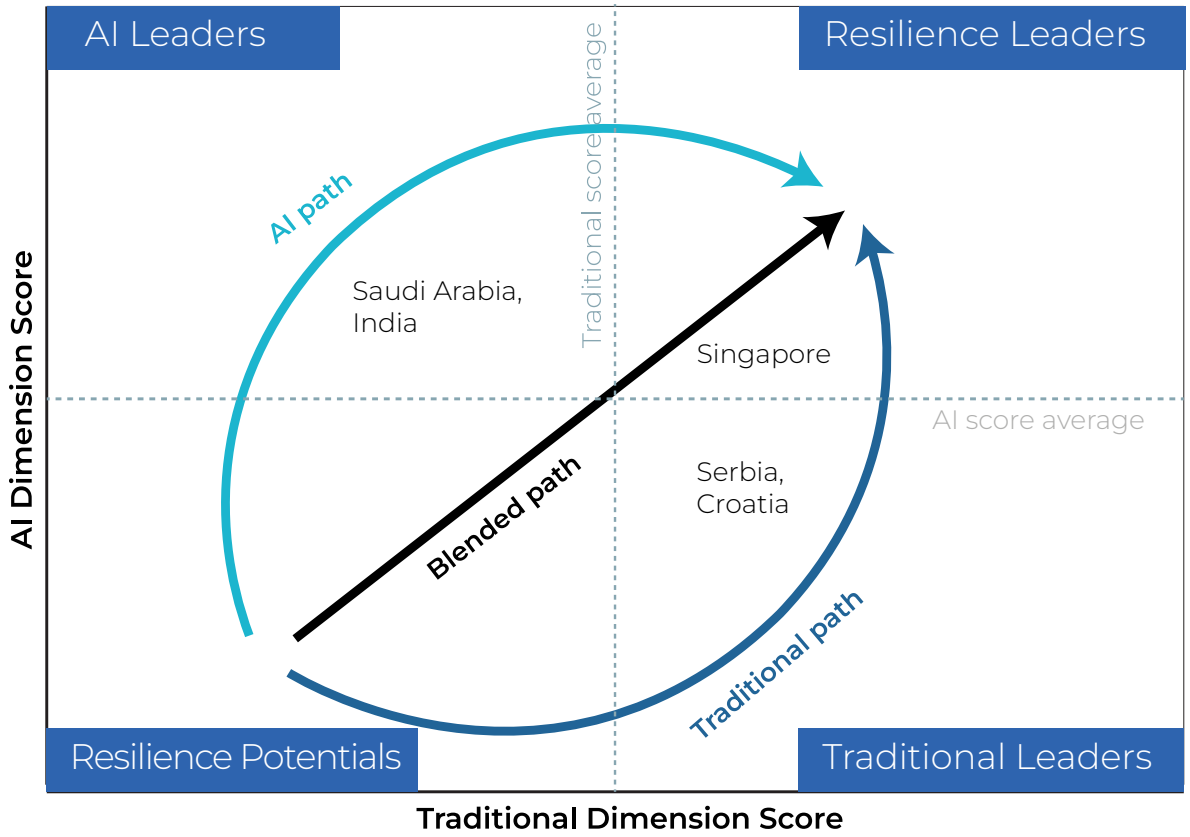
Figure 6. Performance of Countries in Traditional and AI dimensions of GLRI 2025



Source: Whiteshield, Global Labour Resilience Index 2025.

Note: The colours of the country dots represent their performance in Traditional and AI dimensions Resilience Leaders are the countries which perform above average in both Traditional and AI dimensions. Traditional Leaders are the countries which perform above average only in Traditional dimension. AI Leaders are the countries which performs above average only in AI dimension. Resilience Potentials are the rest of countries.

Figure 7. Pathways of Labour Resilience



Source: Whiteshield, Global Labour Resilience Index 2025.

Although strong labour market resilience is concentrated in high-income countries, they follow three different paths to build resilience (Figure 7)

1. **Traditional Pathways:** Relying on Long-Standing Labour Policies and Capabilities

Countries with established institutional frameworks, exemplified by Sweden, Netherlands and Norway, demonstrate resilience through conventional policy mechanisms. These countries leverage existing labour protections, educational infrastructure, and social security systems to manage AI-driven economic transitions. This approach emphasizes gradual AI adoption, allowing markets to adapt while incorporating digital skills training into established educational programs.

2. **AI-Driven Pathways;** Leveraging AI Investments and Strategy to Build Resilience

The United States exemplifies an alternative approach where resilience stems primarily from strategic AI investment and implementation. This pathway offers promise in terms of a 'leapfrogging' opportunity for emerging economies, as demonstrated by China's experience, enabling them to address persistent structural challenges through technological advancement. By leveraging AI capabilities, countries can reduce regional disparities and promote inclusive economic growth. This strategy proves especially effective for nations with advanced AI capabilities, such as Japan and India, as well as countries seeking to overcome traditional cyclical and structural limitations.

3. **Blended Pathways:** Combining Traditional and AI Strategies

Singapore represents a successful hybrid model, combining robust governance frameworks and strong labour markets with forward looking AI policies. This balanced approach maintains institutional stability while capturing AI's transformative benefits. Through initiatives such as regulatory sandboxes and targeted tax incentives for workforce development, countries can explore AI innovation while preserving effective traditional policies.

Countries with strong traditional labour market policies also exhibit stronger AI capabilities.

Figure 5 illustrates this strong correlation, suggesting that robust traditional foundations often serve as a prerequisite for AI readiness. Labour markets in these countries tend to be more responsive to shocks and exhibit relatively faster recovery times. This by and large also enables them to better adapt to the disruption caused by AI, implementing policies that facilitate the emergence of new occupations and ensuring that workers can transition efficiently into emerging roles while safeguarding against the risks of displacement.

On the other hand, traditional resilience capabilities do not always translate into their AI equivalents.

This means that even those countries that have historically enjoyed robust labour markets may need to significantly alter their capacities to maintain their resilience in an AI-driven economy. Sweden, for example, ranks 10th in non-AI scientific and technical articles, while dropping to the 36th position in AI-related scientific articles.

Additionally, several AI Leaders indicate an opportunity for 'leapfrogging', allowing traditionally less resilient economies to overcome historical challenges.

Two such notable examples are Saudi Arabia and India (Figure 6). Saudi Arabia traditionally does poorly on structural resilience while India is lagging on traditional dimension of resilience. Saudi Arabia ranks 88th in structure resilience mainly due to its dependence on natural resources, and India ranks 107th in traditional absorptive capacity as a result of its low levels of basic labour protection, limited coverage of health services, one of the world's lowest female and overall labour force participation rates and poor physical and mental health.

Regardless, the two have made significant strategic investments in AI. Saudi Arabia leads globally in its dedicated AI strategy, recently announcing a $100 Bn investment plan to develop its AI ecosystem[6] and ranking in the top 10 countries globally for its abilities to both attract private investment in AI and create demand for AI-related jobs. Similarly, India's relatively strong performance in AI-resilience metrics such as AI R&D and the number of AI talents and developers highlights the ability of countries plagued by deep-rooted labour market challenges to pursue an alternative pathway to develop resilience in the face of AI disruption.

Notwithstanding the apparent opportunity – there seems to be a limit to what a country can achieve without a minimum foundational labour market structure.

The resilience trend on Figure 5 shows that AI performance only starts to increase at a certain minimum level of traditional labour market strength. This is particularly evident in Sub-Saharan Africa, where 12 of the 20 lowest-ranked countries across all dimensions of labour resilience are found. They show how lower baseline resilience is associated with greater challenges in developing AI capabilities. These countries consistently show wider disparities between their traditional labour market metrics and AI-related performance, suggesting that the development of AI capabilities requires strong foundational labour market structures.

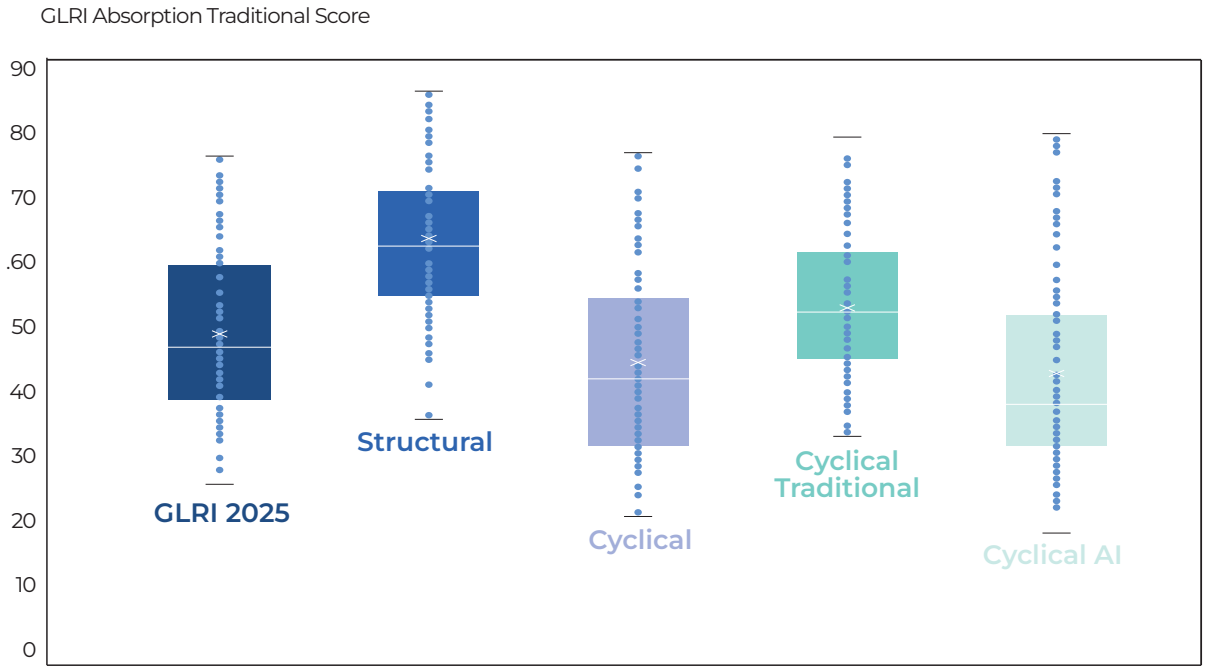
6 *Bloomberg. (2024, November 6). Saudis plan $100 billion AI powerhouse to rival UAE's tech hub. Retrieved from https://www.bloomberg.com/news/articles/202406-11-/saudis-plan-100-billion-ai-powerhouse-to-rival-uae-s-tech-hub*

THE INEQUALITY TRAP

A warning insight from the GLRI is an increasing polarization in global labour market resilience, exacerbated by AI.

This divergence is particularly evident in regional patterns. The previous example of Sub-Saharan Africa highlights the risk that the rise of AI will exacerbate global inequalities. Figure 8 shows that the distribution of AI-related capabilities across countries is significantly wider than traditional labour market metrics, creating larger gaps between leading and lagging nations. In fact, the disparity between the top (10th percentile) and bottom (90th percentile) resilient countries, is twice as high for AI-related performance compared to non-AI-related performance.

Figure 8. Scores dispersion of GLRI and its sub-components



Source: Whiteshield, Global Labour Resilience Index 2025.

Note: "X" is the average of the component's Scores', line reflects the median

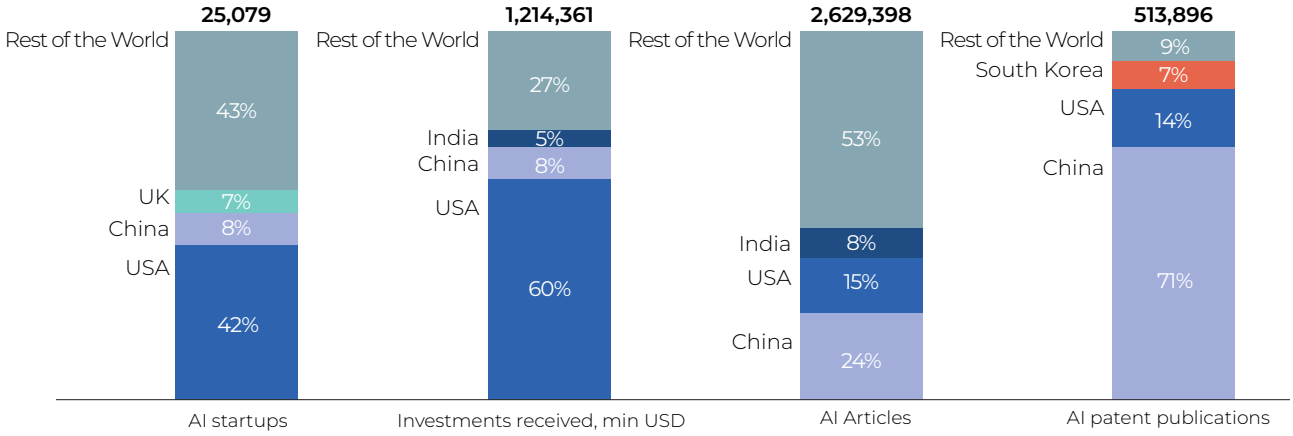
The divergence in AI capabilities can be explained by the inherent tendency of AI development to concentrate in specific regions and economies.

The data reveals striking patterns of such concentration. During the past decade, the US has attracted over 60% of global AI investments, followed by China and India that together attracted another 13%. It is equally evident in innovation metrics: The US hosts more than 40% of global AI startups[7], while China leads in

7 *Country Activity Tracker (CAT): Artificial Intelligence. Retrieved from: https://cat.eto.tech/?dataset=Investment&expanded=Summary-metrics*

AI research outputs, having produced 24% of scientific articles and 71% of patents in the last decade. Together, the top three countries account for 47% of global AI publications and 92% of patents (Figure 9).

Figure 9. Distribution of AI capabilities across countries



Source: Whiteshield, Global Labour Resilience Index 2025.

Three key factors help explain the concentration of investments and capabilities in certain countries: infrastructure requirements, ecosystem dynamics, and existing institutional frameworks.

High-income countries maintain key advantages that allow them to leverage these concentrating forces, building on their existing advantages in institutional frameworks, financial systems, and research capabilities. However, even among high-income countries, the GLRI indicates a growing gap between leading and trailing nations. This gap becomes even more pronounced among middle and low-income countries, where fundamental infrastructure and institutional capacity constraints limit their ability to develop AI capabilities.

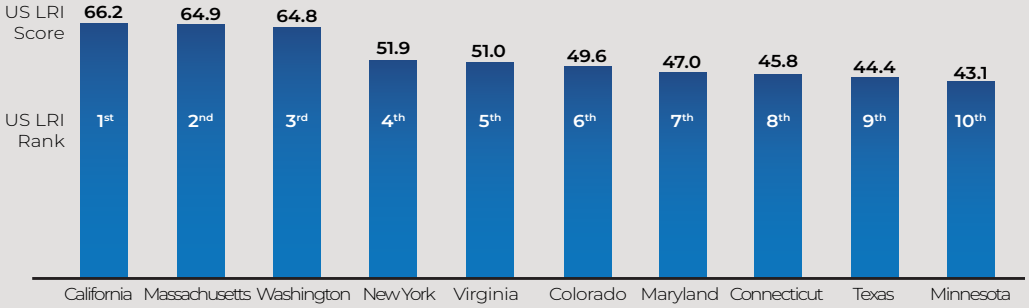
In addition to between-country disparities, within-country disparities are also at risk of deepening.

AI capabilities such as R&D and infrastructure tend to be concentrated in particular areas of countries, mainly around urban innovation hubs, increasing the risk that already disadvantaged groups in other regions may fall further behind. One such example is the U.S. (see box 1), where strong disparities in labour resilience, and even stronger disparities in AI capabilities exist, ultimately putting them at risk of exacerbating traditional inequalities.

Box 1. Within-Country Disparities: A Sub-national Analysis of Labour Market Resilience in the United States

A deeper analysis of the United States clearly illustrates the significant inequalities that countries face when it comes to labour resilience. **California, Massachusetts, and Washington lead the way as the top-performing States in the US, closely competing with each other and leaving the rest far behind** (Figures 10, 11). Their success can be attributed to favourable business environments, abundant skilled labour, and thriving innovation ecosystems, driven by substantial R&D investments and their impactful outcomes. These States have developed strong adaptive and transformative capacities and exhibit robust demand for AI-related employment, with California notably distinguished by its high concentration of data centres.

Figure 10. Top 10 US States Rankings and Scores



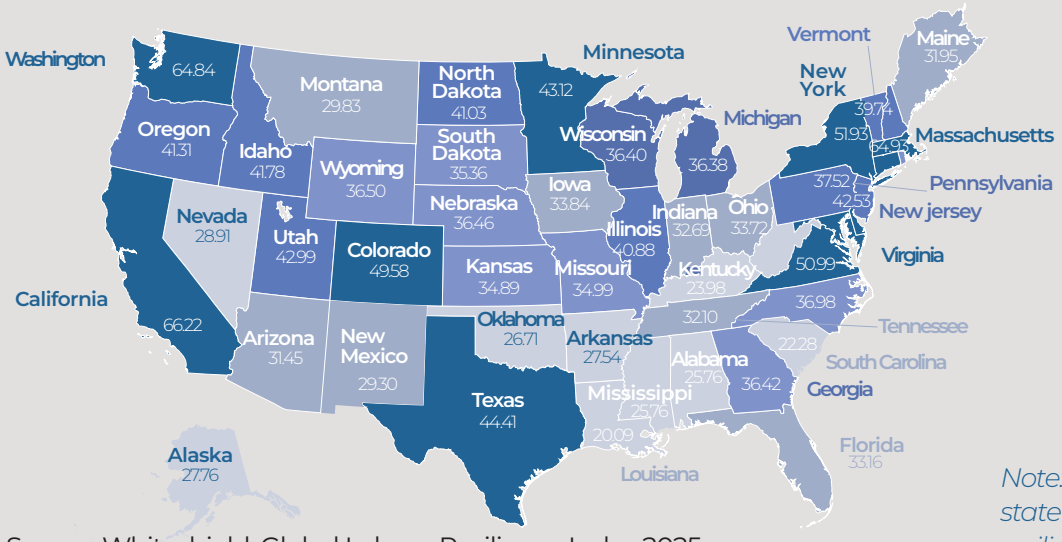
Source: Whiteshield, Global Labour Resilience Index 2025.

While disparities in per capita GDP across States are mostly responsible for differences in labour markets resilience, **the rise of AI could significantly worsen inter-State inequalities**. The distribution of AI capabilities across states is more uneven than traditional metrics, revealing a more pronounced gap between leaders and laggards. For example, the number AI-related patents (a proxy for AI innovation) and data centres are concentrated in a few leading States, leaving many others with minimal representation in these critical areas. California and New York are home to more than half of the total number of AI-related patents while Virginia, Texas, California, Ohio and Illinois and New York take 50% of the total number of data centres.

These disparities highlight the need for targeted policy interventions to ensure that the benefits of AI are more evenly distributed.

Addressing these challenges requires a dual approach: equitable education, reskilling, inclusive economic policies, and federal investments in infrastructure, R&D, and AI-driven industries to support lagging regions.

Figure 11. United States GLRI heatmap



Source: Whiteshield, Global Labour Resilience Index 2025.

Note: the darker the state – the higher labour resilience it has

Reducing the risk of growing global inequality will require AI-targeted policies.

Like other innovations, AI is leading economies towards higher productivity but not necessarily to shared prosperity. Realising the full economic benefits of AI both nationally and globally requires targeted policy responses at multiple levels.

The stakes are especially high for countries without established AI industries, regardless of their income level. These nations risk becoming primarily consumers of AI technologies, potentially foregoing the economic value of AI adoption while bearing its social costs. Traditional mechanisms for retaining economic value within national borders, such as wages and local industry development, may be less effective in the AI economy.

While addressing global AI disparities requires international cooperation, each country would also need to develop targeted domestic strategies. Analysis suggests three priority areas for intervention.

First, countries need to build foundational AI infrastructure. This includes not just physical infrastructure like reliable energy and internet connectivity, but also digital architecture such as data centres and cloud computing capabilities. Leading countries in the GLRI demonstrate that these foundational elements are prerequisites for developing AI capabilities.

Second, cross-border cooperation offers a pathway to accelerating AI development. Countries can combine resources to create shared research facilities, develop common talent pools, and establish regional AI innovation hubs. Such collaboration can help overcome the scale advantages that currently benefit leading AI nations.

Third, international frameworks for AI governance must balance innovation with accessibility. This includes developing shared standards for AI development, ensuring fair access to AI resources, and creating mechanisms for technology transfer. These frameworks should specifically address the needs of countries at different stages of AI development as identified in the GLRI rankings.

2.5. A CALL FOR AI LABOUR POLICIES

Policymakers have the responsibility to decide the most appropriate actions to face this challenging context.

Workers face a rapid evolution of required skills and mounting automation pressures, while future generations must acquire increasingly specialized competencies to successfully enter the labour market. The strategic choices made by nations in the near term will determine whether these forces become catalysts for greater labour resilience and adaptability or sources of vulnerability that hinder economic progress.

Navigating this shift calls for a fresh look at active labour market policies to strengthen labour market resilience in the face of ongoing changes and disruptions. A renewed emphasis on life-long learning, skills development, supported employment opportunities and programs that encourage entrepreneurial activities will be essential for ensuring an inclusive and adaptable workforce.

The extent to which countries implement AI regulation will be a key driver in the pace of AI growth.

The challenges of value capture and economic competitiveness point to a central question: how should countries regulate AI? This regulatory challenge requires balancing two competing risks: The risk of stifling innovation through excessive controls and the threat of social disruption through insufficient oversight.

The key to successful AI regulation could be in finding the balanced middle ground.

Success in AI regulation requires sophisticated policy architecture that promotes innovation while establishing robust safeguards. This can be achieved through a multi-layered approach:

First, regulatory frameworks should implement risk-based oversight, with stricter controls for high-risk applications while maintaining flexibility for lower-risk innovations. This enables targeted intervention where necessary while preserving space for experimentation and growth in less sensitive areas.

Second, policy mechanisms should actively facilitate responsible AI development. This includes establishing regulatory sandboxes with clear testing protocols and safety parameters, particularly for applications in critical sectors. These controlled environments allow companies to validate AI systems while providing regulators with practical insights for policy refinement.

Third, implementation should follow carefully sequenced deployment strategies. This involves coordinating AI adoption with workforce development and reskilling initiatives and establishing clear metrics for measuring both technological progress and social impact.

Finally, economic incentives should be structured to promote responsible AI development. This could include tax benefits for companies that implement comprehensive worker retraining programs alongside automation initiatives, or collaborative agreements with governments for the procurement of tech services for firms demonstrating strong commitment

Governments should ultimately recognise regulation as a tool for market creation rather than purely restriction, enabling countries to harness AI's economic potential while maintaining social cohesion and protecting fundamental rights.

But importantly, policymakers will need to go beyond traditional labour market policies to address the challenge ahead.

Perhaps somewhat paradoxically, they will need to learn how to leverage AI effectively to create a resilient, dynamic, and inclusive workforce. In other words, to maximise AI's benefits and mitigate AI's associated risks – governments must use AI.

The proactive approach – leveraging AI for policy personalisation

Building on effective regulatory frameworks, governments must also seize the transformative potential of AI to revolutionise public service delivery and policy implementation. The traditional one-size-fits-all approach to policy deployment increasingly appears inadequate in an era where technology enables unprecedented levels of personalisation. By leveraging AI capabilities, governments can develop and deliver policies that dynamically adjust to citizens' circumstances, preferences, and needs.

This transformation requires governments to move beyond viewing AI solely as a subject of regulation to embracing it as a tool for policy innovation. Advanced data analytics and machine learning can help identify patterns in citizen needs, predict emerging challenges, and automatically adjust service delivery parameters. For instance, employment services could use AI to create personalized retraining pathways based on individual skill profiles, local labour market conditions, and emerging industry demands. Similarly, social support systems could dynamically adjust to changing household circumstances, ensuring more efficient and effective deployment of public resources.

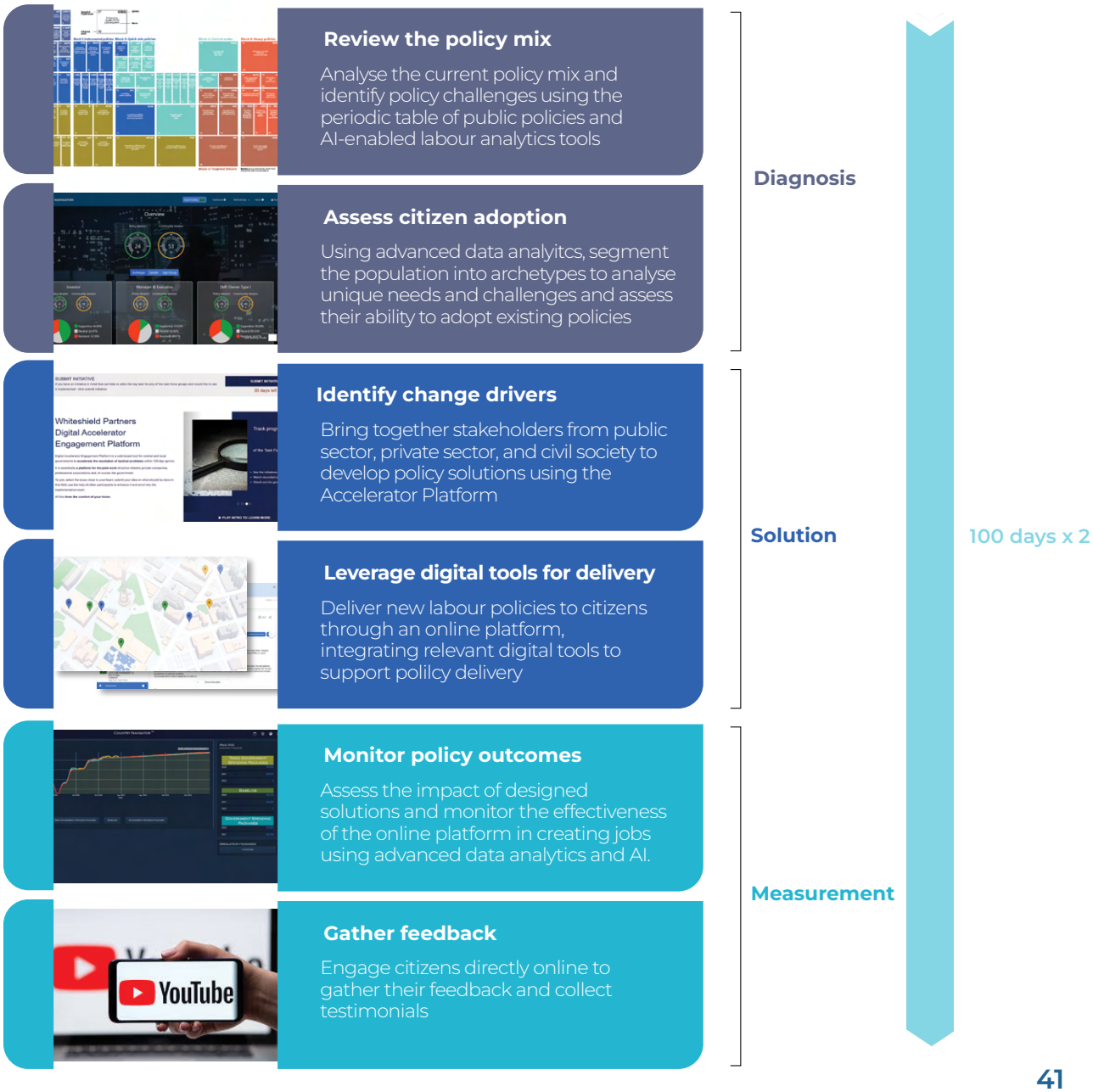
However, success in this arena requires careful attention to data privacy, algorithmic fairness, and transparent decision-making processes. Governments must develop robust frameworks for responsible AI use in public services, ensuring that increased personalization does not compromise citizen privacy. When properly implemented, AI-enabled policy personalization can significantly enhance government effectiveness while improving citizen outcomes and satisfaction with public services.

The Job Accelerator methodology provides a tool for governments to personalize policies

The Job Accelerator, a novel methodology developed by Whiteshield in collaboration with Google, offers a practical and scalable solution. It combines advanced AI tools for delivery with agile governance to address the evolving needs of labour markets, in a condensed timeframe.

The Job Accelerator (Figure 12) is based on four principles of policy personalisation, a whole-of-country (technology) approach, public-private collaboration, and an agile governance model. Building on the success of the Accelerator approach implemented in the United Arab Emirates, which led to the remarkable achievement of more than doubling Emirati national employment within just three years through the NAFIS program, the new Job Accelerator approach combines these proven success factors with advanced digital tools.

Figure 12. The Job Accelerator approach



3. GLOBAL LABOUR MARKET RESILIENCE 2025 – THE RESULTS

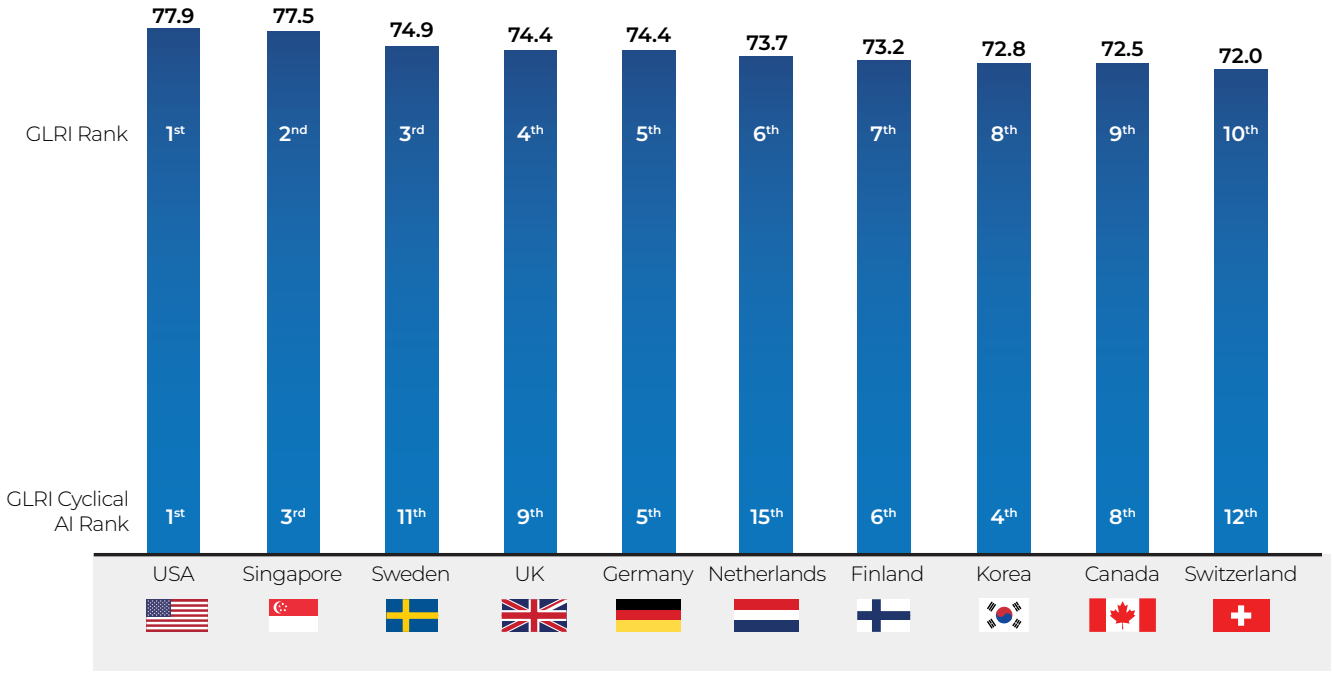
3.1. TOP 10 COUNTRIES

The GLRI 2025 shows significant changes in rankings compared to last year, with the United States soaring to the number one position, while Austria, Denmark and Luxembourg dropping out of the top 10 list

The emergence of artificial intelligence (AI) has created new challenges for labour market resilience across global economies. This year's GLRI shows that the United States has emerged as the world leader in AI-era labour market resilience, followed by Singapore and Sweden (Figure 13). While Western European nations continue to demonstrate strong performance, occupying the majority of top positions, the latest rankings reflect increasing geographic diversification.

This shift is evidenced by the presence of four non-European economies among the top performers: the United States (first position), Singapore (second position), the Republic of Korea (eighth position), and Canada (ninth position). Notably, this represents a significant change from previous assessments, with Austria, Denmark, and Luxembourg no longer maintaining their positions among the top ten most resilient labour markets.

Figure 13. Top 10 Countries' Rankings and Scores in GLRI 2025



Source: Whiteshield, Global Labour Resilience Index 2025.

The evolution of the GLRI rankings over the years highlights how countries adapt to emerging challenges and opportunities, offering valuable insights into strategies for resilience. Examining the shifting performances of nations provides key insights to understand the importance of adaptability in the face of economic, social and technological transformations.

Europe has always been the majority in the GLRI top 10, despite changing conditions.

While the number of European countries in the top 10 has fluctuated—from eight in 2019 to nine in 2021, and down to six in 2025—their continued prominence underscores the importance of strong institutional frameworks and robust labour policies. These qualities enable European nations to maintain resilience despite evolving conditions in the global labour market (Figure 14).

Singapore has remained in the top five, showcasing its balanced pathway to resilience.

As a shining resilience star outside of Europe, Singapore exemplifies how balanced strategies can sustain labour market resilience over time. Despite the shifting nature of global shocks, Singapore is consistently in the top five. This highlights the country's ability to blend forward-thinking AI strategies with strong institutional and labour market foundations.

The United States demonstrates the strengths and challenges of a flexible and dynamic labour market.

Ranked third in 2019 and first in 2025, the U.S. has shown its ability to adapt its labour markets during global shocks. However, its absence from the top 10 in 2021 highlights the volatility of its labour market resilience largely due to its relatively low absorption capabilities.

Figure 14. Top 10 Countries' in GLRI 2025, GLRI 2021 and GLRI 2019

	2019	2021		2025	
1		1	+1	1	+13
2		2	+13	2	+2
3		3	+6	3	+3
4		4	-3	4	+8
5		5	-1	5	-3
6		6	0	6	-3
7		7	+11	7	+1
8		8	-3	8	+11
9		9	-1	9	+7
10		10	0	10	-9

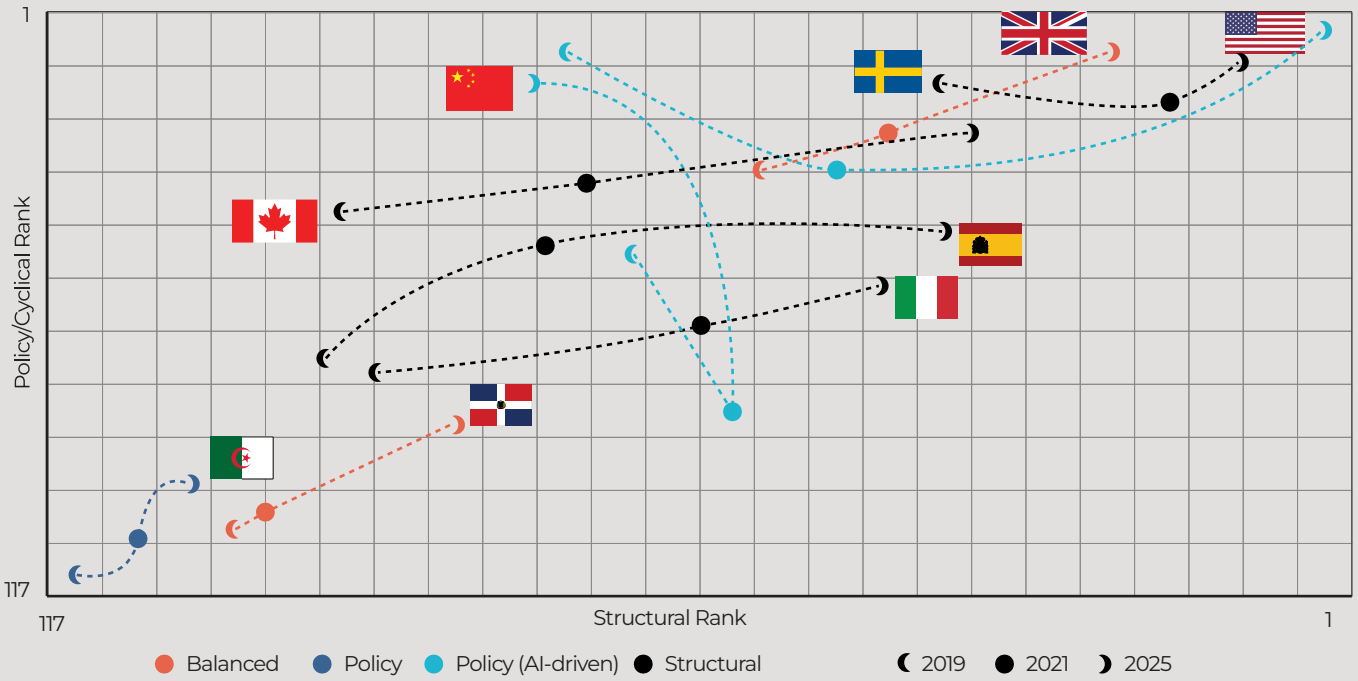
Source: Whiteshield, Global Labour Resilience Index 2025.

Note: The GLRI editions from 2021 ,2019, and 2025 are only partially comparable due to changes in the index methodology.

AI promises to deeply reshape labour resilience, as evidenced by countries as diverse as South Korea, Canada, and the UK in the GLRI top 10.

The transformative impact of AI is evident as new countries appear in the GLRI top 10. These nations demonstrate how AI-related capabilities are reshaping labour markets, offering opportunities to enhance resilience. The rise of these countries reflects the importance of AI-driven strategies in labour resilience.

Box 2. Country labour resilience evolution 2019- 2025.



Source: Whiteshield, Global Labour Resilience Index 2025.

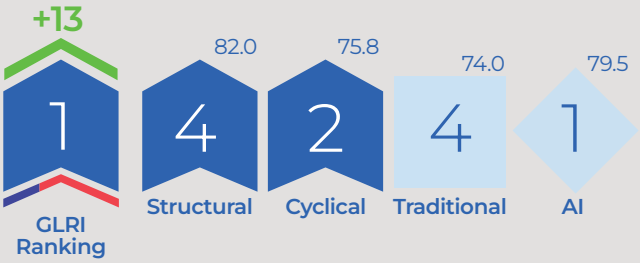
Countries following the Structural path, such as Sweden, improved their relative performance by strengthening foundational factors like macroeconomic and trade stability, reducing inequality, and building trusted institutions.

In contrast, nations like Algeria, China, and the USA pursued a Policy/Cyclical path, excelling in short-term resilience through targeted labour market policies, enhanced business and innovation environments, and advancements in education and skills. In this path USA and China can be highlighted as countries which have made sharp improvement recent years driven by AI adoption.

The balanced path, observed in countries like the UK and the Dominican Republic, reflects progress in both structural and policy-driven resilience, demonstrating a well-rounded approach to labour market adaptation.

3.2

UNITED STATES OF AMERICA



The United States leads the GLRI rankings, driven by exceptional performance in AI capabilities

The United States surged to the top of the GLRI rankings, a remarkable leap from its 14th position last year (Figure 15). Structurally, the US benefits from its stable, service-intensive economy and diverse trade, placing it among the global leaders in economic and trade resilience. Beyond securing the top position in AI resilience, it maintained a strong fourth place in traditional indicators. The US ranks exceptionally high in adaptive and transformative AI capacities, particularly through its leadership in AI integration. The country was able to incorporate AI into its regulatory frameworks, fostering significant private investments and a thriving ecosystem of AI developers. Key drivers of this success include outstanding performance in AI-related metrics, such as equipment capacity, intellectual property creation, and scientific output. High publication and citation rates highlight its impact on global AI research and innovation.

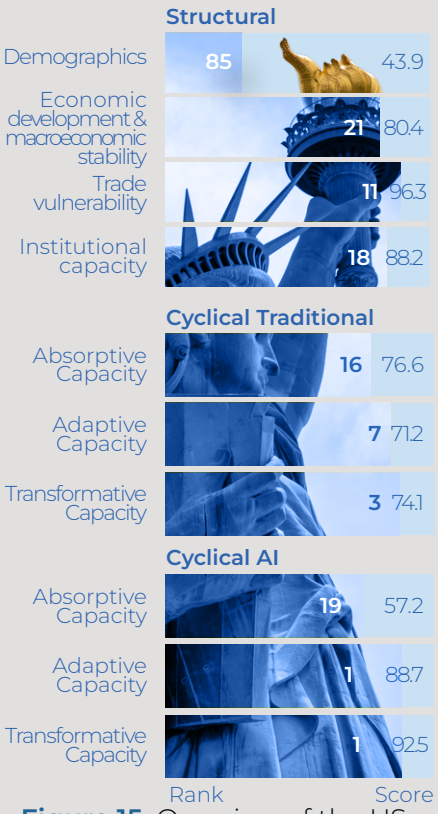


Figure 15. Overview of the US rankings, by pillar

Economic dynamism and labour market flexibility underpin the US AI-driven resilience

The United States' labour market resilience stems from a robust foundation of institutional and economic strengths. The nation's institutional framework, ranked 18th globally, encompasses comprehensive statistical capabilities, and a strong performance in the World Governance Index. Complementing these institutional advantages, the United States maintains substantial economic resilience through its diversified industrial base. This economic strength is reflected in the country's global rankings: 21st in economic development and 11th in trade resilience, positions that underscore its macroeconomic stability and diverse export portfolio. A distinctive feature of the United States' labour market is its exceptional dynamism

and adaptability. The market's flexibility is characterized by high job mobility, enabling workers to move efficiently across sectors—a capability enhanced by the nation's entrepreneurial ecosystem and robust venture capital infrastructure. This adaptability was particularly evident during the pandemic period of 2019-2022, when Census Bureau data revealed unprecedented workforce mobility: some industries experienced job-to-job transition rates exceeding 65%, with nearly nine million workers changing occupations[8] . These substantial shifts not only demonstrate the remarkable adaptability of both workers and employers but also signal the critical importance of preparing for accelerated workplace transformations in the future.

Challenges in inclusivity and absorptive capacities

Despite its strengths, the US faces notable challenges in absorptive capacities and inclusivity. The country ranks 92nd in inequality and has persistent gaps in workers' rights and gender inclusiveness.

Health-related challenges, including poor physical and mental health outcomes, further hinder its labour resilience. Mental health ranks particularly low at 105th globally. These weaknesses suggest that the US needs to consider strengthening its labour protection regulations and address systemic inequalities to build a more inclusive workforce.

Bridging technological leadership with inclusive growth

The US leads the world in AI research and development. This is supported by substantial private investment and federal initiatives like the National AI Initiative Act (Box 3). However, challenges remain in translating these technological capabilities into widespread economic adoption[9]. While the country excels in innovation, its absorptive capacities in AI lag behind other countries, reflecting insufficient vocational training as well as workers and firms' low confidence in AI's potential benefits. Ranking 102nd in training, the US will need to invest in reskilling programs and adaptive labour protections to align its workforce with its technological strengths. Doing so will enable the US to pair its leadership in innovation with a more inclusive and resilient economy.

8 *U.S. Census Bureau. (2024, May). The Great Reshuffling: Job Changes During the Pandemic. Retrieved from https://www.census.gov/library/stories/2024/05/great-reshuffling.html*

9 *Bipartisan Policy Center. (2024). Taking Stock of AI Adoption Across the U.S. Economy. Retrieved from https://bipartisanpolicy.org/blog/taking-stock-of-ai-adoption-across-the-u-s-economy/*

Box 3. AI policies in the US

Objectives

The CHIPS and Science Act of 2022 has several main objectives aimed at revitalizing the U.S. semiconductor industry and enhancing scientific research. Key objectives include:

1. Boosting Semiconductor Manufacturing: Invest $52 billion to enhance domestic semiconductor production and reduce reliance on foreign sources.
2. Funding Research and Development: Allocates $200 billion for research and development to drive innovation across various sectors.
3. Creating Technology Hubs: Establishes regional technology and innovation hubs to promote collaboration and economic growth.
4. Enhancing STEM Education: Expands STEM education and workforce programs, focusing on underrepresented communities to increase access to high-skill jobs.
5. Strengthening Research Security: Implements measures to protect national interests by requiring reporting of foreign funding and conducting risk assessments in research.

Key Insights

Strategic Investment, Job Creation, and Workforce Development: Investments in semiconductor manufacturing stimulate private sector commitments, create jobs across multiple sectors, and expand the talent pool through STEM education and training to ensure long-term industry growth.

Public Funding and Private Sector Engagement: Federal grants and incentives attract significant private investments, highlighting the impact of public-private collaboration on U.S. semiconductor production.

Localized Funding and Economic Growth: State-specific funding supports regional job growth and strengthens local economies, while federal support federal support for semiconductor manufacturing drives GDP growth.

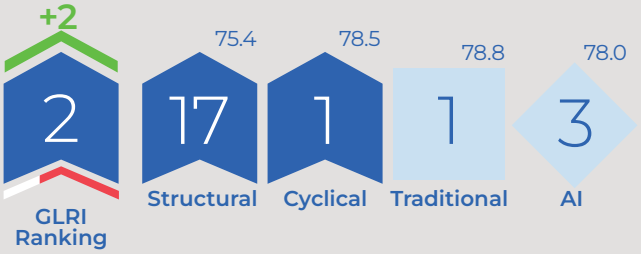
CHIPS and Science Act of 2022

UNITED STATES OF AMERICA

Signed into law on August 9, 2022, is a significant legislative measure aimed at revitalizing the U.S. semiconductor industry and enhancing scientific research. The act seeks to bolster domestic chip production, address supply chain vulnerabilities, and create regional technology hubs.

Source: https://oecd.ai/en/wonk/documents/united-states-national-ai-initiative-act-of-20202020-U.S. Congress. (2022). CHIPS and Science Act of 2022, H.R.4346, 117th Congress. Public Law No: 117167-. Retrieved from https://www.congress.gov/bill/117th-congress/house-bill/4346

3.3
SINGAPORE



Singapore secures second place through a balance of traditional and AI cyclical resilience

Singapore climbed to second place in the GLRI rankings, advancing from its previous fourth-place position (Figure 13). This achievement reflects a balanced and strong performance across both traditional and AI-related metrics and consequently ranking first globally in cyclical resilience. Singapore demonstrates exceptional capabilities to deal with all phases of the disruption cycle, earning recognition for its ability to absorb, adapt, and transform in the face of labour market disruptions.

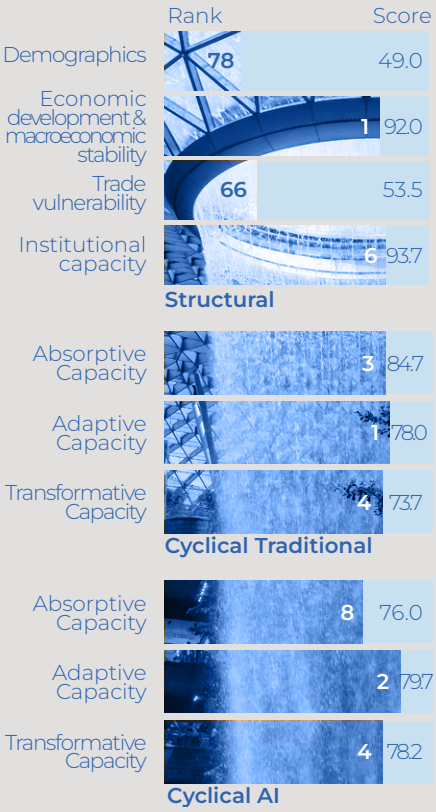


Figure 16. Overview of Singapore's rankings, by pillar

Singapore ranks high across all dimensions of labour resilience

Singapore demonstrates exceptional absorptive resilience. The nation's strengths in this area encompass robust healthcare systems, proactive labour market policies, and notably high youth labour force participation. Remarkably, Singapore leads global rankings in population confidence regarding future prospects—a metric further reinforced by the nation's outstanding physical and mental health outcomes.

Singapore's extraordinary adaptive capacity is anchored in its globally leading business environment. The nation ranks first worldwide in key business metrics, including ease of business establishment, financial access, and property rights protection. This commercial framework is strengthened by Singapore's highly skilled workforce, characterized by advanced digital literacy, substantial research personnel, and sophisticated production capabilities.

In the specific domain of AI-related resilience, Singapore holds a commanding position, ranking third globally. This achievement stems from three key factors: a dynamic AI entrepreneurship ecosystem, strategic investment allocation in AI development initiatives, and a well-established community of

AI practitioners. These elements collectively enhance Singapore's capability to seamlessly integrate advanced technologies into its economic and labour frameworks.

While Singapore maintains exceptional performance across multiple dimensions, certain areas present opportunities for improvement particularly trade vulnerability and demographic dynamics. The nation's foundational strengths—including its world-leading governance framework as recognized by the World Governance Index, robust institutional infrastructure, and stable macroeconomic environment—provide powerful mechanisms for addressing these challenges. Furthermore, Singapore's advanced AI capabilities offer promising pathways for developing innovative solutions to these structural challenges.

Singapore thrives on an intelligently crafted economic system, founded on pro-growth policies and world-class infrastructure

Singapore's economic resilience is fundamentally tied to its strategic position in global trade networks. Through carefully crafted free trade agreements and deliberately open trade policies, the nation has established itself as a pivotal hub for international commerce and investment flows. This global integration is reinforced by government policies that actively foster labour market dynamism, creating synergistic relationships between technological advancement and workforce evolution. The coordination between trade openness and labour market adaptability enables Singapore to respond effectively to emerging economic opportunities while maintaining workforce stability.

Singapore's competitiveness is enhanced by its approach to human capital development. At the centre of this strategy is SkillsFuture, a comprehensive initiative promoting continuous professional education with particular emphasis on digital competencies and industry-specific capabilities. The program's effectiveness is demonstrated by concrete outcomes: in 2023, more than 220,000 workers participated in training programs focused on digital literacy, cybersecurity, and sector-specific skills[10]. This sustained investment in workforce development has resulted in a labour force characterized by high skill levels, with a significant proportion of workers operating in high- and semi-skilled positions. The concentration of advanced capabilities within the workforce creates an enabling environment for technological integration, particularly in emerging fields such as AI, positioning Singapore ahead of many comparable economies in technology adoption and implementation.

10 *Dollars and Sense Business. (2024). 5 Things We Learned About The Labour Market From The Latest Singapore Public Sector Outcomes Review (SPOR) 2024. Retrieved from https://dollarsandsense.sg/business/labour-market-singapore-public-sector-outcomes-review-spor/*

Singapore has successfully built resilience by integrating technology in its development strategy

Singapore has positioned itself at the forefront of technological integration. A remarkable 77% of its workforce employed in positions that demonstrate significant potential for AI adoption[11] . Notably, approximately half of these workers occupy roles with high AI complementarity, spanning diverse sectors including management, scientific research, engineering, healthcare, legal services, and education. This technological readiness creates substantial opportunities for productivity enhancement.

The successful navigation of this technological transition is strengthened by strategic partnerships between government entities and private sector organizations. These collaborations focus on real-time identification of emerging skill requirements and the development of targeted training initiatives. Through this coordinated approach to workforce development and technological adaptation, Singapore maintains its position as a global leader in labour market resilience, even as technological change accelerates (Box 4).

11 *IMF. (2024). Impact of AI on Singapore's Labor Market. Retrieved from https://www.imf.org/-/media/Files/Publications/Selected-Issues-Papers/2024/English/SIPEA2024040.ashx*

Box 4. AI policies in Singapore

Objectives

The National AI Initiative act of 2020 has 4 main objectives

1. **Vision:** The strategy is guided by the vision of «AI for the Public Good, for Singapore and the World,» emphasizing the need for responsible AI development that benefits society as a whole.

2. **Goals: NAIS 2.0 aims to:**
   i) Develop excellence in AI to address critical global challengessuchaspopulationhealthandclimatechangeand;
   ii) Ensure that AI serves the public interest while fostering innovation and economic growth.

Action Plan

The strategy outlines 15 courses of action over the next three to five years, focusing on various sectors including healthcare, education, and advanced manufacturing. Key initiatives include: Establishing AI Centers of Excellence: These centers will encourage collaboration between AI producers and users

Nurturing Talent: Plans to triple the AI talent pool to 15,000 professionals by investing in education and training programs Infrastructure Investment: A commitment of over $500 million towards high-performance computing resources to support AI innovation

Key Insights

From Opportunity to Necessity: Recognizing AI as continued national indispensable for national prosperity and relevance, moving beyond viewing it as merely an accessory.

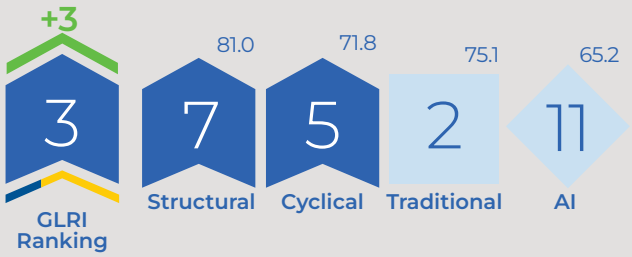
From Local to Global: Adopting a global outlook by connecting to international networks and collaborating with like-minded partners to tackle complex AI challenges.

From Projects to Systems: Enhancing capabilities, infrastructure, and resource foundations to amplify and manage AI's impact across various sectors and society at large.

Singapore launched its second National AI Strategy (NAIS 2.0) on December 4, 2023, aimed at enhancing the nation's social and economic potential through artificial intelligence.

Source: https://oecd.ai/en/wonk/documents/singapore-national-ai-strategy-2019 Government of Singapore. (2023). National Artificial Intelligence Strategy 2.0: AI for the Public Good, for Singapore and the World. Retrieved from https://file.go.gov.sg/nais2023.pdf

3.4
SWEDEN



Sweden claims the third spot in the rankings, driving its labour resilience through structural and traditional capabilities

Sweden has demonstrated remarkable progress in labour market resilience, ascending to third position in this year's Global Labor Resilience Index (GLRI) from sixth place in 2024 (Figure 17). While the nation's AI-specific capabilities rank eleventh globally, Sweden's advancement primarily stems from its established economic institutions and traditional resilience mechanisms. This trajectory underscores Sweden's distinctive approach to labour market resilience, emphasizing traditional strengths over rapid technological transformation

The foundation of Sweden's labour market resilience rests upon economic and institutional foundations developed over decades. The nation's structural advantages emerge from a combination of sustained macroeconomic stability, systematically maintained low inequality levels, and advanced economic development indicators. These economic strengths are reinforced by exceptional institutional capabilities, particularly evident in the country's superior statistical systems and governance frameworks. This integrated economic and institutional infrastructure enables Sweden to address labour market challenges with remarkable effectiveness.

On the cyclical front, Sweden excels in traditional resilience metrics across all non-AI-specific stages of disruption. The nation excels in labour force participation rates, worker protection frameworks, and labour policy effectiveness.

Regarding AI-specific resilience, Sweden reveals opportunities for improvement. Specific areas for development include AI equipment infrastructure, research and development initiatives, and scientific output capacity. Strengthening these elements would augment Sweden's existing resilience framework, enabling more effective responses to AI-driven labour market transformations.

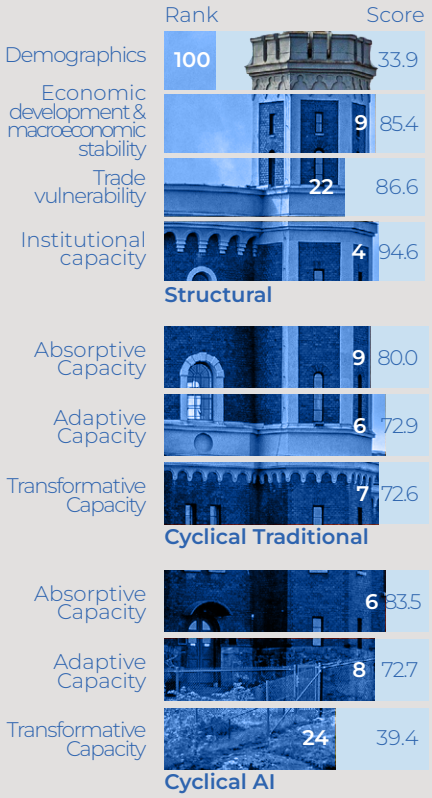


Figure 17. Overview of Sweden rankings, by pillar

AI and demographic challenges will continue to shape the future of Sweden's labour market

Despite Sweden's robust institutional framework, the nation faces significant demographic challenges, as evidenced by its 100th global ranking in demographic balance. This demographic pressure manifests primarily through an escalating elderly dependency ratio, creating dual challenges: intensifying skills shortages across key sectors while simultaneously increasing fiscal demands for pension and healthcare systems. This structural vulnerability necessitates comprehensive workforce development strategies, particularly focused on reskilling and upskilling initiatives that maintain competitiveness across all age groups in an evolving labour market.

To address these demographic pressures, Sweden could benefit from implementing a multi-faceted policy approach. The introduction of flexible retirement options could encourage extended workforce participation, while strategically designed migration policies targeting skilled younger workers could help address critical labour shortages. Furthermore, the systematic integration of automation and digital tools in sectors with aging workforce populations could enhance productivity and operational efficiency. Throughout these proposed strategies, AI technology could serve as a powerful enabler, strengthening Sweden's capacity to adapt and maintain long-term labour market resilience.

Adaptability and social security underpin Sweden's strong labour market resilience

Sweden's labour market resilience is characterized by its unique combination of adaptability and robust social security measures. Recent reforms, such as the introduction of a basic transition and skills support scheme, showcase this approach[12]. These programs provide workers, including those outside collective agreements, with resources to navigate technological disruptions and economic shifts.

The country also prioritizes lifelong learning, integrating education and skills development into its labour policies. Expanded unemployment benefits and retraining initiatives create a safety net for workers affected by economic or technological transitions. Additionally, Sweden's commitment to gender equality in labour policies, particularly efforts to increase labour force participation among foreign-born women, aligns with broader EU goals and enhances inclusivity. This balanced approach along with its recent AI-related initiatives ensures that Sweden's workforce remains adaptable while maintaining strong protections, reinforcing its position as a global leader in labour resilience (Box 5).

12 *Government Offices of Sweden. (2022). Flexibility, adaptability and security in the labour market. Retrieved from https://www.government.se/information-material/202204//flexibility-adaptability-and-security/*

Box 5. AI policies in Sweden

Objectives

Sweden's national AI strategy, established in 2018, outlines a comprehensive approach to leveraging artificial intelligence for economic growth, societal benefits, and improved public services.

Strategic Areas:

Education and Training: Emphasizes the importance of AI education and training, including lifelong learning opportunities to ensure a skilled workforce capable of responsible AI use.

Research: Prioritizes both basic and applied AI research, encouraging collaboration with international research environments

Innovation and Use: Promotes pilot projects and testbeds for AI application development while managing associated risks

Framework and Infrastructure: Develops rules, standards, and ethical principles to guide responsible AI use while ensuring access to necessary data and computational resources.

Key Insights

Cross-Sector Collaboration: A collaborative approach is essential, encouraging partnerships between public and private sectors to foster innovation and share solutions. This collaboration aims to build a robust ecosystem that accelerates AI adoption.

Investment in Education and Skills: Emphasizing the importance of education and training, the strategy aims to develop a skilled workforce capable of leveraging AI technologies effectively, ensuring long-term growth and sustainability in the sector.

Infrastructure Development: A strong emphasis is placed on establishing a digital infrastructure, including high-quality data management systems and telecommunications networks, to support AI innovation and application across various industries.

Addressing Grand Challenges: The strategy recognizes the urgency of addressing significant societal challenges through AI, including demographic shifts, energy demands, and security threats, positioning AI as a critical tool for national resilience.

National Approach to AI

SWEDEN

Sweden aims to be the world leader in harnessing the opportunities offered by digital transformation. Against this background, the Government has identified the need to develop a national approach to AI in Sweden

Source: OECD.AI. (2023). NATIONAL APPROACH TO AI. Retrieved from https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-24975,
OECD.AI. (2021). Sweden, National Approach to AI (2018). Retrieved from https://oecd.ai/en/wonk/documents/sweden-national-approach-to-ai-2018
World Bank (2024). Teachers are leading an AI revolution in Korea n classrooms. Retrieved from

3.5. REGIONAL RESULTS

Regional resilience rankings hold steady for the top three regions; however, they have witnessed notable shifts in other regions

Global labour market resilience rankings demonstrate both stability and dynamism across regions, with persistent leadership from established economies alongside emerging realignments in middle-tier positions (Figure 18). While the extremes of the rankings maintain their relative positions—North America, Europe, and East Asia & Pacific at the apex, and Sub-Saharan Africa at the eighth position—significant recalibrations are evident in the intermediate rankings.

A notable inversion in the regional ranking points towards AI's role in shifting the dynamics of labour market resilience capabilities

The Middle East and North Africa (MENA) region has achieved notable advancement, surpassing Central Asia & South Caucasus to secure fourth position. This progression is particularly significant in the context of AI-related labour resilience metrics, where MENA has not only elevated its ranking but also expanded the performance gap with its nearest competitors. Meanwhile, South Asia and Latin America maintain closely matched positions, reflecting persistent structural and cyclical challenges that characterize both regions.

North America has pulled away from the group, isolating itself in the ranking leadership.

A striking development is the consolidation of North America's leadership position, marking a departure from its historical parity with Europe. This divergence is primarily driven by North America's expanding dominance in AI-related capabilities (Figure 18). The regional concentration of labour market resilience has intensified, with nations from the top three regions now comprising 85% of the highest-performing fifty countries globally.

Simultaneously, the performance gap between Europe and East Asia & Pacific has contracted, indicating evolving dynamics in global labour market resilience. This convergence is notably influenced by China's emergence as a dominant force in AI-driven economic transformation, securing second position globally in AI cyclical resilience capabilities, immediately following the United States. These shifts underscore the transformative impact of AI capabilities on traditional patterns of labour market resilience.

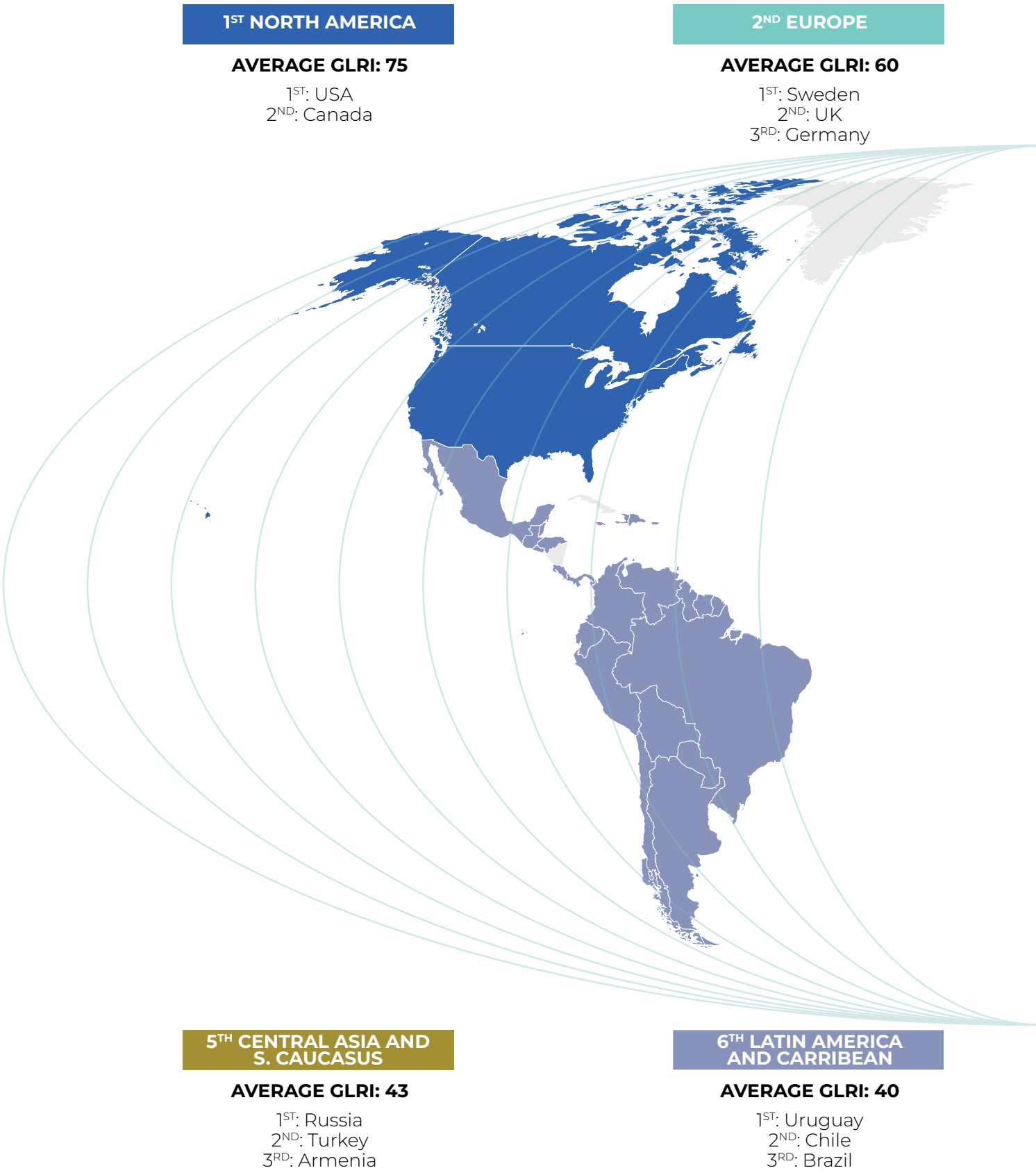


Figure 18. Regional GLRI 2025 Ranking and Scores

3RD EAST ASIA & PACIFIC

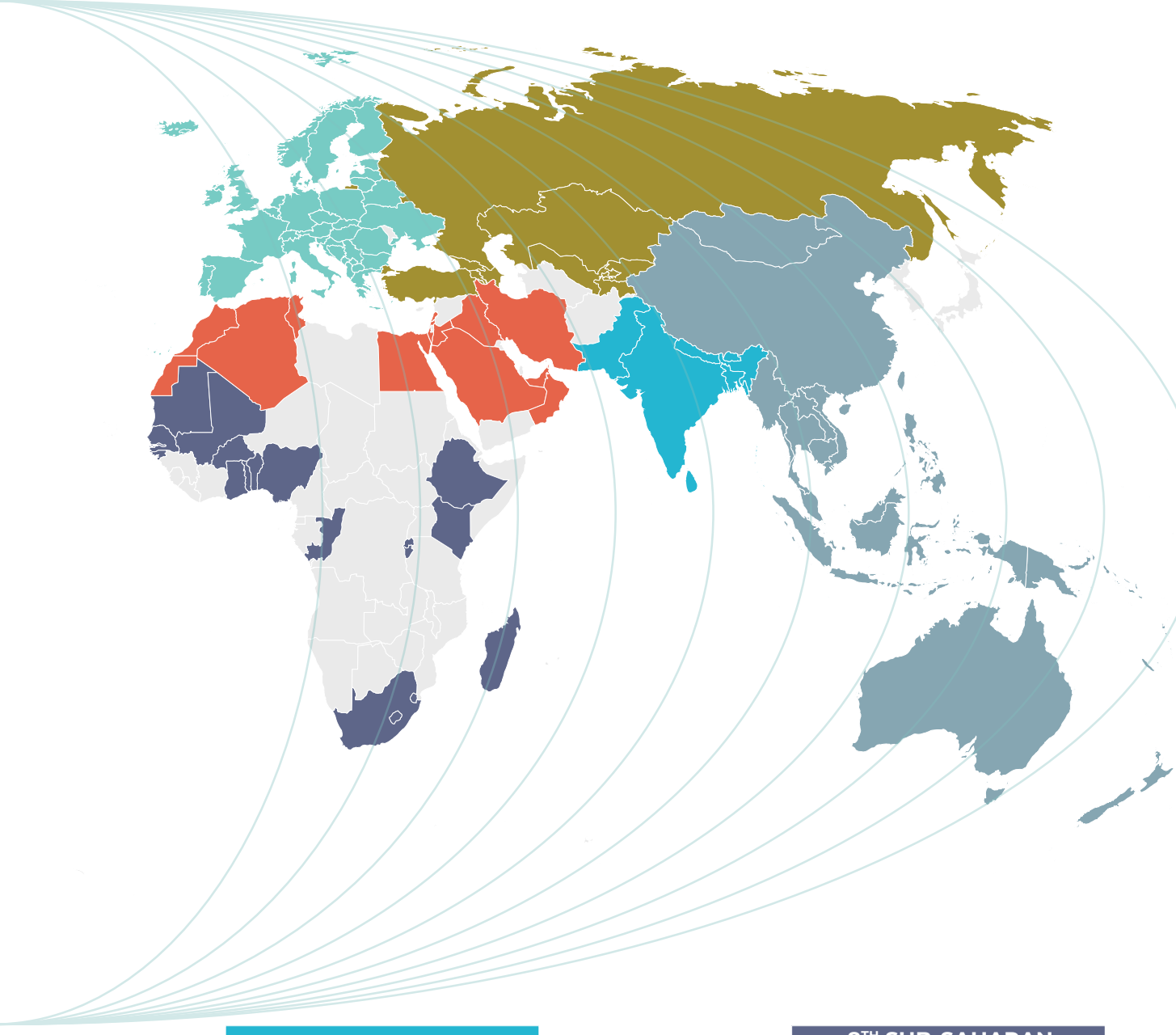
AVERAGE GLRI: 56

1ST: Singapore
2ND: Korea
3RD China

4TH MIDDLE EAST & NORTH AFRICA

AVERAGE GLRI: 46

1ST: Israel
2ND: UAE
3RD: Malta



7TH SOUTH ASIA

AVERAGE GLRI: 40

1ST: India
2ND: Sri Lanka
3RD: Bhutan

8TH SUB-SAHARAN AFRICA

AVERAGE GLRI: 34

1ST: Mauritius
2ND: South Africa
3RD: Kenya

AI amplifies existing inequalities while reshaping regional opportunities

The GLRI is constructed in the way that AI aspects of resilience are mostly correspondent to Traditional aspects of resilience especially in Adaptive and Transformative capacities. The GLRI results show that AI resilience rankings often mirror traditional labour resilience ranking in the corresponding topics, deepening existing disparities.

For instance, North America's dominance is even more pronounced in AI-related areas (except for worker adoption of AI) compared to traditional metrics: e.g. its performance in AI Research and IP is nearly twice as strong relative to the second-best region compared to its advantage in Traditional Research and IP.

Regions which are performing in AI innovation and penetration may face challenges in AI adoption

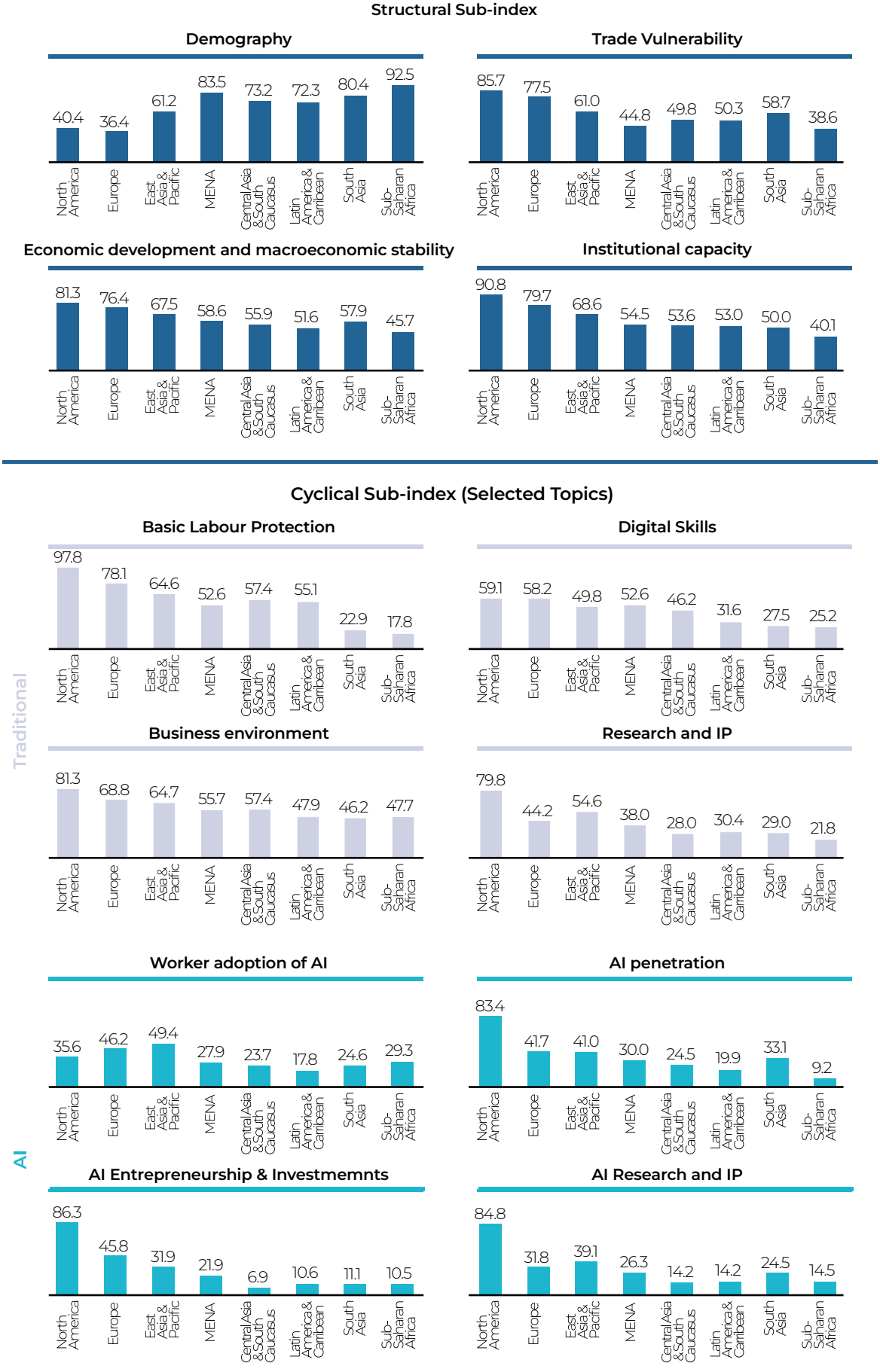
Despite the soundness between AI and non-AI regional performance, AI adoption metrics diverge, with less resilient regions, such as East Asia, demonstrating higher acceptance of AI technologies. This suggests that while traditional capabilities are essential for AI leadership, adoption trends may reflect a different dynamic, offering less developed regions a unique opportunity to leapfrog in resilience.

Demographic strengths and stability support resilience in less developed regions

The comparison of regional in structural resilience has shown that less developed regions benefit from younger population which is potentially more resilient to AI disruption.

It was found that less developed regions, such as South Asia and Latin America & the Caribbean, demonstrated greater labour market resilience to trade shocks compared to the MENA region. Despite MENA's overall higher resilience, its labour market remains sensitive to trade shocks due to its heavy reliance on oil trade (Figure 19).

Figure 19. Regional GLRI 2025 Average Scores by Pillar and Selected Topics



Source: Whiteshield, Global Labour Resilience Index 2025.

3.6. NORTH AMERICA

Figure 20. North American GLRI 2025 heatmap

Source: Whiteshield, Global Labour Resilience Index 2025.

Note: the darker the state – the higher labour resilience it has. Several separated countries' parts are omitted. All maps represent countries as delineated by the U.N. Countries are grouped into five categories based on their relative GLRI performance within their region. The highest performing countries (above the 80th percentile) are in Group 1, while the lowest (below the 20th percentile) are in Group 5. Groups are color-coded from dark to light blue, with darker shades representing stronger GLRI performers.

North America tops the regional rankings increasing the gap with Europe

North America maintains its preeminent position in global labour market resilience, demonstrating strength across both traditional and AI-related metrics. The region's leadership is exemplified by the presence of two countries within the global top 10, reflecting a robust combination of institutional frameworks, technological capabilities, and adaptive capacity. The performance gap between North America and second-ranked Europe has widened, underscoring the region's growing dominance in AI-related capabilities.

The United States drives regional performance

The United States anchors North America's regional leadership, maintaining its position as the world's most resilient labour market (Figure 20). This primacy stems from several interconnected strengths: a robust technological ecosystem encompassing leading tech and AI companies, advanced R&D infrastructure, and a vibrant startup culture supported by sophisticated venture capital networks. The nation's flexible labour market structure enables efficient workforce reallocation and fosters entrepreneurial dynamism.
In AI-specific metrics, the United States demonstrates exceptional

performance, achieving first place rankings in both adaptive and transformative AI capacities. The country leads in AI regulation frameworks and research development, while maintaining top-three positions in AI strategies, equipment capacity, and entrepreneurship metrics.

However, opportunities for enhancement exist across non-AI dimensions. Structurally, the United States faces challenges in addressing an aging population, improving governance frameworks and income inequality, ranking in the bottom quartile globally. On the cyclical front, priorities include strengthening education and training programs and enhancing labour policy efficiency and workforce inclusivity.

Canada ranks ninth overall and climbs to the eighth position in AI-related labour resilience

Canada complements regional performance with its ninth-place global ranking and eighth position in AI-related resilience. The nation excels in traditional labour market metrics, achieving global leadership in basic labour protection. However, it faces demographic challenges, including an aging population and reliance on temporary residents for labour market dynamism.

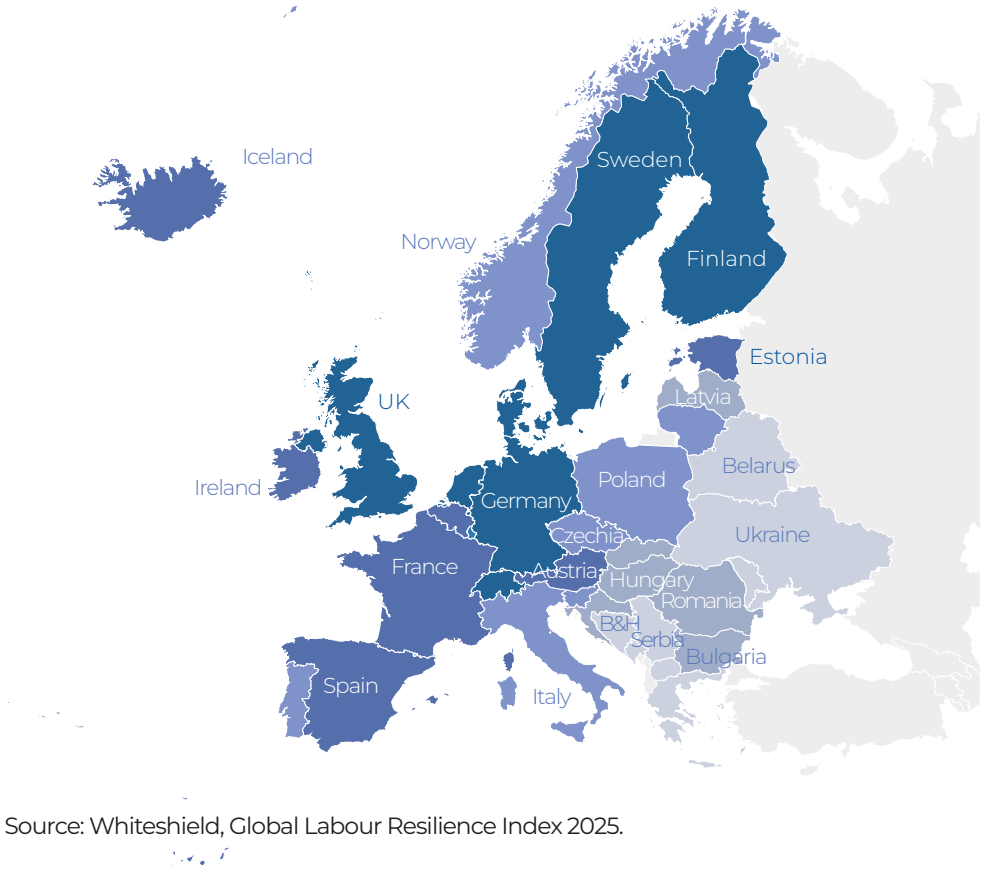
Canada's foresight in AI policy development is evident in its Pan-Canadian Strategy for AI Competitiveness, launched in 2017[13]. Recent initiatives, including a CAD 2.4 billion investment in AI development and the establishment of the AI Safety Institute[14], demonstrate continued commitment to AI governance leadership. These efforts are reflected in Canada's top-three ranking in AI strategies and top-five positions across multiple AI subcomponents, particularly in education structures, research capabilities, and inclusive labour market frameworks.

13 *Government of Canada. (2024). Securing Canada's AI Advantage. Retrieved December 15, 2024, from https://www.pm.gc.ca/en/news/news-releases/202407/04//securing-canadas-ai*

14 *Petrik, J. (2022). Building a robust artificial intelligence research ecosystem in Canada. Nature. Retrieved December 15, 2024, from https://www.nature.com/articles/d424736-00297-022-*

3.7. EUROPE

Figure 21. European GLRI 2025 heatmap



Source: Whiteshield, Global Labour Resilience Index 2025.

Note: the darker the state – the higher labour resilience it has. Several separated countries' parts are omitted. All maps represent countries as delineated by the U.N. Countries are grouped into five categories based on their relative GLRI performance within their region. The highest performing countries (above the 80th percentile) are in Group 1, while the lowest (below the 20th percentile) are in Group 5. Groups are color-coded from dark to light blue, with darker shades representing stronger GLRI performers.

Europe follows North America in labour resilience rankings, however significant intra-regional disparities remain

Europe demonstrates substantial labour market resilience, hosting six of the world's ten most resilient economies. Despite this concentration of high-performing nations, the region ranks second globally, primarily due to significant intraregional variations. This dynamic reflects a complex landscape where exceptional performance in certain areas coexists with notable challenges in others.

A clear geographic pattern emerges in European labour market resilience. Northern and Western European nations consistently achieve exceptional performance metrics, frequently surpassing North American benchmarks (Figure 21). In contrast, Eastern and Southern European countries generally demonstrate lower resilience levels, creating a pronounced regional dichotomy that affects Europe's overall standing.

The strength of European labour markets is evidenced by broad-based performance: more than 80% of European nations rank within the global top 50 for overall labour resilience. However, this aggregate success masks substantial regional variations, particularly in structural resilience, where less than half of Eastern and Southern European countries achieve top-50 rankings. The disparity becomes even more pronounced in AI-based cyclical resilience, as illustrated by the stark contrast between Germany's fifth-place

global ranking and Moldova's 113th position. This wide performance gap underscores the challenges Europe faces in achieving uniform advancement in AI integration and labour market adaptation.

Across Europe, tackling the challenges posed by an aging population is a common concern

Europe's labour market resilience faces a fundamental demographic challenge, with all countries ranking below 60th globally in demographic indicators. This widespread aging demographic profile creates systemic pressures across the region, threatening workforce sustainability and productivity maintenance.

Europe's aging population creates in multiple pressures: straining social security and healthcare systems, facing waves of retirement, and productivity constraints. European nations should respond through multi-faceted approaches: strategic immigration policies to rejuvenate the workforce, comprehensive lifelong learning programs to maintain worker competitiveness, and targeted initiatives to expand labour force participation among underrepresented populations.

Europe exhibits significant variations in AI cyclical resilience.

In the domain of AI integration, Europe demonstrates a nuanced picture of capabilities. The region shows particular strength in adaptive resilience, with 80% of countries maintaining strong performance in AI regulation, penetration, and entrepreneurship. This indicates broad regional competence in immediate AI adoption and implementation.

However, transformative capacity presents a more challenging scenario, with nearly one-third of European countries ranking outside the global top 50, and the lowest at 111th position. This disparity highlights critical areas for development, particularly in AI strategy formulation, equipment infrastructure, and research and development capabilities. Strengthening these foundational elements is essential for converting Europe's strong adaptive capabilities into sustainable long-term advancement in AI integration.

3.8. EAST ASIA & PACIFIC

Figure 22. East Asia & Pacific GLRI 2025 heatmap

Source: Whiteshield, Global Labour Resilience Index 2025.

Note: the darker the state – the higher labour resilience it has. Several separated countries' parts are omitted. All maps represent countries as delineated by the U.N. Countries are grouped into five categories based on their relative GLRI performance within their region. The highest performing countries (above the 80th percentile) are in Group 1, while the lowest (below the 20th percentile) are in Group 5. Groups are color-coded from dark to light blue, with darker shades representing stronger GLRI performers.

East Asia & Pacific holds steady at third place in labour resilience and excels in AI capabilities, securing three of the top four global positions in AI

East Asia & Pacific exhibits a balanced performance across pillars. Approximately two thirds of the countries in the region rank in the top 50 of labour resilience.

The region is diverse, with at least three distinct clusters of countries. The first group consists of leading economies excelling in AI and technology-driven sectors, such as China, South Korea, and Japan, with Singapore at the forefront (Figure 22). They are followed by the second group of New Zealand and Australia, whose leadership is more associated with traditional economic strengths rather than AI-driven metrics. The third cluster comprises ASEAN countries. They are led by Malaysia, Thailand, and Vietnam and followed by another group of ASEAN countries composed by Indonesia and the Philippines, which also perform relatively well. The lowest positions of labour resilience are occupied by Mongolia and Myanmar.

Mongolia stands as a negative outlier in the region. The country shows low levels of labour market resilience due to high production concentration, and a business environment with significant room for improvement. However, Mongolia shows comparatively better performance in traditional-related metrics than in AI ones, offering potential opportunities for improvement.

Singapore and China stand out in the East Asia & Pacific region, both securing positions in the global top three in AI-capabilities

Singapore is a global leader in key metrics such as governance, business environment and digital skills. It is also a global leader in AI entrepreneurship, investment, in the number of AI startups, and in the top five in metrics of private investment. Singapore also excels in AI equipment capacity, AI penetration and firm adoption of AI where it ranks among the world's leading countries.

China leads globally in firm adoption of AI. The country also ranks among the top three in AI equipment capacity and AI research and intellectual property (IP). These achievements are underpinned by its strong cyclical non-AI capabilities, including being ranked second worldwide in research and IP—second only to the US.

Since the introduction of the New Generation Artificial Intelligence Development Plan in 2017, China has committed billions of Yuan to foster AI innovation, with regional governments also pledging significant funds. Nationally, the government has reportedly invested around $184 billion through various funding mechanisms, including government guidance funds and subsidies to support domestic AI companies and technologies.[15]

Japan's AI cyclical capabilities offset its weaker structural metrics, while New Zealand and Australia's high rankings stem mostly from traditional factors

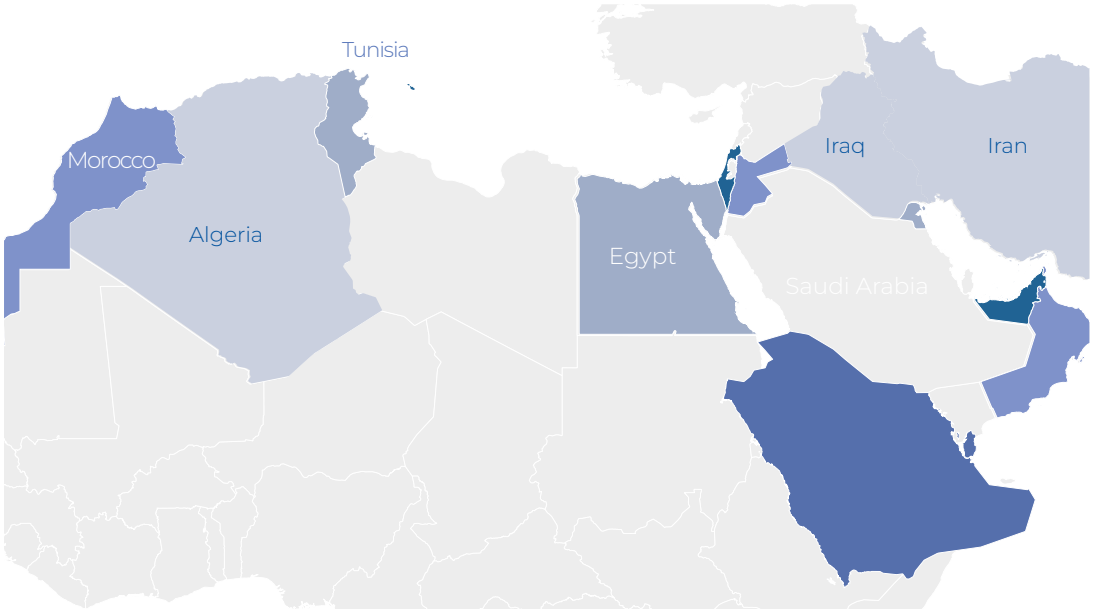
Japan ranks 17th place in the overall ranking. While the country boasts a 10th place in AI cyclical capabilities, it performs less well in traditional labour resilience metrics. It ranks last out of the 118 countries in demographic metrics (share of older population), a long-standing structural challenge.

New Zealand and Australia, on the other hand, consistently perform better on traditional cyclical metrics. Among those, labour participation rates and protection, as well as entrepreneurship drive their overall performance.

15 *Information Technology and Innovation Foundation (ITIF). (2024). How innovative is China in AI? Retrieved December 15, 2024, from https://itif.org/publications/202426/08//how-innovative-is-china-in-ai/*

3.9. MIDDLE EAST & NORTH AFRICA

Figure 23. Middle East & North Africa GLRI 2025 heatmap



Source: Whiteshield, Global Labour Resilience Index 2025.

Note: the darker the state – the higher labour resilience it has. Several separated countries' parts are omitted. All maps represent countries as delineated by the U.N. Countries are grouped into five categories based on their relative GLRI performance within their region. The highest performing countries (above the 80th percentile) are in Group 1, while the lowest (below the 20th percentile) are in Group 5. Groups are color-coded from dark to light blue, with darker shades representing stronger GLRI performers.

The Middle East and North Africa (MENA) region boasts a robust economic foundation, ranking fourth out of eight regions in terms of labour market resilience

The region's overall labour resilience falls short of its potential, despite significant differences between Gulf Cooperation Council (GCC) and non-GCC countries. The GLRI score is often closely linked to GDP per capita, yet some countries in the Middle East and North Africa (MENA) region diverge from this trend, exhibiting lower labour resilience than their income levels might suggest. While the United Arab Emirates demonstrates a level of resilience in line with its per capita GDP, other high-income MENA nations lag behind. To close this gap, these countries need to strategically allocate resources toward policies that enhance labour resilience. This includes fostering innovation ecosystems, implementing worker training programs for AI integration, and incorporating AI in legislation.

The MENA region demonstrates notable disparities in AI cyclical resilience across countries

Regarding AI, the region displays less variation in transformative capacity, with over half of its countries ranking within the top 50, and its lowest-ranked country at 85th in transformative AI. This suggests that the region excels in essential areas such as AI strategies, equipment capacity, research and development, and intellectual property. Moreover, the region performs the best among other regions in worker adoption of AI.

However, nearly half of the countries in the MENA region underperform in AI cyclical adaptive resilience, with the lowest-ranked nation placed at 105th. This reflects weaknesses in areas such as AI penetration and entrepreneurship, indicating a gap in the region's adaptive capabilities. While transformative resilience is critical for long-term success, it must be complemented by strong adaptive capacities to enable its success and sustainability.

The region can build on its transformative strengths by focusing on enhancing adaptive capabilities, boosting its overall AI cyclical resilience. This would facilitate the effective integration of AI technologies into labour markets, positioning the region as a leader in leveraging AI for workforce sustainability and growth.

3.10. CENTRAL ASIA & SOUTH CAUCASUS

Note: the darker the state – the higher labour resilience it has. Several separated countries' parts are omitted. All maps represent countries as delineated by the U.N. Countries are grouped into five categories based on their relative GLRI performance within their region. The highest performing countries (above the 80th percentile) are in Group 1, while the lowest (below the 20th percentile) are in Group 5. Groups are color-coded from dark to light blue, with darker shades representing stronger GLRI performers.

Figure 24. Central Asia & South Caucasus GLRI 2025 heatmap

Source: Whiteshield, Global Labour Resilience Index 2025.

The Central Asia and South Caucasus region has a mixed performance across structural and cyclical resilience metrics, with significant challenges in AI-related capabilities

Despite having been a consistent fourth-place performer in past GLRI editions, the region now ranks fifth, highlighting the need for stronger transformative policies. Among its eight countries, two clear leaders emerge: Russia and Turkey (Figure 24). However, the two countries present very different models of labour resilience.

Russia struggles with structural resilience metrics. This includes challenges in addressing an aging population, macroeconomic instability and export concentration. Additionally, the country has a lower comparative performance in other structural metrics such as the Global Governance Index which ultimately impact its labour resilience.

On the other hand, Russia excels in the absorptive and traditional cyclical resilience pillars of the GLRI. In practice, this is reflected in the country's high levels of pension coverage, ranking 15th globally, as well as having one of the highest proportions of females with advanced degrees and high-skilled jobs.

Russia performs particularly well in transformative aspects of AI-related resilience. This comes from its capabilities in AI research, measured through scientific publications and patent applications. These strengths position it as a regional leader in leveraging AI for labour resilience.

Turkey, by contrast, excels in structural resilience, particularly in its low trade vulnerability and economic diversity. However, it lags in both traditional and AI-related cyclical resilience. While Turkey has a national AI-specific strategy since 2021, it falls short in research output, equipment capacity, and patent applications. Its broader weaknesses in AI education and training further underscore the need for targeted investments in these areas to bolster its labour resilience.

The region's remaining countries rank low in AI capabilities and exhibit varying structural and cyclical resilience levels

The region's remaining countries can be divided into two blocks. The first block includes Armenia, Georgia, and Kazakhstan. These countries perform moderately well in some structural dimensions, but face challenges related to trade and economic diversity, being heavily reliant on natural resource exports. The second block comprises Azerbaijan, Kyrgyzstan, and Uzbekistan, ranking lower than the first block. Azerbaijan and Kazakhstan rank at the bottom of the global distribution in trade vulnerability metrics, with concentrated export profiles pulling down their structural scores.

The region has significant room for improvement in AI resilience, particularly in innovation, research, and education capabilities. However, there are notable outliers, such as Uzbekistan, which excels in digital skills, especially in the number of STEM graduates. Through targeted efforts in education and skills development the region can lay the groundwork for stronger AI readiness and broader labour resilience.

3.11. LATIN AMERICA & THE CARIBBEAN

Figure 25. Latin America & the Caribbean GLRI 2025 heatmap

Source: Whiteshield, Global Labour Resilience Index 2025.

Note: the darker the state – the higher labour resilience it has. Several separated countries' parts are omitted. All maps represent countries as delineated by the U.N. Countries are grouped into five categories based on their relative GLRI performance within their region. The highest performing countries (above the 80th percentile) are in Group 1, while the lowest (below the 20th percentile) are in Group 5. Groups are color-coded from dark to light blue, with darker shades representing stronger GLRI performers.

Latin America and the Caribbean rank in sixth place, ahead of South Asia although by a small margin

All countries in the region slipped beyond the top 50 in the GLRI. Uruguay almost made the cut as regional leader, occupying the 51st position, followed closely by Chile, Brazil, and Mexico, which rank 53rd, 54th, and 55th, respectively. The region's low scores are due in large part to long-standing challenges such as inequality, where it consistently occupies the bottom decile, Business environment and economic development metrics including low economic complexity are additional areas with potential for improvement..

Mexico's case is noteworthy as it performs above the region's average in structural resilience metrics where it ranks within the top 50 globally, underpinned by low trade vulnerability and favourable demographic dynamics. These factors contribute to Mexico's overall labour market resilience despite failing to take full advantage of the AI-driven labour market transformations.

The region's leading countries perform better in AI than in traditional cyclical capabilities, while the reverse is true for the lowest performing countries

The top of the regional AI capabilities rank is occupied by the major South American economies, along with Mexico and Costa Rica. All these countries performed better in the AI rather than in traditional cyclical capabilities metrics. This can be interpreted as a potential avenue for the region to overcome some of its long-standing vulnerabilities by investing in technology and AI-driven opportunities to build a more resilient labour market.

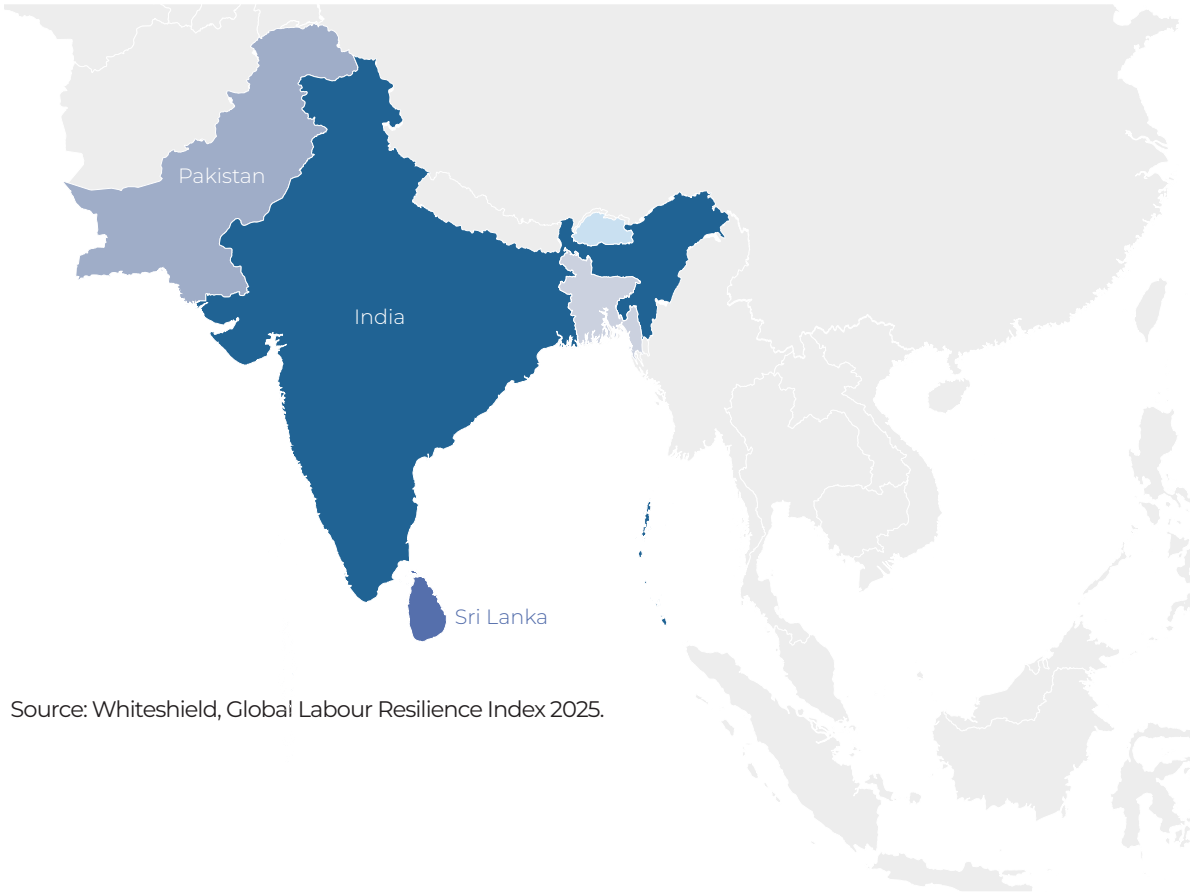
A deeper look into the AI component shows a shift in the regional ranking, with Brazil standing out in the 45th spot, securing its place among the top 50 countries globally. This is due to the country's proactive stance in AI, highlighted by its adoption of a National AI Plan including an investment of approximately $4 billion in AI-related initiatives.[16] Along with Brazil, other countries stand out in AI strategy metrics with Chile occupying the 19th place globally, followed by Colombia in the 26th position.

The region’s smaller economies –concentrated mostly in Central America and the Caribbean perform less well in the GLRI. They obtain significantly lower scores in AI-related metrics such as AI Research and IP and AI-related entrepreneurship, pointing to the need for policy interventions to close this gap by harnessing the power of AI.

16 *Reuters. (2024). Brazil proposes $4 billion AI investment plan. Retrieved December 15, 2024, from https://www.reuters.com/technology/artificial-intelligence/brazil-proposes-4-billion-ai-investment-plan-202430-07-/*

3.12. SOUTH ASIA

Figure 26. South Asia GLRI 2025 Ranks and Scores



Source: Whiteshield, Global Labour Resilience Index 2025.

Note: the darker the state – the higher labour resilience it has. Several separated countries' parts are omitted. All maps represent countries as delineated by the U.N. Countries are grouped into five categories based on their relative GLRI performance within their region. The highest performing countries (above the 80th percentile) are in Group 1, while the lowest (below the 20th percentile) are in Group 5. Groups are color-coded from dark to light blue, with darker shades representing stronger GLRI performers.

South Asia's economy continues to grow faster than other emerging regions, yet its labour market resilience presents structural and cyclical vulnerabilities

The projected growth rates for South Asia indicate a strong economic outlook, with the region expected to grow by 6.4% in 2024 and 6.2% in 2025, according to the World Bank[17]. However, this growth trajectory does not automatically translate into labour market resilience due to persistent macroeconomic vulnerabilities and the absence of comprehensive labour policies.

South Asia faces a mixed performance in the GLRI rankings with a clear divide between India and its remaining countries. India stands out as a regional leader, ranking 42nd overall (Figure 26). Other countries in the region, including Sri Lanka, Bhutan, Pakistan, and Bangladesh, rank at the lower end of global rankings. Despite their demographic potential as some of the youngest countries in the world, these nations face structural and policy gaps that hinder their ability to harness the potential of their youthful populations. Most South Asian economies suffer from insufficient labour protection

17 *World Bank. (2024). South Asia Development Update. Retrieved December 15, 2024, from https://www.worldbank.org/en/region/sar/publication/south-asia-development-update*

and inclusiveness policies. Education and training metrics further illustrate this disparity. Except for India, the region performs poorly in educational spending and enrolment, with Pakistan occupying the last position globally. Bhutan underperforms as the second last in business environment.

India stands out as the region's leader, with notable strengths in structural and AI-related capabilities, despite ongoing challenges in traditional metrics

The big highlight of South Asia is India. A closer examination reveals India's strengths in structural capabilities – including a diverse productive structure and significant macroeconomic stability – occupying the 26th position globally. It also performs well in AI-related capabilities, where it holds the 25th position.

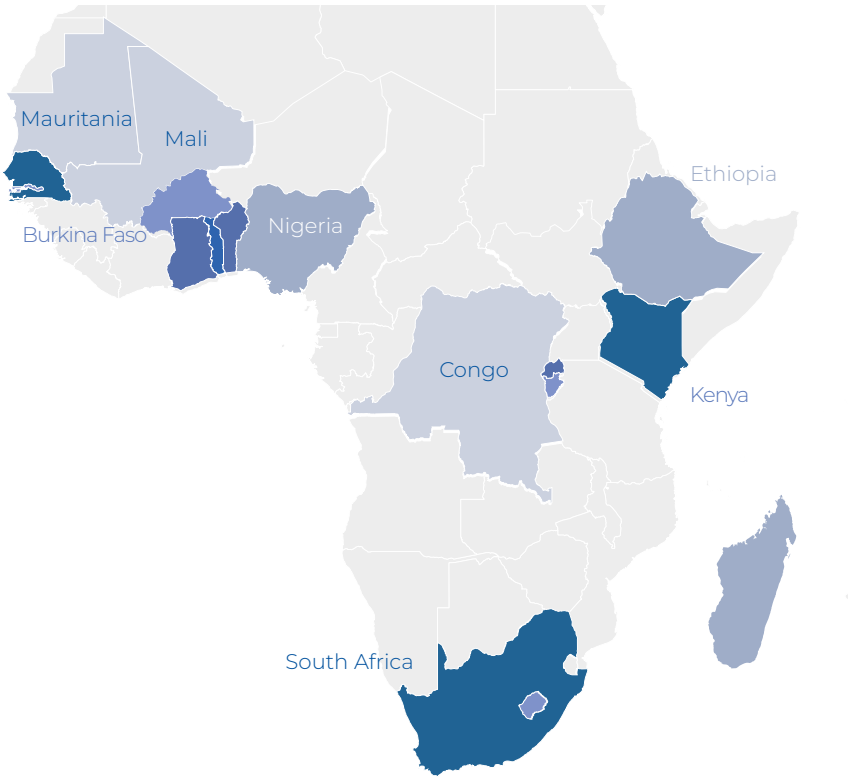
However, India's overall ranking is pulled down by its traditionally weak cyclical resilience metrics, ranking 79th. These weaknesses stem from long-standing challenges in its labour market, including low labour protection and insufficient social security coverage[18]. Limited vocational training structures, and one of the world's lowest female labour force participation rates further constrain India's labour resilience.

Despite these challenges, the region holds significant potential. By leveraging lessons from similar emerging economies and drawing on India's economic dynamism and policy advancements, countries in South Asia can accelerate progress. Strategic investments in education, vocational training, and inclusive policies, coupled with strengthened governance, are critical steps toward building a more resilient labour market.

18 *European Commission. (2024). India's economic surge: regional and global economic player. Retrieved December 15, 2024, from https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/economic-forecasts/autumn-2024-economic-forecast-gradual-rebound-adverse-environment/indias-economic-surge-regional-global-economic-player_en?prefLang=fi*

3.13. SUB-SAHARAN AFRICA

Figure 27. Sub-Saharan Africa GLRI 2025 heatmap



Note: the darker the state – the higher labour resilience it has. Several separated countries' parts are omitted. All maps represent countries as delineated by the U.N. Countries are grouped into five categories based on their relative GLRI performance within their region. The highest performing countries (above the 80th percentile) are in Group 1, while the lowest (below the 20th percentile) are in Group 5. Groups are color-coded from dark to light blue, with darker shades representing stronger GLRI performers.

Source: Whiteshield, Global Labour Resilience Index 2025.

Sub-Saharan Africa region remains in the last place among regional rankings, yet with opportunities for an AI-driven leap forward in labour resilience

Sub-Saharan Africa continues to rank eighth, maintaining its position in the GLRI. The region is home to 12 of the 20 lowest-ranked countries globally and faces persistent challenges across all dimensions of labour resilience. However, Sub-Saharan Africa's young and rapidly growing population offers immense potential. Six of the top 10 countries globally for demographic potential are in this region, with a population projected to grow several times faster than in the rest of the world, accounting for the bulk of global population growth by 2050[19]. This youthful workforce could drive innovation, entrepreneurship, and dynamism in the age of AI if the right skills and capacities are developed.

Among Sub-Saharan Africa's larger nations, South Africa ranks second highest at 71st globally after Mauritius being ranked 56th. South Africa's performance is pulled down by structural weaknesses, particularly inequality, where it ranks among the worst globally. The country also faces the lowest youth labour force participation rate in the world, reflecting its historical social challenges.

19 *International Monetary Fund (IMF). (2024). Sub-Saharan Africa's growth requires quality education for growing population. Retrieved December 15, 2024, from https://www.imf.org/en/Blogs/Articles/202425/04//sub-saharan-africas-growth-requires-quality-education-for-growing-population*

South Africa shines in entrepreneurship, ranking in the global top 10, with a strong venture capital ecosystem. Its universities contribute to high rankings in research and intellectual property metrics. Nonetheless these research strengths are not reflected in its AI capabilities, underscoring the country's significant untapped potential.

Sub-Saharan Africa's key challenge lies in converting its demographic potential into meaningful labour resilience

For the other countries in the Sub-Saharan Africa region, it is hard to understate the potential of its young and growing population to bolster the workforce and drive innovation. This, however, requires significant investments in education, training, and digital skills development.

The AI era presents both challenges and opportunities. While AI is likely to displace jobs in the region, it also offers a chance to leapfrog traditional structural and cyclical weaknesses, enabling countries to build resilience faster.

Positive examples within the region, particularly in attitudes toward AI and its early adoption, could serve as models for other nations. While AI cannot replace the foundational work required to address structural and traditional challenges, it can accelerate development and offer tailored paths to resilience.

4. HARNESSING DIGITAL TECHNOLOGIES & PERSONALISATION OF POLICIES

4.1. DIGITAL TECHNOLOGY FOR LABOUR RESILIENCE

Advancements in technology are progressively reshaping labour markets.

The fourth industrial revolution is well under way. Rapid advancements in digital technologies, from artificial intelligence (AI) to blockchain, are revolutionising the modern labour market.

Discussion about the impact of technologies on the workforce often revolves around their potential to displace and create jobs (e.g., ILO[20], WEF[21], IMF[22]).

Blockchain and Distributed Ledger Technologies (DLT), the Internet of Things (IoT), quantum computing, and other emerging technologies are fuelling the creation of new roles. "Synthetic data engineers", for example, create and manage artificial datasets for training machine learning models, and "XR (extended reality) Developers" create immersive experiences using VR, AR, and mixed reality for applications in gaming and healthcare.

They also inherently make other roles redundant as technology can perform increasingly advanced tasks. Not only do they now replace repetitive and routine jobs typical of previous industrial revolutions, but they also become equally equipped to perform creative or complex work.

Beyond job creation and displacement, however, the potential of these technologies to revolutionise labour markets stretches much further.

Along the labour market lifecycle, advancements in digital technologies create a wide range of potentially beneficial opportunities if countries know how to harness them. Four areas can be identified in which tech is making a difference: education, the job search process, helping employees at work, and lifelong learning (Figure 28).

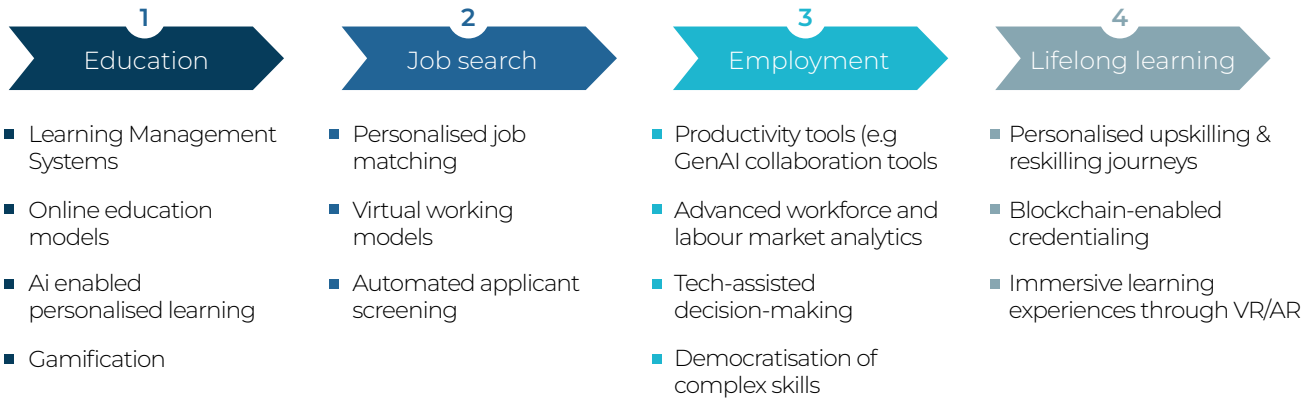
Both the public and private sector have developed initiatives to leverage technology to support education. We will discuss a few of these use cases to illustrate how technology has the potential to change labour markets for the better.

20 *International Labour Organization; August 2023 report: "Generative AI and jobs: A global analysis of potential effects on job quantity and quality.*

21 *World Economic Forum. (2023). The Future of Jobs Report 2023. Geneva, Switzerland: World Economic Forum. Retrieved from https://www.weforum.org/reports/the-future-of-jobs-report-2023*

22 *Cazzaniga, Mauro, Florence Jaumotte, Longji Li, Giovanni Melina, Augustus J. Panton, Carlo Pizzinelli, Emma Rockall, and Marina M. Tavares. 2024. Gen-AI: Artificial Intelligence and the Future of Work. IMF Staff Discussion Note No. 2024001/. January 14, 2024. Accessed December 15, 2024. https://doi.org/10.5089979840026254 8.006/.*

Figure 28. Technology Use Cases Along the Labour Lifecycle



4.2. AREA 1 – BOOSTING EDUCATION OUTCOMES

The rapid development of the EdTech industry illustrates the potential of technology to enhance education. Digital technologies unlock increasingly advanced Learning Management Systems (LMSs), online or hybrid education models, AI-assisted learning personalisation, and optimised and gamified learning experiences—for example through AR and VR—to enhance learning absorption.

One prime example of a digital education strategy leading the way internationally is Estonia. Starting their educational digitisation efforts in 1996, Estonia introduced the Tiger Leap program to modernize its education system, leveraging IT to benefit social development[23]. Fast forward to today, Estonia's education system exists mostly in the cloud. 95% of schools use e-school solutions such as eSkool and Stuudium, connecting students, teachers, and parents to optimise learning management and outcomes[24].

These types of Learning Management Systems (LMSs) capitalise on advancements in areas such as cloud computing, AI and data analytics to reinforce the traditional school system. While basic features like absence management and lesson planning have been around for a long time, new use cases are emerging, such as early detection systems identifying students prone to fall behind and automated grading systems. LMSs therefore not only change the way students, teachers, and parents interact at school, they also support teacher productivity and educational outcomes.

LMSs could be seen almost as the backbone of modern education.

The "school in the cloud", so to say – acting as a school's digital twin and holding together a much broader range of integrated educational tools. They provide the required infrastructure needed to adopt other emerging technologies such as gamification and AI-driven personalisation, more on which we will discuss in the section on "Personalising Policy With Technology".

23 *Education Estonia. (n.d.). How it all Began? From Tiger Leap to digital society. Retrieved January 6, 2025, from https://www.educationestonia.org/tiger-leap/*

24 *Education Estonia. (2020). How did Estonia become a new role model in digital education? Retrieved January 6, 2025, from https://www.educationestonia.org/how-did-estonia-become-a-new-role-model-in-digital-education/*

Of course, this calls for targeted policy interventions to enable the digital classroom.

Investments into digital infrastructure, adequate protection of data privacy and security, and specialised teacher upskilling programs are all needed to take advantage of the potential of educational technology. An example of a pioneer in digital strategy and AI integration in the classroom is South Korea (Box 6).

Box 6. AI policies in South Korea

SOUTH KOREA

Objectives

The National AI Initiative act of 2020 has 4 main objectives

1. To enhance educational quality, creating a new classroom dynamic that is both teacher-led and AI-enabled
2. To address urgent challenges such as hypercompetition in education, shrinking student population, and evolving demands on the teaching profession

Key Insights

The rollout of AI digital textbooks begins in March 2025 for grades 3, 4, 7, and 10, covering subjects like English, math, information, and Korean for special education

By 2026, Korea aims to train all teachers int he effective use of digital technology for classroom innovation. The Korean government has allocated approximately $0.74 billion for three years (2024 - 2026) specifically for teacher training as part of its broader AI-enabled education investment

To support this classroom evolution, Korea is investing heavily in digital infrastructure such as the distribution and management of devices, the network environment, and the support personnel

AI in Public Schools: In Febraury 2023, the Korean Ministry of Education, unveiled an ambitious plan to integrate AI deeply into the public education system. A key component of this plan is the development of digital textbooks that leverage AI to personalize learning experiences for each student

4.3. AREA 2 – SUPPORTING THE JOB SEARCH

The job search has never been easier.

Improved virtual working models enable employees to work remotely more often. Expedited by the Covid-19 pandemic, wider access to broadband and 5G as well as the development of more advanced communication and collaboration tools are enabling remote work. Models vary, from work-from-anywhere jobs, where an employee might be based anywhere in the world, to work-from-home policies that increase flexibility and reduce strain on workers to commute to the office every day.

These new working models actively improve labour participation, geographic mobility, and workforce inclusivity, particularly for disadvantaged groups such as those with disabilities. At the same time, they enable companies to deliver on their diversity, equity, and inclusion (DEI) objectives by providing access to a wider talent pool beyond their immediate geographic location.

Additionally, job matching platforms leveraging AI make it easier to find suitable jobs.

These platforms recommend matching jobs to job seekers based on their skills, education, experience, location, availability, and a whole host of other factors. This facilitates the job search for both job seeker as well as employers, who can identify relevant talent more efficiently.

For example, Singapore's MyCareersFuture portal highlights the potential of assisted job matching. The digital platform includes an AI-powered recommendation system for individual jobseekers, allowing users to find the most suitable job vacancy matches posted, based on their characteristics (e.g.: CV, skills, education) and past behaviour on the platform (e.g.: clickstream, past applications, saved jobs). This resulted in an increase of successful placements by 21.5% since its implementation, highlighting how even modest integrations can yield significant impact.

Private sector job platforms such as LinkedIn also consistently focus on improving their matching abilities. Based on your profile, preferences, and user activity, LinkedIn shows you 'Job picks for you'. And having recently implemented the premium-only 'AI Job Assessment', it now tells users whether they are a good fit, how to tailor their resume, and how they can best position themselves for a role.

Similarly, Gig Economy platforms such as Uber, TaskRabbit, and Upwork are supporting a freelancer revolution.

Matching gig workers with relevant tasks based on their skills, location, availability, experience, and hourly rates, Gig Economy platforms offer a flexible and attractive new opportunity for income generation while filling a gap in service provision.

Despite this potential, governments face the challenge of regulating the gig economy in ways that foster innovation while ensuring social protection. Gig work has been criticised for income volatility and the absence of social safety nets associated with traditional forms of work. However, in the context of AI and growing automation, gig-work can serve as a powerful platform to guarantee dynamism and low entry barriers into the labour market. Governments worldwide should leverage regulatory frameworks that ensure gig workers have adequate rights and protections without stifling the innovation that has made the gig economy so prevalent.

4.4. AREA 3 – LEVELING UP THE WORKFORCE

The rapid advancement of digital tools is driving a productivity revolution.

The sudden emergence and widespread adoption of Generative AI (GenAI) tools such as Gemini or ChatGPT—powered by vast computing resources and big data—has had a profound impact on labour productivity.

But AI-powered tools can also boost productivity in other ways. For instance, they assist healthcare professionals to process more patients, and with increased accuracy. Additionally, the increasing availability of collaboration tools that integrate AI, cloud computing, and 5G technology are creating meaningful efficiencies.

Advanced digital tools democratise access to complex skills.

What used to be a highly valuable and scarce skills that required extensive training and experience is progressively becoming a commodity available to most everyone. For example, through the rise of low-code and no-code solutions, a much larger group of workers is suddenly able to build software applications, create websites, automate processes, and develop digital tools without requiring programming knowledge. Other such skills include graphic design through tools like Canva and Figma, as well as data analysis and visualisation, where Google Data Studio and Tableau allow people without any background in data science to easily analyse and visualise large datasets.

The increased availability of such productivity-enabling tools has both upsides and downsides.

On the one hand, a single employee can now harness a vast amount of advanced and diverse skills at significantly reduced effort. This increases their productivity and effectiveness. Particularly set to benefit from this development are entrepreneurs and small business. With limited resources and staff, they can innovate faster and at lower cost.

At the same time, it makes a wide set of previously highly profitable occupations largely redundant. Additionally, it's easy to see how fast the fast the gap between digital natives and illiterates will widen. Younger generations that are quick to pick up on new technology trends and tools could double or triple their skillset, whereas those less tech-savvy – oftentimes older workers – could lose out on competitiveness.

This reinforces the importance for policymakers to invest in digital literacy and upskilling programs.

As job requirements change rapidly and increasingly include advanced digital skills, governments will need to create new ways to upskill and reskill the workforce on a continuous basis. One example is the UK AI Upskilling Fund, which provides matching subsidies to SMEs in the professional services sector that want to train their employees in technical AI skills[25]. But also developing countries are introducing upskilling initiatives, such as Malaysia's "AI Untuk Rakyat" self-learning AI literacy program, which has already been completed by over 1 million citizens since its introduction in January 2024[26].

Monitoring the emergence of new skills and occupations becomes equally critical.

With the job market changing at unprecedented speed, keeping a pulse of changes in labour market demand is important for all stakeholders—governments, the education system, and the private sector. While most such labour market analytics are performed on an annual basis and mainly backwards-looking, big data and AI are opening up an opportunity for real-time labour market monitoring.

Whiteshield's proprietary Future of Work Navigator©, for example, supports governments with advanced labour market analytics. This tool provides a month-to-month snapshot of market demand, running AI algorithms and natural language processing (NLP) to analyse, interpret, and structure data from more than a half billion online vacancies to identify skills and job trends. Government users can compare their labour market to others around the world (> 40 countries to date), and access forecasts to anticipate future trends. They are assisted by an AI agent, who turns data into actionable recommendations such as targeted policy interventions and educational program development.

Developments in advanced workforce analytics platforms such as Visier and Workday provide an avenue for monitoring skill development at an organisational level. These tools enable them to assess the effectiveness of training programs, align capability development with strategic objectives, and forecast future talent needs. Additionally, the use of AI in workforce analytics allows for targeted interventions for individuals. For example, Whiteshield's Workforce Navigator© analyses online employee interactions to suggest personalised career paths and upskilling journeys, as well as predict the risk of burnout, allowing organisations to proactively support employees and ensure their success.

25 *Institute of Science and Technology. (n.d.). AI Upskilling Fund. Retrieved December 15, 2024, from https://istonline.org.uk/ai-upskilling-fund/*

26 *My Digital Government, Malaysia. Retrieved December 15, 2024, from https://www.mydigital.gov.my/one-million-malaysians-successfully-complete-ai-untuk-rakyat-self-learning-online-programme-in-record-time/*

4.5. AREA 4 – LIFELONG LEARNING

As illustrated by numerous of the examples above, lifelong learning has become indispensable. No longer is pre-employment education enough to remain competitive in the job market until retirement. Continuous upskilling and even reskilling will be needed by workers to flexibly adapt to changes in the labour market and companies' demand.

The lifelong learning trend is driving plenty business opportunities. Professional learning platforms such as Coursera, EdX, and Emeritus collaborate with reputable universities to supplement their offering with online programs. But also companies and freelancers are racing to take advantage, launching a dizzying array of online courses as a steady additional income stream.

Resulting is a challenge for employers to verify non-traditional education credentials.

The inevitable diversity of course quality poses a challenge for employers. While authenticating a university degree and performing a background check on previous work experience is already time-consuming enough, it would be almost impossible to verify a candidate's online course completion. But the need to do so is increasing, with many organisations moving to a skills-based hiring approach that reduces the importance of traditional educational qualifications while focusing more on specific competencies a candidate possesses often acquired through online programs or professional certifications.

Blockchain provides an appealing alternative, allowing employers to validate credentials in a secure, decentralised, and tamper-proof way.

Although still in its infancy, blockchain-based credentialing systems are becoming more widespread. Platforms such as Credly, which focuses on IT-related courses and certifications, are collaborating with training providers such as Google Cloud, PMI, and IBM to store and verify their training credentials. Almost 100 Mn credentials are managed on Credly, providing users with an effective way to share their earned badges with employers[27].

For workers, the challenge revolves around deciding on the most valuable upskilling journey.

To make sense of the vast offering of online courses, AI supports learners with personalised learning journeys. One best practice example of a government-supported initiative is Singapore's SkillsFuture platform. It captures users' educational background, employment history, skills assessments and career aspirations and compares that to its skills framework, which maps industry-specific skills and roles in Singapore's economy. Using AI, they identify the gap between the current and desired skillset for the target role to create a curated library of training programs. Their users can also utilize OpenCerts, SkillsFuture's selected blockchain-based credentialing platform, to verify their certificates .

27 *Credly. (n.d.). Explore Our Elite Credentialing Partners of 2024. Retrieved January 7, 2025, from https://info.credly.com/top-credly-elite-issuers*

Similarly, Whiteshield's Career Navigator© provides personalised upskilling recommendations for students and job seekers around the world. Analysing their interests, strengths, and the skills acquired during their work experience and educational programs, it helps them bridge the gap between their current skills profile and their target job's skill requirements.

4.6. PERSONALIZING LABOUR POLICIES WITH TECHNOLOGY

A critical technology-enabled advantage that has emerged is the ability to personalise services.

Leveraging big data and AI, the private sector has fully capitalised on this opportunity for improved business outcomes. A wide range of cases such as targeted advertising, product (e.g., Amazon and Shopify) and entertainment (e.g., Netflix and Spotify) recommendations, and health advice (e.g., Whoop) are changing the way companies interact with consumers.

But where the private sector is leading the way on personalisation, the public sector is largely lagging behind. Examples exist for personalised policymaking in narrow use cases, such as Estonia and Finland's AI-driven digital systems to personalise employment benefits and social services, Sweden's use of online platforms to manage parental leave benefits, or Australia's Thrive at Work initiative for tailored workforce wellbeing interventions. However, governments are still missing a systematic approach to personalised policymaking that stretches from policy design all the way to monitoring and evaluation.

In this dynamic environment, a one-size-fits-all policymaking approach is no longer adequate.

It is time that we move away from one-to-many policymaking, in which labour market solutions are uniformly designed for and delivered to the entire population. Instead, governments should adopt a one-to-one approach—also referred to as citizen-centric policymaking—where they precision target the challenges of different segments of the population and serve the unique needs of each citizen.

The personalisation of policy stands or falls with the availability and accessibility of data.

At the heart of successful citizen-centric policymaking is data. Governments should aim to create a central data hub that serves as the engine behind policy design and, where relevant, delivery. Such a data hub should connect

28 *SkillsFuture. (2019). Enhanced MySkillsFuture Portal To Provide Personalised Recommendations To Guide Singaporeans Towards Achieving Career And Skills Goals. Retrieved January 7, 2025, from https://www.skillsfuture.gov.sg/newsroom/enhanced-myskillsfuture-portal-to-provide-personalised-recommendations-to-guide-singaporeans-towards-achieving-career-and-skills-goals*

APIs from a wide range of (government) entities, such as key Ministries (labour, education, interior), education providers, pension funds, tax agencies, and many more.

Policy design should then follow an archetype approach. Leveraging the aggregated data, policymakers can stratify the policy beneficiary population (citizens, companies, educational institutions, etc.) into meaningful segments each with distinct challenges and needs. These archetypes drive the development of tailored, citizen-centric solutions that directly address the needs of each segment.

A key example of a one-to-one policy approach can be found in the United Arab Emirates' flagship Emiratisation program called Nafis. The UAE was challenged by a high concentration of Emirati workers in the public sector, facing low levels of private sector participation for locals that had stagnated for years. While plenty of labour policies were already in place to stimulate private sector employment for Emiratis, they were not delivering tangible results.

When in 2023 the government invested in a renewed approach to tackle the issue, it brought together a variety of government stakeholders from different policy areas. New policy interventions were designed by analysing the labour challenge through the lens of citizen segments, enabled by the integration of a wide range of (government) entities.

Oftentimes, as was also the case with Nafis, a labour challenge is not (only) a labour challenge. Evaluating a labour challenge from the perspectives of different citizen segments oftentimes uncovers challenges in other policy areas that are causing or contributing to the problem. For example, one segment might need child support to enable their reintegrating in the workforce, whereas another might face a lack of adequate transportation to reach areas of commercial activity.

The most successful governments are therefore those who take a whole-of-country approach.

Bringing stakeholders from around the government to the table is critical to develop adequate and implementable solutions. Moreover, taking a page out of the customer-centric approach of the private sector, it is equally important to directly engage policy beneficiaries. Representatives from the private sector, the education system, and even the general population should participate in the policy design process. Particularly when using a personalised policy approach, it is critical to obtain direct feedback from beneficiaries to better understand the unique challenges and needs of the segments policies aim to serve.

For policy delivery, governments can subsequently capitalise on the wide range of available digital tools.

To deliver policies effectively, governments can leverage technology solutions such as those discussed at the beginning of this chapter. Across the labour lifecycle, digital tools should be selected to deliver new services to beneficiaries for education, the job search, employment, and lifelong learning. These can be established in-house, come from the private sector, or be developed in public-private partnerships.

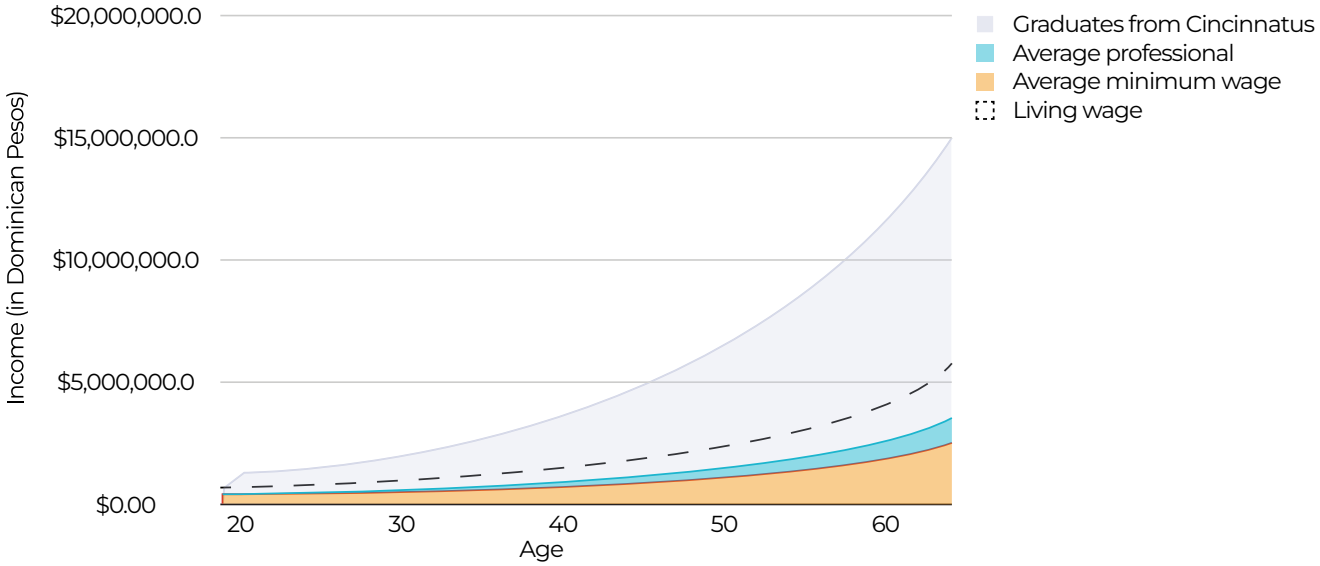
Nafis, for example, delivers all its policy initiatives through an online platform. Emiratis can log in with their UAEPass—the UAE's digital identity system—to access a wide range of financial benefits, as well as job platforms that offer personalised job matching, upskilling programs and career counselling options. Leveraging the data from its integrated APIs, the platform automatically matches users to the initiatives they are eligible for and allows users to apply for them with a few clicks. Given that almost all required data to approve the benefits is centralised in the platform, most financial assistance is automatically processed without any human intervention.

As a result of the Nafis program, over 100,000 new Emiratis entered the private sector, bringing the total to 131,000 up from 28,000, indicating a hugely successful effort. Nafis provides a telling example of how one-to-one policy design and delivery can transform labour markets and deliver real citizen outcomes.

Another example of how the government can work hand in hand with the private sector for policy delivery is provided by the Cincinnatus Institute of Craftmanship in the Dominican Republic. It uniquely tailors its education offering to upskill Dominican students and drive their employment in tech occupations to provide them a future outside of poverty.

The Institute has developed a novel approach to teach AI skills to disadvantaged communities with its "AI for everyone" program. Their human-centred approach aims to democratize AI and equip all students not only with vocational training on AI, but also with proactive "resilience" skills that can help them in their day-to-day life. Cincinnatus students are supported by Google ecosystem products and a proprietary AI agent (Salomé AI) to create a personalised, high-impact learning model which sees AI not just as a technology, but a tool for human empowerment and skills augmentation. More than four thousand students are already enrolled in the Institute, with 818 who have completed a job training up to now (Figure 29).

Figure 29 Lifetime earnings of a Cincinnatus graduate relative to the living wage



Source: Ministry of Labour, Dominican Republic.

4.7. A CALL FOR NEW LABOUR POLICY INSTRUMENTS

To facilitate a personalised one-to-one policy approach, new policy instruments are required.

One such approach is the Job Accelerator, developed by Whiteshield in collaboration with Google. The Job Accelerator aims to provide a tailored approach to develop personalised policy, facilitating a whole-of-country (technology) approach, and within an agile governance model that provides speed. It aims to answer 6 key questions (Figure 30):

1 What is the current and target **policy mix?**

2 To what extent are different **citizen segments absorbing** the current policy mix?

3 What **tailored policy interventions** are needed for each segment?

4 Which **digital tools** can we leverage to deliver the new solutions?

5 How can we effectively **monitor impact?**

6 How can we **improve?**

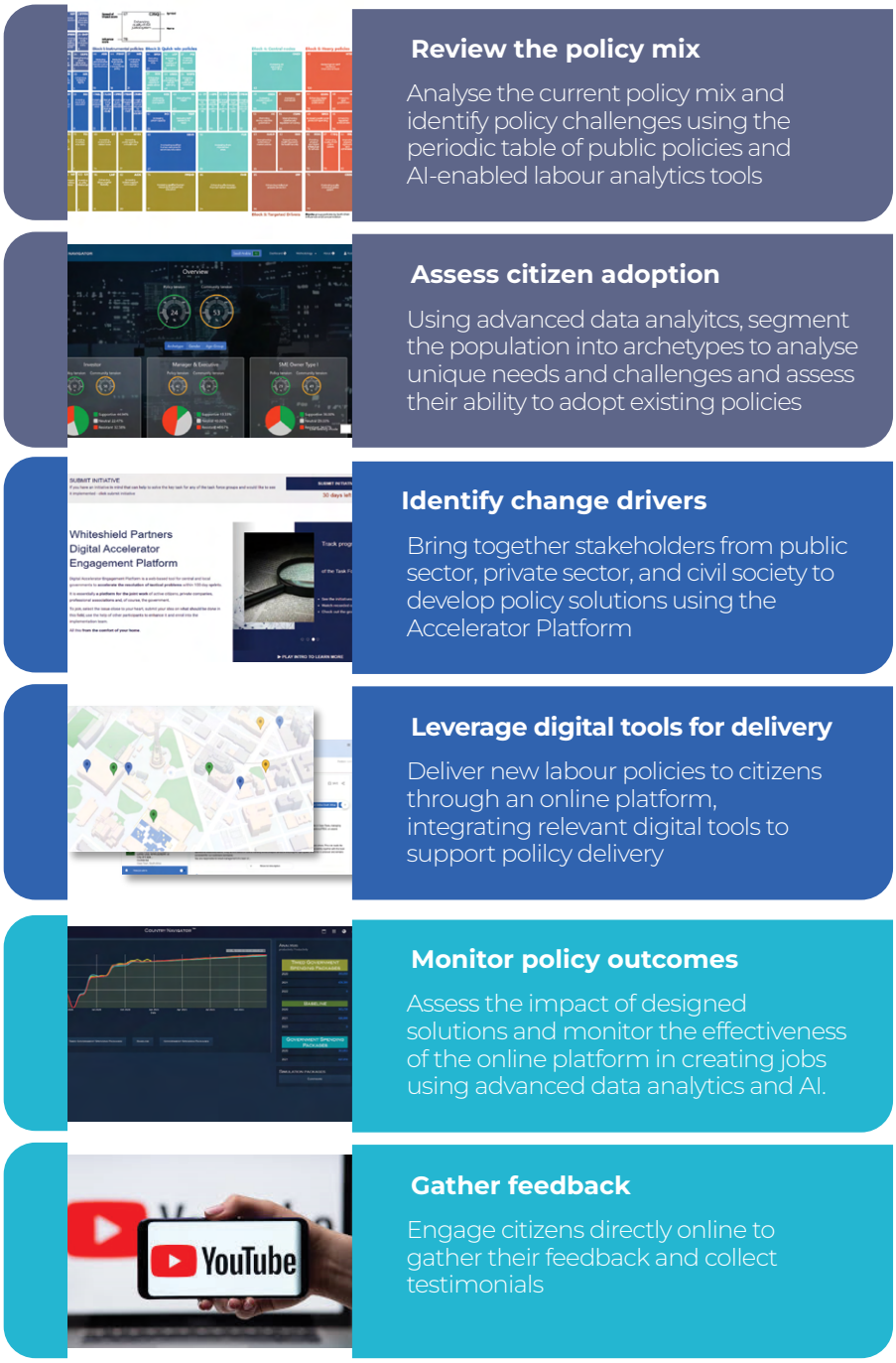
The Job Accelerator is enabled by a central data hub that aggregates data from relevant entities across government that support the policy process.

To illustrate, we will consider the case of South Africa as a potential application of the instrument.

South Africa's labour market is marked by one of the highest levels of inequality in the world, a legacy of historical disparities and systemic challenges. The advent of AI and automation presents a dual-edged sword: while it offers opportunities for growth and innovation, it also risks exacerbating these inequalities if not managed effectively. AI is more likely to replace routine, low-skilled jobs—many of which are held by South Africa's most vulnerable populations—while creating high-skill opportunities that often remain inaccessible to underprivileged groups due to barriers in education and training. The Job Accelerator can be utilized here to provide rapid and customized policy solutions for improved labour market resilience.

First, the policymaker would assess the existing policy mix. S/he structures the issue using existing datapoints and reports on unemployment and population profile and stakeholder consultations. Then, s/he performs a diagnostic of the policy challenges. As discussed, this not only includes labour challenges but also related ones in other policy areas. To help her do so, she can leverage the Whiteshield Periodic Table of Public Policies. Illustrated in Figure 31, the periodic table identifies the impact of policies and their centrality in the network, helping the policymaker understand how different policies are impacted by each other.

Figure 30 The Job Accelerator



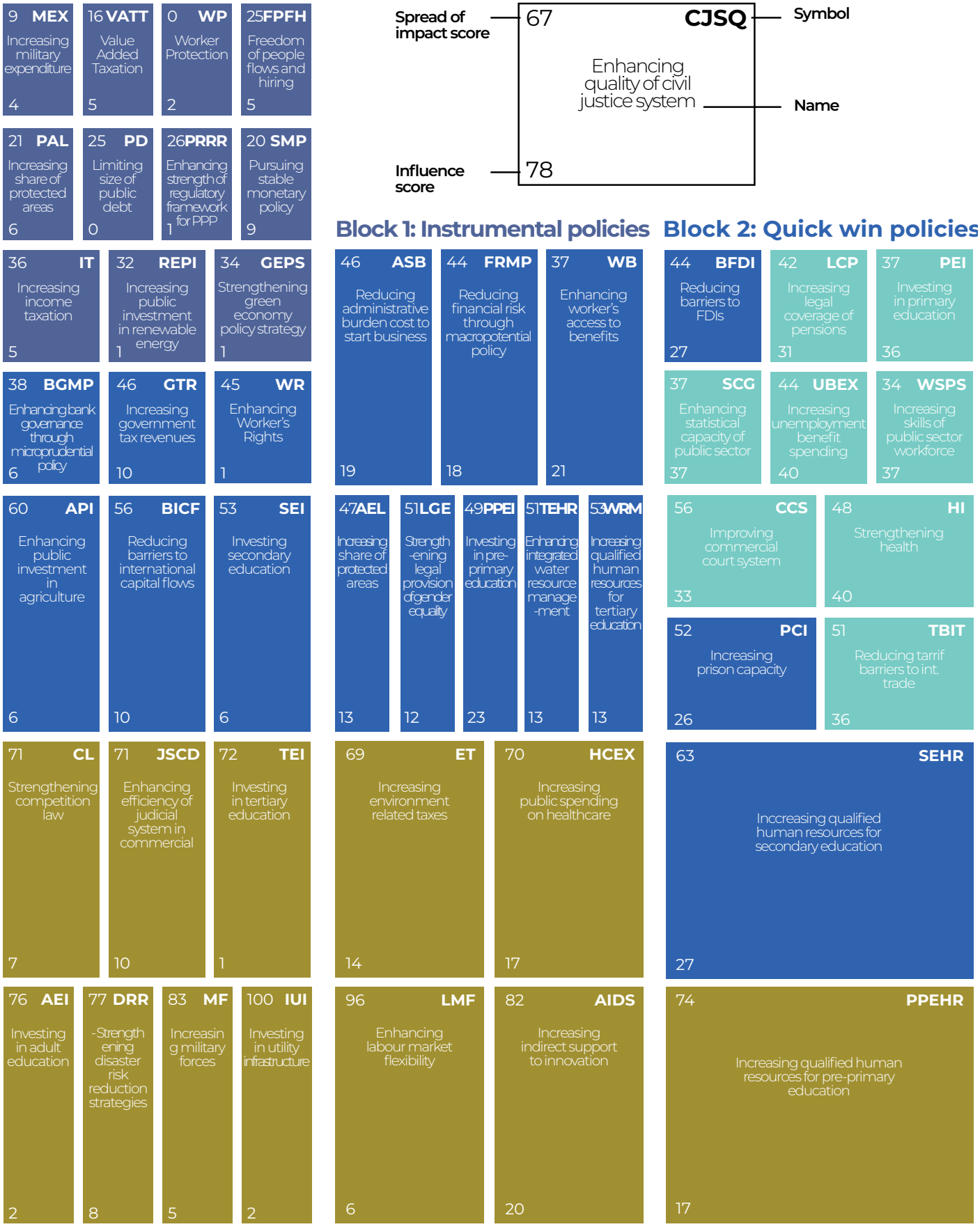
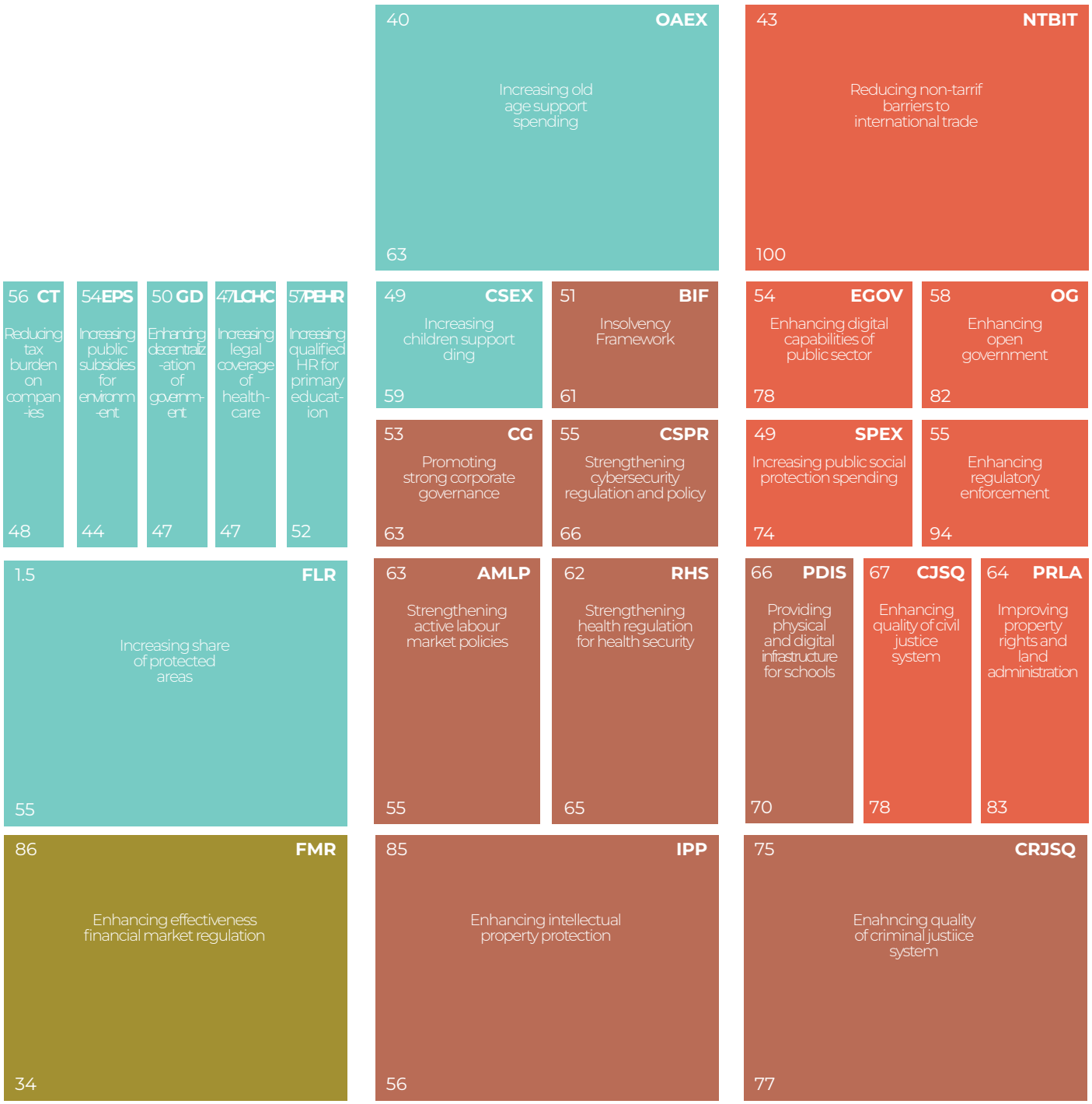


Figure 31 Whitehield's Periodic Table of Public Policies

Groups groups classify policies by intesity of their influence or impact on the overall policy network. Moving from right to left, impact of policy increases

Block 4: Central nodes

Block 6: Heavy policies



Block 5: Targeted Drivers

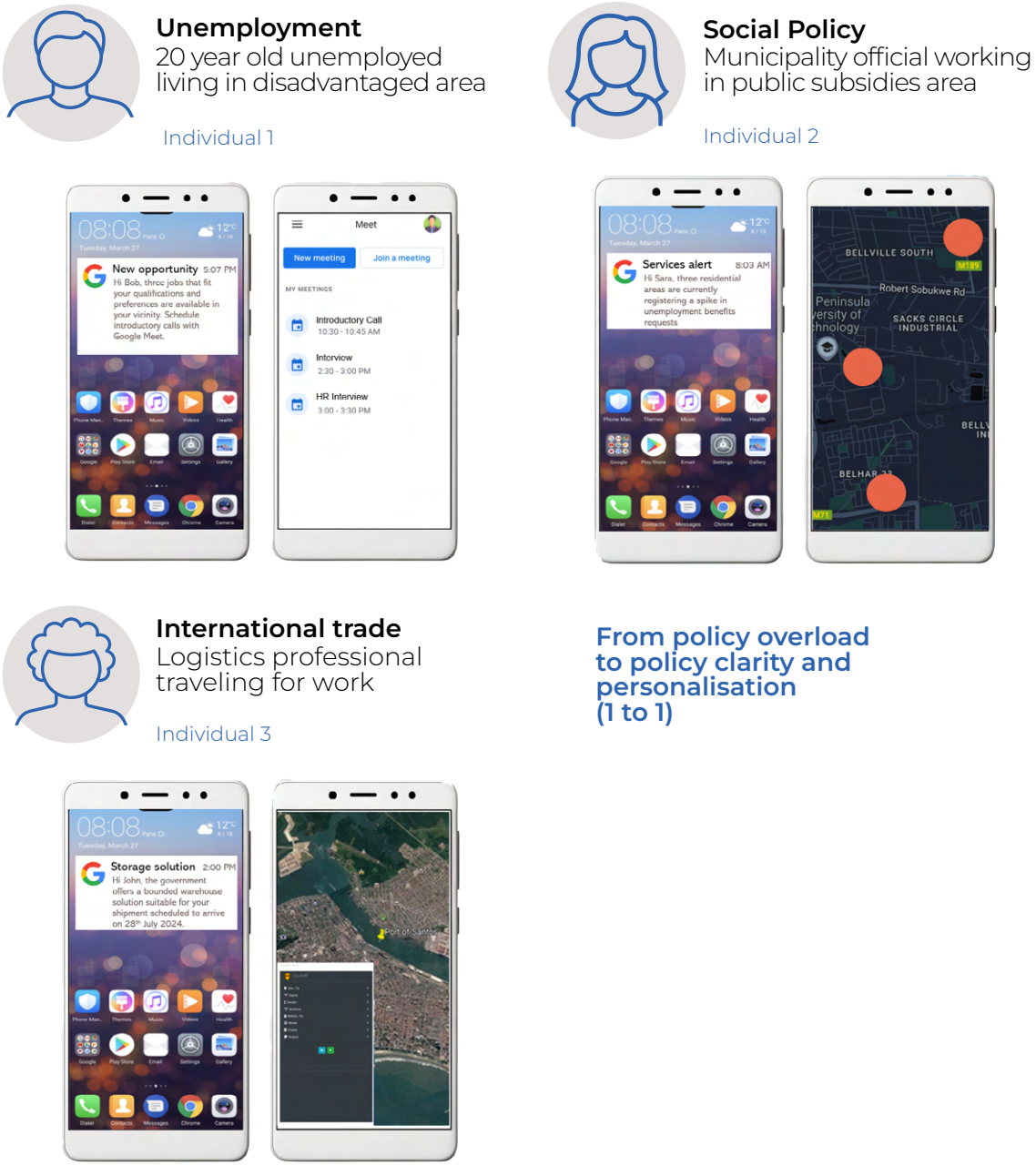
Blocks group policies by both their influence and concentration

The first step is concluded with scope and target setting to set measurable targets for the acceleration period and a defined geographical scope. For instance, in the South African case, a first pilot could be run in the Cape Town, which constitutes a large portion of the country's labour market.

The second step, Citizen Adoption, ensures that each policy solution addresses the diverse realities of Cape Town's workforce, through the development of relevant archetypes (Figure 32).

Through the Whiteshield Citizen Navigator©, affected populations could be segmented into archetypes, such as low-skilled workers in urban centres, rural youth with limited access to technology, and unemployed graduates from underprivileged areas. Moreover, each archetype would be assessed on its ability to absorb existing policies. Each group would then be matched with tailored interventions. For example, unemployed urban youth could be enrolled in AI-enabled digital training programs, while rural workers might benefit from programs aimed at increasing their access to digital technologies and basic infrastructure.

Figure 32 Archetypes and Policy Personalization



Solutions are the focus of the next steps. At the Change Drivers stage, practical initiatives are designed by a multi-disciplinary team with consultative members from businesses and civil society. Accelerator participants would also focus on bringing together key decision-makers to drive meaningful progress. The Accelerator Platform would serve as a hub for coordinating and scaling these initiatives, ensuring alignment among all parties. The Digital Tools phase would integrate cutting-edge technological tools to enhance accessibility and impact to all citizen archetypes, integrating AI-driven personalization at all levels. The Whiteshield Future of Work Navigator and Career Navigator would provide relevant intelligence on local labour market trends.

Through the Monitoring Dashboard and Testimonials stages, it will be possible for policymakers to measure impact and showcase success stories. Cape Town leaders could track the progress of its interventions in real time, focusing on KPIs that directly address labour market inequalities. Metrics such as the number of low-skilled workers transitioned into AI-supported roles, the geographic and demographic distribution of job placements, and wage growth among underprivileged groups would provide actionable insights for further policy adaptation. For example, if certain regions or demographics lag behind in program adoption, policymakers could adjust resource allocation or modify training delivery methods to ensure no one is left behind.

The Job Accelerator approach aims to complete all six steps in 100 days.

Achieving meaningful labour market impact starting with quick wins and kickstarting effective initiatives for medium term impact. Through its six stages the Job Accelerator provides a cogent and valuable answer to policymakers who want to respond to a rapidly changing labour market, leveraging the potential of AI for policy personalization, and in a limited timeframe.

5. CONCLUSION

Artificial Intelligence is not just a technological innovation; it is reshaping labour markets and redefining global labour resilience. Its influence goes beyond simple productivity gains or automation—it disrupts industries, shifts job profiles, and introduces new inequalities. With labour markets facing challenges from both the rapid adoption of AI and its uneven global distribution, fostering labour resilience has never been more critical in navigating this transformative era.

This year's Global Labour Resilience Index brings a fresh perspective to the policy debate by examining the intersection of Artificial Intelligence and labour resilience. The findings underline that labour resilience is not merely about weathering shocks but about leveraging opportunities. Moreover, it highlights the role of policymakers in leveraging the benefits of technological creative destruction, while softening its social disruption, particularly among the most vulnerable.

'Whole of country' digital strategies and personalised policies emerge as crucial elements in preparing labour markets for the AI-driven economy. Yet the divide is stark: while high-income countries with robust AI ecosystems lead in resilience, many lower-income nations face widening gaps. These disparities, exacerbated by unequal access to AI-related resources and capabilities, threaten to deepen global inequalities. Policies must bridge these divides by focusing on inclusive AI strategies, fostering regional cooperation, and investing in foundational infrastructure to build labour resilience across all economies.

AI has the potential to redefine labour markets, create inclusive economies, and drive innovation. However, without the proper policy tools and frameworks, it can increase inequalities and widen gaps between and within countries. Shaping the future of labour markets will require a deliberate focus on aligning policies with technological advancements to ensure that countries are not only reactive but proactive in embracing these changes.

The 2025 Global Labour Resilience Index serves as a tool for policymakers, offering insights into the pathways that nations can take to adapt to the realities of an AI-driven world. It calls for a balance between embracing innovation and ensuring that labour markets remain equitable and resilient, setting a course for sustainable growth in an era defined by rapid technological transformation.

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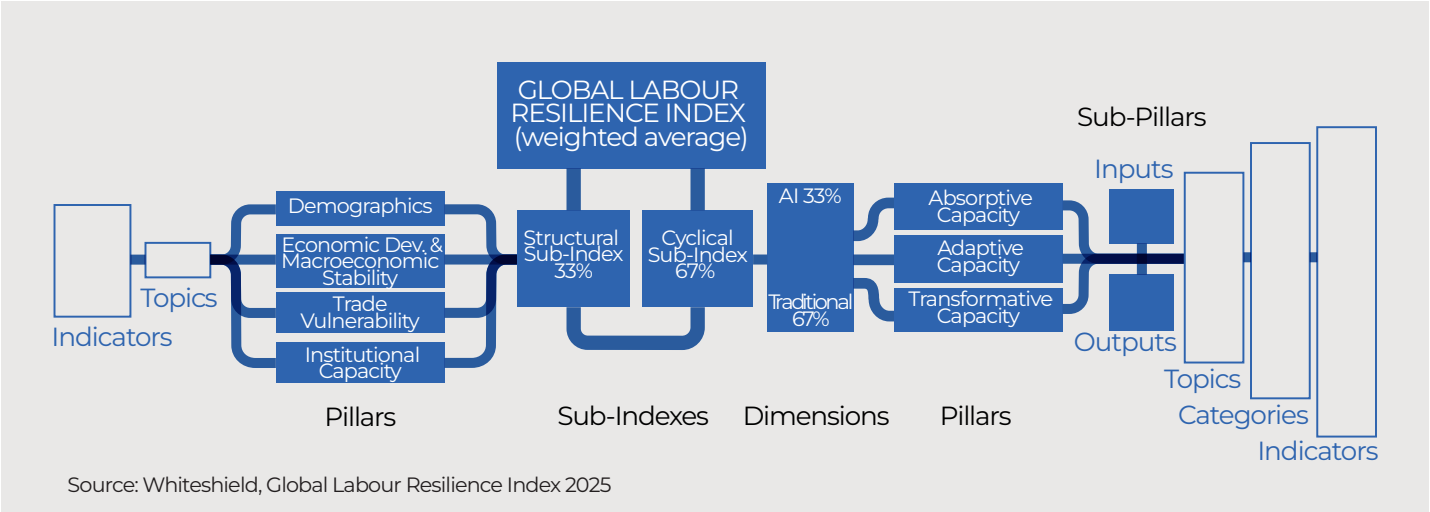
7. APPENDIX A: METHODOLOGY

The GLRI encompasses both fundamental and disruption-focused aspects of resilience. GLRI 2025 is a hierarchical composite index that distinguishes between two key components of resilience — Structural and Cyclical — each represented by its respective sub-index (Figure 33).

The Structural sub-index focuses on the fundamental, long-lasting characteristics that underpin a country's overall capacity for labour resilience. These factors tend not to change quickly and include the depth and maturity of the economy, the stability of its institutions, its demographic makeup, and the degree to which it is exposed or vulnerable to global trade. In essence, the Structural sub-index captures the enduring, baseline conditions that shape a country's ability to handle labour market challenges over time.

The Cyclical sub-index measures how effectively a country's labour market can respond to disruptions — both immediate shocks and longer-term changes driven by evolving technologies like AI. The Cyclical sub-index therefore reflects both near-term responsiveness and the longer-term adaptability required to navigate the full "disruption cycle".

Figure 33. Framework for the Global Labour Resilience Index 2025



Source: Whiteshield, Global Labour Resilience Index 2025

7.1. THE GLRI 2025 STRUCTURE

Capturing structural resilience

The Structural Sub-Index includes fundamental factors which cannot be quickly changed and are captured by the following pillars (Figure 34):

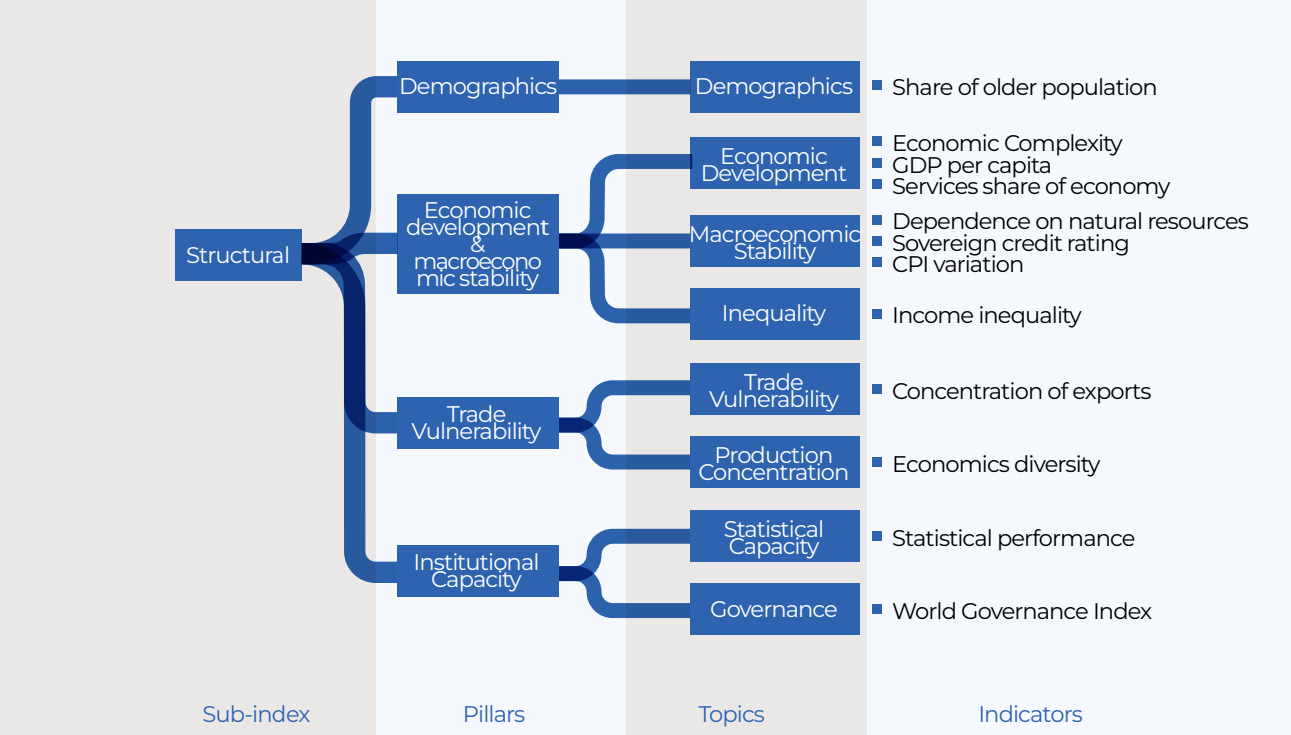
- **Demographics:** an ageing population reduces the availability of a sufficient labour supply and diminishes the population's capacity to reskill.

- **Economic development & macroeconomic stability:** determines the overall resilience of an economy. It captures three main topics affecting longer-term resilience: economic development, macroeconomic stability and inequality. Economically stable, richer, resource-independent countries with a large share of services in GDP and lower levels of inequality have the resources to develop and adopt new higher value-added technologies and are not reliant on resource extraction. The citizens of these countries have more equal opportunities to access education, health, training and quality jobs.e.

- **Trade vulnerability:** determines the resilience of the whole economy and labour market, namely to trade shocks. A more diversified economy with a diversified labour structure is less affected by cyclical changes, changing trade patterns, de-industrialization trends and external shocks in general.

- **Institutional capacity:** good governance and strong statistical capacity enhance labour resilience by enabling more effective policies, fair labour practices, and data-driven responses to workforce challenges, fostering improved adaptability and stability.

Figure 34. Composition of the Structural sub-Index



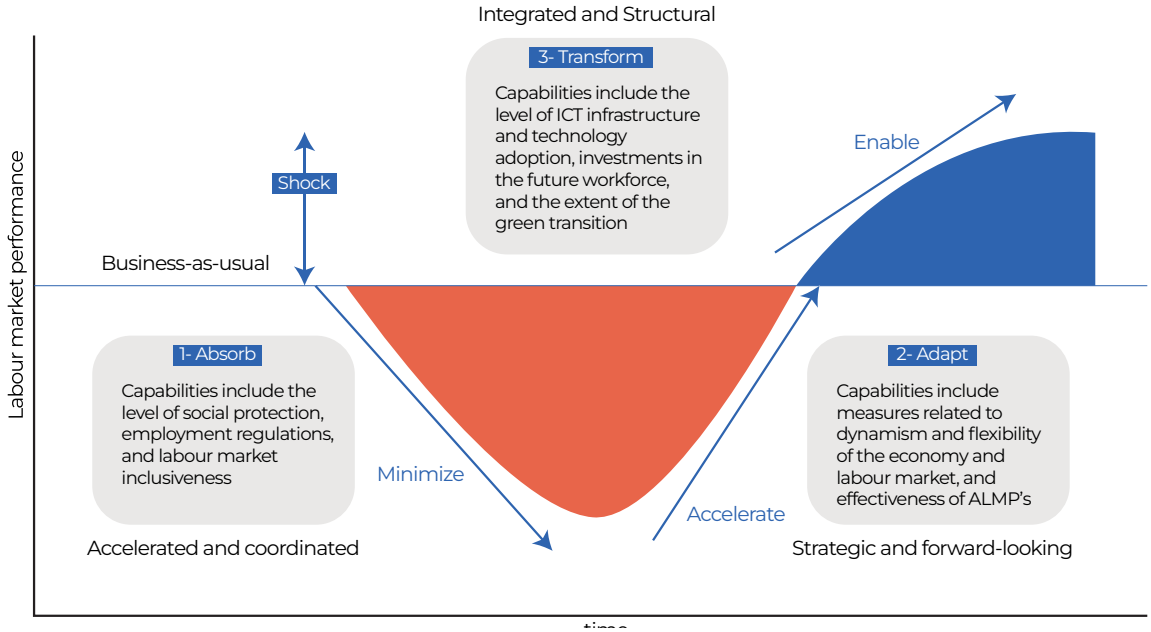
Source: Whiteshield, Global Labour Resilience Index 2025

These pillars reflect potential inherent vulnerabilities which can either amplify or mitigate the impact of short- and long-term disruptions. All the pillars in the Structural sub-Index have the equal weight, except of Demographics pillar, which is half-weighted. Each structural pillar is calculated as the simple average of its topics, and each topic is the simple average of its indicators.

Capturing cyclical resilience

The Cyclical sub-Index measures dynamic responses of labour market performance to a shock or disruption across the stages of the "disruption cycle" (Figure 35). When a shock or disruption first hits the labour market, **Absorption capacities** determine its robustness and the extent of the downturn. **Adaptive capacities** explain the recovery phase, while **Transformative capacities** describe how well the labour market can transform itself to enhance its performance after the recovery stage is complete. All these disruption stages are captured by the corresponding pillars included to the Cyclical sub-index.

Figure 35. Framework for Cyclical resilience



The GLRI framework has been further reinforced with new AI indicators. The Global Labour Resilience Index (GLRI) has been expanded this year to address the growing significance of AI-driven disruptions in the labour market. The Index has been further adapted to account for countries' resilience to the challenges and opportunities posed by AI. This enhanced focus enables a more comprehensive evaluation of how well nations are prepared for the transformative impact of AI on jobs and the workforce in both the shorter and longer term.

GLRI allows to explicitly estimate the effect of AI on labour resilience. Cyclical resilience in the GLRI is now analysed through two dimensions: Traditional and AI. These dimensions assess a country's ability to absorb AI disruption, adapt to it, and transform the labour market in response to new environments.

- **The AI dimension** concentrates solely on AI-specific factors, including AI adoption by workers and firms, AI-driven entrepreneurship and employment, as well as AI-related R&D and innovation.
- **The Traditional dimension** encompasses non-AI-specific factors that contribute to resilience against future AI-driven disruptions, such as labour protection policies, workforce participation, education and skills, business environment, R&D and innovation, and ICT infrastructure.

The two dimensions are estimated separately, enabling a clear analysis of AI-specific effects on labour resilience. The Traditional dimension accounts for a weight of 2/3 while the AI dimension accounts for a weight of 1/3 in the ranking results, reflecting findings from the latest Slack Workforce Index survey on the recent AI usage among desk workers, equal to 36% globally and 33% in US[29]. The Traditional dimension accounts for the remaining 2/3, providing a balanced view of resilience factors.

29 *Slack. (2024). The Fall 2024 Workforce Index Shows AI Hype is Cooling. Retrieved from https://slack.com/intl/en-gb/blog/news/the-fall-2024-workforce-index-shows-ai-hype-is-cooling*

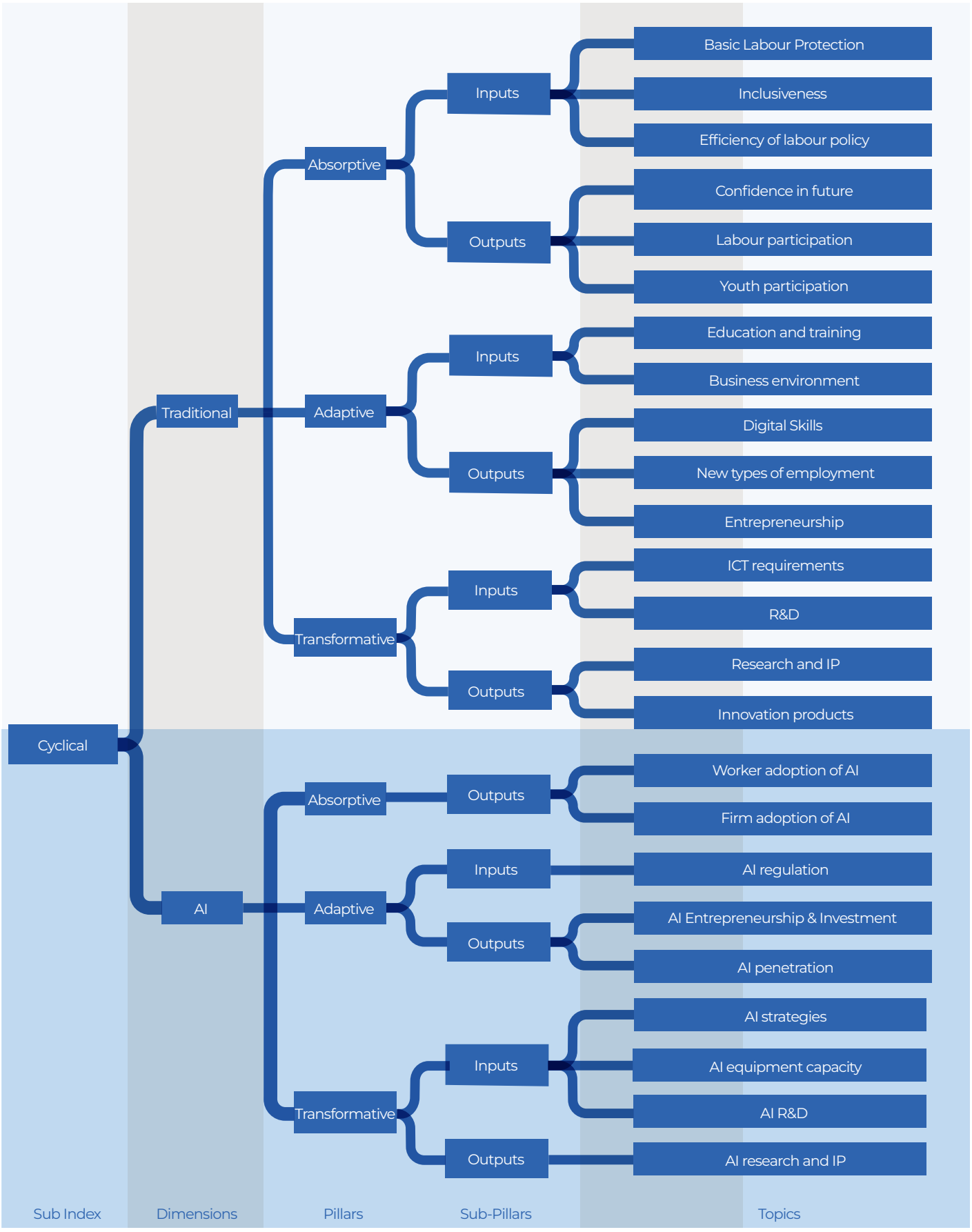
GLRI investigates the resilience to disruptions from the perspective of policies and outcomes of these policies. Within both the Traditional and AI dimensions, the absorptive, adaptive, and transformative capacities pillars are evaluated from two perspectives: **policy actions** targeting relevant factors, categorized as **Inputs sub-pillars,** and the **outcomes** resulting from these policies, categorized as **Outputs sub-pillars.**

It is important to note that within each of the absorptive, adaptive, and transformative capacities, the Inputs and Outputs of the AI and Traditional dimensions are interconnected. For instance, Traditional adaptive Inputs such as education, training and the business environment influence not only traditional entrepreneurship and employment but also contribute to AI-specific entrepreneurship and penetration.

The multi-layered structure of the Index hierarchy ensures the consistency between conceptual importance of factors and their weights in GLRI. Inputs and Outputs sub-pillars include **topics** capturing different aspects of the corresponding Inputs and Outputs. These topics are further divided into **categories,** which, in turn, include specific **indicators.** This multi-layered structure of the Index hierarchy ensures equal contribution of conceptually equally important factors, preventing any single factor from dominating the others and excluding redundancy. The top part of the cyclical sub-Index hierarchy is illustrated on Figure 36.

The Cyclical sub-Index features a more complex hierarchy than the Structural sub-Index. As previously noted, it comprises the AI and Traditional dimensions, weighted at 1/3 and 2/3, respectively. Each dimension is calculated as the simple average of the absorptive, adaptive, and transformative pillars. These pillars are further divided equally into Inputs and Outputs sub-pillars (except for the AI absorptive capacity pillar, which includes only Outputs sub-pillar). Each sub-pillar is the simple average of its topics, each topic is the simple average of its categories, and each category is the simple average of its indicators.

Figure 36. Constructing the Cyclical sub-Index – decomposition from the sub-Index to the topic level



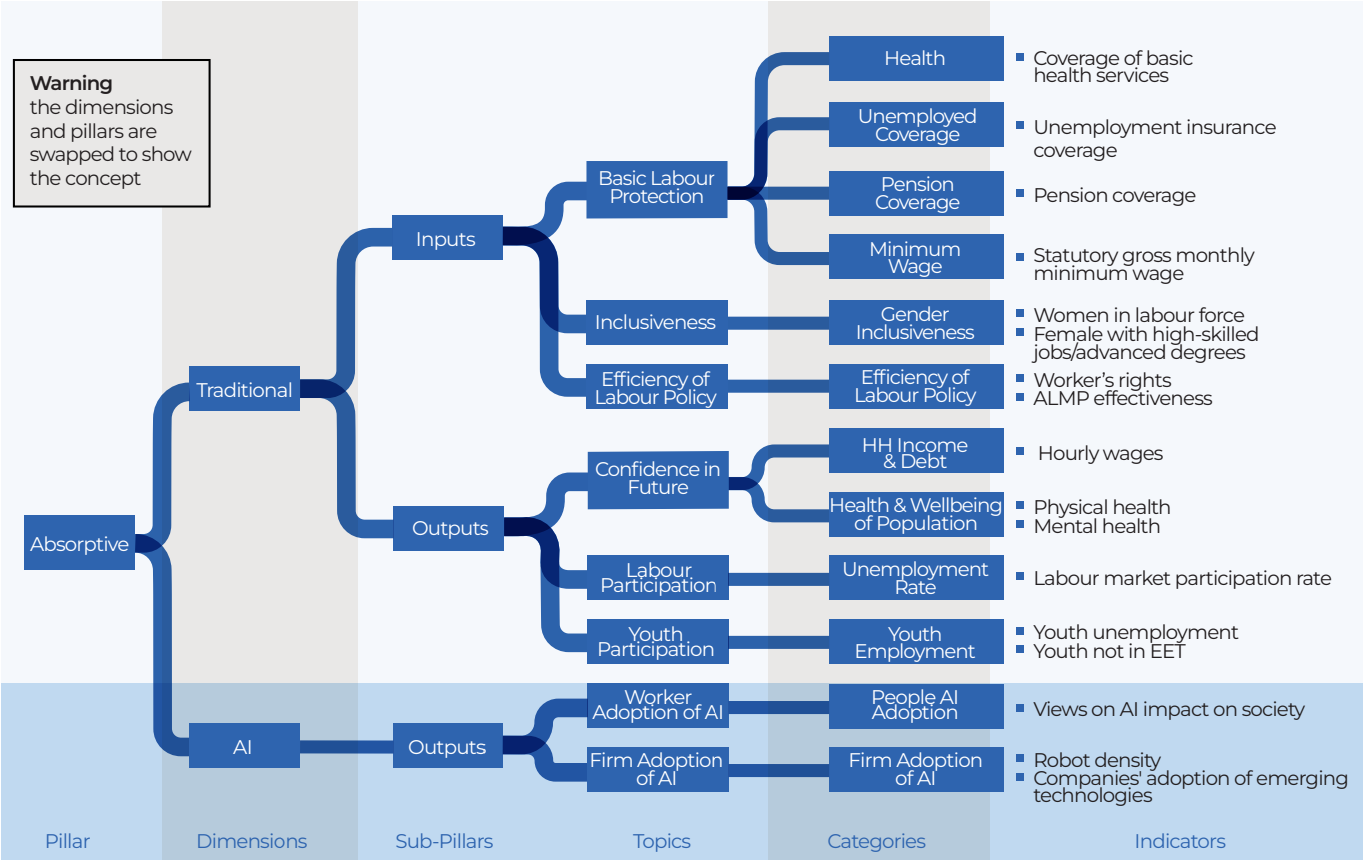
Source: Whiteshield, Global Labour Resilience Index 2025

7.2. CAPTURING THE DISRUPTION CYCLE STAGES

1. Absorption Capacity

Absorptive capacities are defined as the ability of an economy to contain the AI disruption and minimise the damage on jobs and workers. Both Traditional and AI Absorptive capacities are divided into two groups based on policy Inputs and Outputs. The full structure of the Traditional and AI Absorptive capacity is illustrated in Figure 37.

Figure 37. Composition of the Traditional and AI Absorptive capacity



Source: Whiteshield, Global Labour Resilience Index 2025

- **Traditional Absorptive Inputs** capture the policies affecting the labour protection: inclusiveness, basic labour protection and efficiency of labour policy. Performance in these topics allows countries to reduce AI-driven job displacement by offering security for job transitions, shielding against unfair job losses, and supporting reskilling. Inclusiveness ensures equitable absorption, protecting women from disproportionate impacts.

- **Traditional Absorptive Outputs** capture the outcomes of labour protection policies: confidence in future, labour participation and youth participation – which drive resilience through higher participation and flexibility of workers.

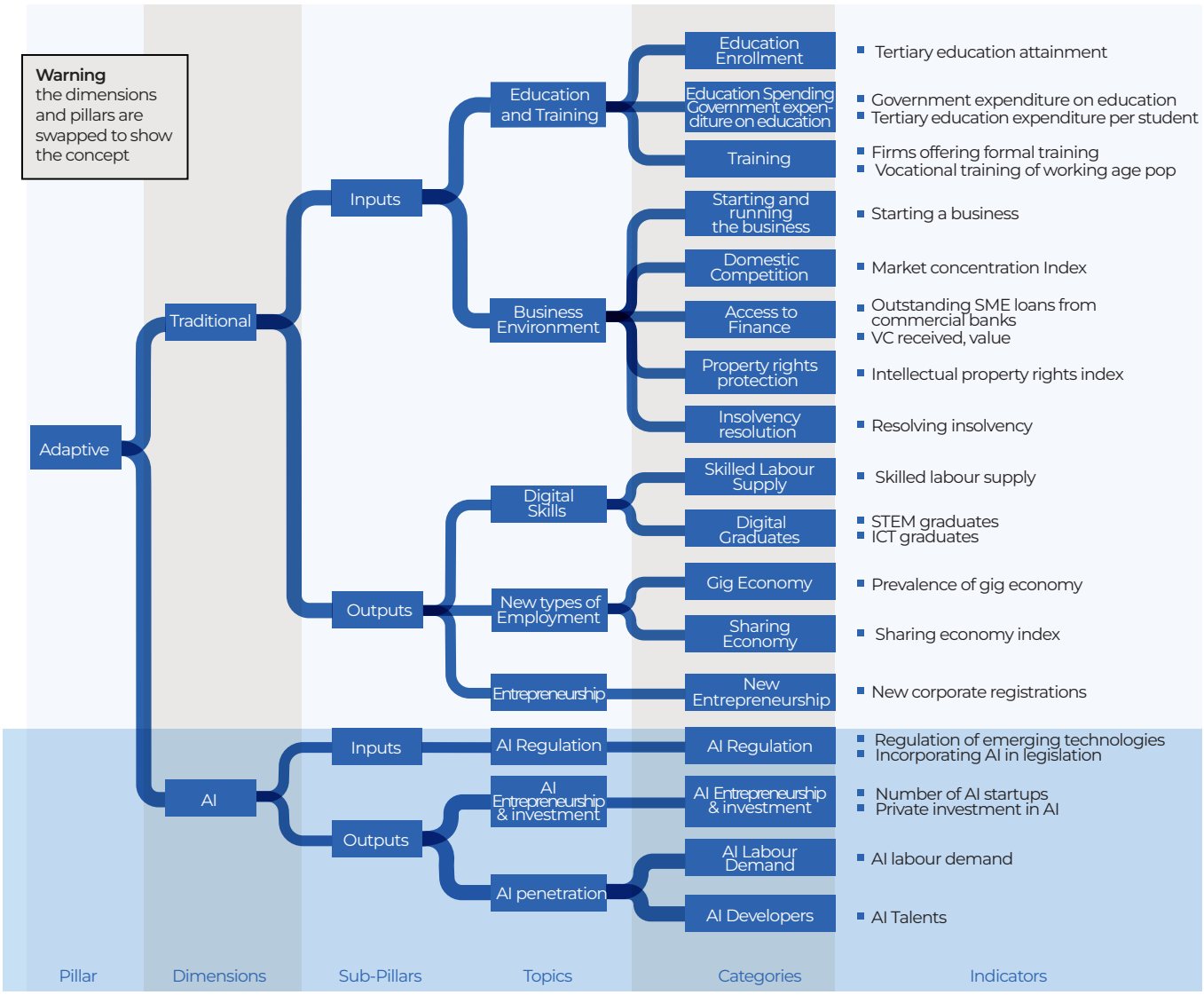
- **AI Absorptive Outputs** reflect the firms and people adoption of AI. If both firms and workers anticipate a positive impact from AI, they are more likely to embrace its adoption, making it easier to absorb its effects while fostering greater willingness to reskill and adapt.

- **AI Absorptive Inputs** are not reflected in the GLRI as there is still not well-defined indication of policies affecting the level of firms and people adoption of AI.

2. Adaptive Capacity

Adaptive capacity is defined as the ability to recover quickly and rapidly create new jobs to replace the destroyed ones. Both Traditional and AI Adaptive capacities are divided into two groups based on policy Inputs and Outputs. The full structure of the Traditional and AI Adaptive Capacity is illustrated in Figure 38:

Figure 38. Composition of the Traditional and AI Adaptive capacity



Source: Whiteshield, Global Labour Resilience Index 2025

- **Traditional Adaptive Inputs** encompass educational and training policies, along with measures influencing the business environment. These policies directly enhance the ability of firms and individuals to adapt to the AI era by equipping them with necessary skills and fostering favourable conditions for entrepreneurship.

- **Traditional Adaptive Outputs** reflect the outcomes of corresponding adaptive Inputs, including the labour force's skillset including digital, levels of entrepreneurship, and the integration of new job types into the labour market. Together, these elements highlight the labour market's current adaptation capacity to AI disruption.

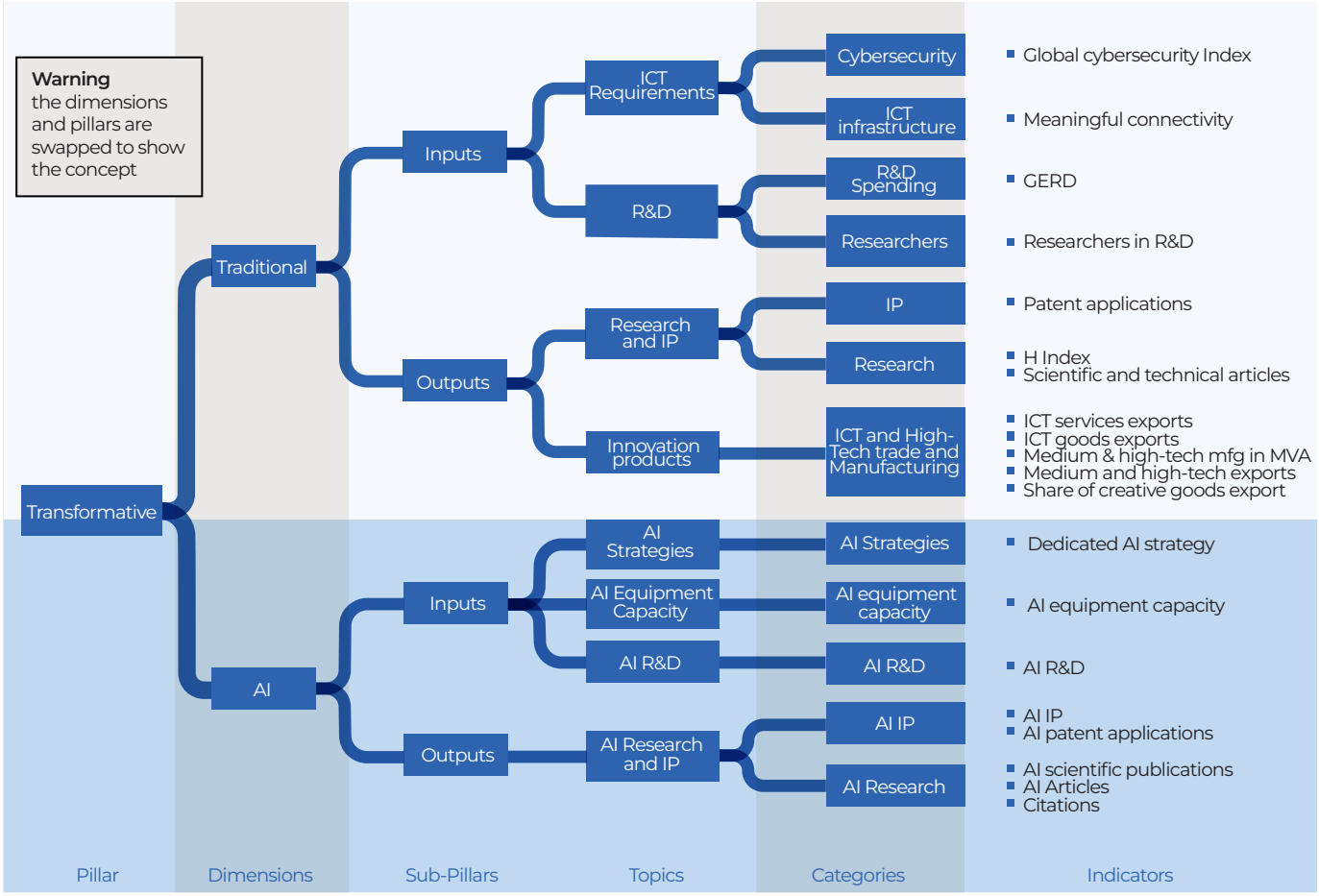
- **AI Adaptive Inputs** are reflective of Traditional Adaptive Outputs and reflect current AI entrepreneurship, investment, and the degree of AI integration into labour markets. This includes metrics such as the number of AI specialists and demand for AI skills in job postings. These factors capture the extent of AI's presence in labour markets—the greater the penetration, the more the workforce has already adapted through ongoing reskilling, reducing the expected disruption.

- **AI Adaptive Outputs** are represented by existing AI regulations, which demonstrate policy efforts to address AI's impact on the labour market. These efforts can enhance the market's preparedness for AI disruptions.

3. Transformative Capacity

Transformative capacity is defined as the ability to align with major future trends and turn long-term stresses into opportunities. As in previous pillars, both Traditional and AI Transformative capacities are divided into Inputs and Outputs. The full structure is illustrated on Figure 39.

Figure 39. Composition of the Traditional and AI Transformative capacity



Source: Whiteshield, Global Labour Resilience Index 2025

- **Traditional Transformative Inputs** encompass policies that drive innovation, such as those related to cybersecurity, ICT infrastructure, and R&D. These drivers of ICT innovation are essential for transforming economies and labour markets to align with the demands of the AI era.
- **Traditional Transformative Outputs** represent the results of innovation policies, including tangible innovation in a country, as demonstrated by IP patents and publications. They also capture the prevalence of innovation in production and exports, reflecting the further transformation within the country.
- **AI Transformative Inputs** consist of AI-specific policies aimed at fostering AI innovation and driving transformation. These include national AI strategies, AI equipment capacity, and dedicated AI R&D efforts.

- **AI Transformative Outputs** represent the outcomes of AI innovation, as evidenced by AI-related publications and IP. These Outputs indicates the promises for further transformation driven by AI advancements.

7.3. METHODOLOGICAL NOTES

The GLRI is a composite indicator, derived through a weighted aggregation of indicators in a hierarchical structure. This approach allows the Index to be calculated as the weighted average of the scored indicators it comprises.

Indicators' selection

The indicators were carefully selected and calibrated to ensure both the comprehensiveness of labour resilience assessment and the high quality of indicators based on the criteria used. The selection process adhered to specific criteria, resulting in the inclusion of only 72 indicators out of over 150 initially considered:

- **Conceptual consistency.** Indicators must align with the definitions of their corresponding categories, topics, sub-pillars, and pillars. Their definitions should be exhaustive in capturing the essence of the associated category and topic.
- **Data comparability.** All data should be standardized to ensure comparability across countries, providing a fair representation of economic differences. For example, indicators are expressed relative to factors such as GDP (e.g. % of GDP) or population (per 1 million people). For indicators presented in absolute terms in official sources (i.e., total values not adjusted for country size), additional calculations were applied using scaling factors such as GDP (PPP) and population size.
- **Good data coverage:** Indicators should be available for at least 50% of all countries in the ranking. In the final set of indicators, over 50% have coverage for more than 90% of the ranked countries, while nearly 90% of indicators cover over 70% of countries[30].
- **Sophisticated and internationally recognized data sources.** Most data are sourced from reputable international organizations such as the World Bank, UNESCO, IMF, ILO, OECD, UNCTAD, and ITU[31].

30 *Despite limited coverage, four indicators were included due to their conceptual importance and the absence of suitable alternatives. These indicators are: Statutory gross monthly minimum wage (coverage 48%), Sharing economy Index (coverage 41%), AI labour demand (coverage 35%) and Robot density (coverage 48%).*

31 *For innovative AI indicators new data sources, which were never used in the previous versions of GLRI, e.g. Emerging Technology Observatory, Lloyd's Register Foundation, Tortoise and Customer Choice Center, were rigorously evaluated for internal and cross-source consistency, global relevance, and alignment with other indicators.*

- **Statistical coherence.** Across all levels of the Index hierarchy in the Structural sub-pillar[32] and all levels of the Index hierarchy below the AI-Traditional dimensions in the Cyclical sub-Index, factors are equally divided into conceptually significant components. Multiple layers of the Index hierarchy ensure that no single conceptually equal factor dominates over others.

- **Indicators, topics and sub-pillars coherence.** Indicators were mapped to ensure they are not contradictory in terms of correlations to their respective topics and sub-pillars. The indicator mapping was also done considering the inter-indicator correlation. It was also checked that each topic should be more correlated with their own sub-pillar and pillar rather than others[33].

- **Effectiveness of data treatment.** The indicators which distribution couldn't be effectively adjusted by treatment steps described below, were excluded from the Index.

7.4. INDICATORS' TREATMENT

Indicators having a skewed distribution and/or displaying outliers, meaning that some countries present exceptionally high or low values compared to others, could distort GLRI. In other words, some countries would be rewarded disproportionately in the composite indicator, irrespective of other dimensions. As the intention is not to reward exceptional achievements but to assess the average of a subset of indicators, in some cases data is adjusted before applying the normalization.

These cases are detected based on two criteria:

- Skewness higher than 2.25 or lower than -2.25
- Kurtosis higher than 4

If at least one of the two conditions above is met, extreme values are capped at the 95th (5th) percentile of the distribution for positive (negative) skewness.

However, some indicators may exhibit highly skewed distributions, making the winsorisation described above insufficient to bring their skewness or kurtosis within the specified ranges. In such cases, a logarithmic transformation is applied using the formula ln(x+1) where x represents each indicator value. In certain instances, both logarithmic transformation and winsorisation are applied as part of the indicator treatment process.

32 *Except Demography Pillar*
33 *One minor acceptable exclusion is Economic development topic*

7.5. NORMALISATION

Normalisation aims to convert the indicators into a common measurement scale so that they can be compared. In GLRI, indicators are rescaled to have the same lower (0) and upper (100) levels as follows:

- Indicators with the positive linkage with labour resilience are rescaled using the following formula:

$$\hat{x}_1 = 100 \quad \frac{x_1 - \min(x)}{\max(x) - \min(x)}$$

E.g.: workers' rights, tertiary education expenditure per student.

Where X_1 and X_1 are the rescaled and original values of the indicator x for country i, respectively, and min(x) and max(x) are the minimum and maximum values of X across all countries

- Indicators with the negative linkage with labour resilience are rescaled using the following formula:

$$\hat{x}_1 = 100 \quad \frac{\max(x) - x_1}{\max(x) - \min(x)}$$

E.g.: share of the older population, youth unemployment.

7.6. DATA LIMITATIONS

GLRI is a global Index. As such, it aims to include all countries around the world. However, the number of countries may vary from year to year, depending on data availability:

- If data are missing for more than 50% of the indicators, a country is excluded from the GLRI.
- There are also thresholds to the number of topics fully missing in the sub-pillar. If a country has the count of fully missing topics in the sub-pillar exceeding the threshold – this country is excluded from the ranking[34].

As a result of this data requirements, in GLRI 2025 the country sample size includes 118 countries from a potential of 234. No data imputation methods are employed in the case of missing data in which case they are referred to as "n.a.".

GLRI uses the latest data available at the time of the year when it is updated. Only indicators with data after 2021 were used. Exceptions were made for the worker's rights and resolving insolvency indicators.

34 *Exclusions from this rule are Dominican Republic, Bhutan, Ecuador, Senegal and Barbados*

8. Country results - Data Tables

8.1. GLRI 2025 RESULTS TABLES

Table 1: GLRI 2025 by country, sub-index and dimension

Country	GLRI Rank	GLRI Score (0-100)	Structural Rank	Structural Score (0-100)	Cyclical Rank	Cyclical Score (0-100)	Cyclical Traditional Rank	Cyclical Traditional Score (0-100)	Cyclical AI Rank	Cyclical AI Score (0-100)
USA	1	77.86	4	81.96	2	75.81	4	73.99	1	79.46
Singapore	2	77.47	17	75.36	1	78.52	1	78.79	3	77.98
Sweden	3	74.88	7	81.00	5	71.82	2	75.14	11	65.17
UK	4	74.38	10	79.08	4	72.03	5	73.94	9	68.20
Germany	5	74.37	5	81.57	8	70.78	15	67.97	5	76.39
Netherlands	6	73.71	1	85.46	12	67.83	7	70.91	15	61.66
Finland	7	73.16	14	77.57	7	70.95	9	70.75	6	71.34
Korea	8	72.79	37	66.92	3	75.73	3	74.75	4	77.69
Canada	9	72.50	15	76.88	10	70.30	8	70.77	8	69.36
Switzerland	10	71.97	19	75.13	9	70.40	6	73.68	12	63.83
Luxembourg	11	71.34	6	81.01	14	66.51	23	64.32	7	70.90
Denmark	12	70.91	2	84.60	17	64.06	19	66.59	17	59.02
France	13	70.71	8	80.88	15	65.63	18	67.20	14	62.49
China	14	70.38	36	68.28	6	71.42	16	67.77	2	78.74
Israel	15	68.87	29	70.72	11	67.95	12	70.14	13	63.57
Austria	16	68.06	3	83.02	21	60.58	20	66.42	24	48.90
Japan	17	67.77	21	74.26	16	64.53	24	62.77	10	68.04
Belgium	18	66.99	9	80.62	23	60.17	17	67.42	28	45.67
Australia	19	66.77	41	66.22	13	67.04	10	70.20	16	60.73
Estonia	20	65.36	20	74.82	20	60.63	21	65.96	21	49.97
New Zealand	21	64.15	24	72.79	24	59.83	13	69.31	35	40.87
Ireland	22	63.71	31	70.54	22	60.29	22	65.92	23	49.03
Iceland	23	63.50	39	66.45	18	62.03	11	70.19	27	45.70
Spain	24	63.37	13	77.65	25	56.23	32	56.62	19	55.44
Czechia	25	63.12	11	78.56	27	55.40	25	62.02	33	42.16
Norway	26	62.73	38	66.53	19	60.82	14	69.03	30	44.40
Portugal	27	62.17	16	76.44	28	55.03	26	60.19	29	44.70
Slovenia	28	61.18	25	72.61	26	55.46	27	59.35	26	47.69

Country	GLRI Rank	GLRI Score (0-100)	Structural Rank	Structural Score (0-100)	Cyclical Rank	Cyclical Score (0-100)	Cyclical Traditional Rank	Cyclical Traditional Score (0-100)	Cyclical AI Rank	Cyclical AI Score (0-100)
Italy	29	60.84	18	75.22	30	53.65	37	54.38	20	52.18
UAE	30	59.50	35	69.36	29	54.56	41	52.66	18	58.37
Poland	31	59.21	12	78.47	37	49.57	31	56.97	42	34.79
Lithuania	32	57.56	23	73.16	33	49.75	29	57.63	44	33.99
Hungary	33	56.66	30	70.70	36	49.64	34	55.94	39	37.02
Latvia	34	55.74	32	70.51	39	48.36	28	57.86	56	29.35
Malaysia	35	55.54	46	65.32	32	50.64	30	57.39	38	37.14
Slovakia	36	55.35	34	70.33	40	47.86	36	54.39	41	34.81
Cyprus	37	54.93	55	62.70	31	51.05	35	54.40	31	44.35
Malta	38	54.14	53	63.00	34	49.72	39	53.34	32	42.47
Romania	39	53.76	22	73.47	44	43.91	42	51.57	59	28.58
Thailand	40	53.51	28	70.93	43	44.80	43	51.52	50	31.36
Croatia	41	52.88	27	71.16	45	43.73	40	52.81	69	25.58
India	42	52.40	26	72.27	50	42.46	79	39.74	25	47.89
Bahrain	43	50.97	89	53.54	35	49.68	38	53.80	34	41.43
Bulgaria	44	50.71	42	66.15	48	43.00	46	50.18	58	28.63
Qatar	45	50.21	71	58.35	41	46.14	48	48.83	36	40.78
Russia	46	49.64	97	51.54	38	48.69	33	55.97	43	34.11
Vietnam	47	49.63	51	64.27	51	42.31	51	48.22	54	30.48
Turkey	48	49.19	33	70.50	59	38.53	67	42.19	51	31.21
Serbia	49	48.88	49	64.52	55	41.06	44	50.71	85	21.77
Greece	50	48.65	50	64.52	58	40.71	59	45.64	52	30.85
Uruguay	51	47.88	60	61.06	54	41.29	58	46.23	49	31.39
Saudi Arabia	52	47.86	88	53.55	42	45.01	66	42.83	22	49.37
Chile	53	47.38	68	59.41	53	41.36	55	46.65	53	30.79
Brazil	54	47.22	73	57.82	52	41.91	57	46.33	45	33.09
Mexico	55	47.09	47	65.18	61	38.05	68	41.94	55	30.26
Mauritius	56	47.01	43	65.73	62	37.65	64	43.33	68	26.30
Montenegro	57	46.98	84	53.89	46	43.52	49	48.81	46	32.95
Barbados	58	46.68	80	55.00	49	42.52	45	50.26	62	27.04
Oman	59	46.36	94	52.48	47	43.30	53	47.48	40	34.95

Country	GLRI Rank	GLRI Score (0-100)	Structural Rank	Structural Score (0-100)	Cyclical Rank	Cyclical Score (0-100)	Cyclical Traditional Rank	Cyclical Traditional Score (0-100)	Cyclical AI Rank	Cyclical AI Score (0-100)
Indonesia	60	45.71	40	66.26	71	35.44	76	40.59	71	25.14
Costa Rica	61	45.22	54	62.75	68	36.46	72	41.42	66	26.54
Philippines	62	45.13	56	62.05	66	36.68	61	44.52	88	20.99
Belarus	63	45.13	59	61.20	63	37.10	47	49.66	111	11.97
Ukraine	64	45.11	85	53.80	57	40.76	52	47.68	64	26.91
Jordan	65	44.82	48	64.91	75	34.78	84	37.80	57	28.75
Moldova	66	44.58	57	61.66	69	36.03	50	48.63	113	10.85
North Macedonia	67	44.55	65	59.79	64	36.94	63	43.37	73	24.06
Dominican Republic	68	44.26	52	63.25	76	34.77	80	39.52	70	25.26
Armenia	69	44.06	63	60.86	70	35.67	70	41.52	74	23.97
Georgia	70	43.70	58	61.65	77	34.72	60	44.56	106	15.04
South Africa	71	43.59	61	61.01	74	34.88	75	40.62	76	23.40
Kazakhstan	72	43.19	91	53.10	60	38.24	56	46.63	87	21.45
Morocco	73	43.15	66	59.68	73	34.88	65	43.31	100	18.03
Tunisia	74	43.01	45	65.52	85	31.75	85	37.45	91	20.36
Argentina	75	42.43	87	53.56	65	36.86	71	41.47	61	27.64
Colombia	76	42.24	78	56.10	72	35.31	77	40.57	72	24.79
Egypt	77	42.10	44	65.61	88	30.34	93	34.22	79	22.58
Kuwait	78	42.09	92	52.93	67	36.67	82	39.17	48	31.66
Azerbaijan	79	42.04	111	44.50	56	40.81	54	47.33	60	27.76
Peru	80	41.86	77	56.21	78	34.69	74	40.67	78	22.72
Kyrgyzstan	81	41.74	74	57.73	80	33.75	69	41.85	102	17.53
Uzbekistan	82	40.64	76	57.02	81	32.46	86	37.44	81	22.49
Kenya	83	40.44	62	60.96	89	30.18	91	35.34	94	19.86
Brunei	84	40.35	93	52.51	79	34.27	62	43.51	105	15.79
Sri Lanka	85	38.79	75	57.09	92	29.65	94	32.80	77	23.35
B&H	86	38.72	72	58.06	93	29.05	89	35.61	104	15.93
Mongolia	87	38.32	100	50.79	84	32.08	78	39.78	103	16.68
Panama	88	38.16	101	50.20	83	32.14	83	39.08	99	18.25
Ecuador	89	38.10	96	51.89	87	31.21	87	36.89	95	19.86
Senegal	90	37.79	70	58.98	102	27.19	103	29.53	80	22.52

Country	GLRI Rank	GLRI Score (0-100)	Structural Rank	Structural Score (0-100)	Cyclical Rank	Cyclical Score (0-100)	Cyclical Traditional Rank	Cyclical Traditional Score (0-100)	Cyclical AI Rank	Cyclical AI Score (0-100)
Bhutan	91	37.69	79	55.79	95	28.64	96	31.95	84	22.01
Rwanda	92	37.56	82	54.57	94	29.05	100	30.37	67	26.39
Pakistan	93	37.04	69	59.08	106	26.03	107	27.91	83	22.27
El Salvador	94	37.02	67	59.53	107	25.76	98	31.50	107	14.27
Algeria	95	36.68	109	45.53	82	32.25	81	39.21	98	18.34
Trinidad & Tobago	96	35.92	110	44.61	86	31.58	73	41.03	109	12.68
Myanmar	97	35.66	81	54.89	104	26.05	109	25.59	63	26.96
Paraguay	98	35.58	90	53.52	103	26.61	92	34.74	114	10.34
Guatemala	99	35.52	64	60.85	110	22.86	112	24.95	97	18.67
Bangladesh	100	35.45	98	51.20	100	27.58	102	29.60	75	23.55
Benin	101	35.43	99	50.87	99	27.71	99	31.16	89	20.80
Bolivia	102	35.41	102	49.75	97	28.23	95	32.67	96	19.37
Ghana	103	35.33	108	45.77	90	30.11	88	36.34	101	17.66
Togo	104	34.61	86	53.62	108	25.10	108	27.72	93	19.86
Iran	105	34.28	105	47.83	101	27.50	101	30.07	82	22.37
Burundi	106	33.56	112	40.59	91	30.05	111	25.21	37	39.74
Gambia	107	31.64	83	54.29	114	20.31	113	23.56	108	13.80
Tajikistan	108	31.58	106	46.99	109	23.87	110	25.56	90	20.47
Ethiopia	109	31.43	103	48.65	111	22.82	104	28.27	112	11.91
Nigeria	110	30.88	114	36.04	96	28.29	97	31.59	86	21.70
Honduras	111	30.87	95	52.10	115	20.26	106	27.99	117	4.79
Madagascar	112	30.77	104	48.31	113	22.01	105	28.22	115	9.58
Mali	113	29.13	115	35.30	105	26.04	114	22.91	47	32.32
Venezuela	114	26.78	118	24.65	98	27.85	90	35.56	110	12.44
Iraq	115	25.57	116	32.50	112	22.11	117	19.73	65	26.87
Mauritania	116	24.71	107	46.88	118	13.62	116	20.06	118	0.75
Burkina Faso	117	24.63	113	38.76	117	17.56	115	21.65	116	9.37
Congo	118	21.17	117	28.25	116	17.63	118	16.51	92	19.89

Source: Whiteshield, Global Labour Resilience Index 2025.

Table 2: Structural sub-index by country and pillar

Country	Structural Rank	Structural Score (0-100)	Demographics Rank	Demographics Score (0-100)	Economic development and macroeconomic stability Rank	Economic development and macroeconomic stability Score (0-100)	Trade vulnerability Rank	Trade vulnerability Score (0-100)	Institutional capacity Rank	Institutional capacity Score (0-100)
Netherlands	1	85.46	103	32.80	3	90.60	8	97.79	5	94.33
Denmark	2	84.60	102	32.85	6	88.19	12	94.55	2	96.94
Austria	3	83.02	99	34.64	10	84.49	4	99.57	15	89.19
USA	4	81.96	85	43.86	21	80.39	11	96.32	18	88.22
Germany	5	81.57	112	25.73	11	84.32	10	97.39	13	90.92
Luxembourg	6	81.01	73	51.71	2	91.44	34	74.13	10	92.10
Sweden	7	81.00	100	33.88	9	85.43	22	86.56	4	94.58
France	8	80.88	109	28.35	12	83.63	5	99.24	20	86.03
Belgium	9	80.62	97	35.05	5	88.21	16	90.30	19	86.14
UK	10	79.08	92	37.28	16	82.70	17	90.03	22	85.39
Czechia	11	78.56	105	32.61	19	82.03	15	91.20	21	85.42
Poland	12	78.47	89	40.54	28	75.59	2	99.74	30	79.04
Spain	13	77.65	104	32.79	27	75.68	9	97.68	28	82.03
Finland	14	77.57	116	22.67	8	85.48	31	76.63	1	98.04
Canada	15	76.88	93	36.98	18	82.12	33	75.04	7	93.45
Portugal	16	76.44	115	23.77	32	73.49	6	99.10	25	83.06
Singapore	17	75.36	78	48.99	1	92.03	66	53.50	6	93.73
Italy	18	75.22	117	19.71	31	75.04	1	99.83	31	78.54
Switzerland	19	75.13	95	36.56	4	88.75	53	62.72	8	93.19
Estonia	20	74.82	106	32.20	35	72.16	23	84.85	16	88.75
Japan	21	74.26	118	0.00	17	82.42	21	86.78	14	90.72
Romania	22	73.47	88	40.79	39	69.10	24	84.30	24	83.33
Lithuania	23	73.16	107	31.09	38	69.87	20	88.42	27	82.23
New Zealand	24	72.79	80	46.88	24	79.08	56	60.12	9	92.12
Slovenia	25	72.61	108	30.39	13	83.41	39	70.48	23	85.04
India	26	72.27	42	80.81	50	63.74	13	92.16	68	56.64
Croatia	27	71.16	113	25.72	29	75.56	18	89.43	43	71.20
Thailand	28	70.93	77	49.58	41	68.25	14	91.56	51	63.66
Israel	29	70.72	64	62.89	30	75.43	43	66.85	39	73.79

Country	Structural Rank	Structural Score (0-100)	Demographics Rank	Demographics Score (0-100)	Economic development and macroeconomic stability Rank	Economic development and macroeconomic stability Score (0-100)	Trade vulnerability Rank	Trade vulnerability Score (0-100)	Institutional capacity Rank	Institutional capacity Score (0-100)
Hungary	30	70.70	96	36.27	33	73.25	27	81.77	37	74.30
Ireland	31	70.54	74	51.25	14	83.06	82	46.22	11	92.00
Latvia	32	70.51	110	27.50	40	68.55	26	83.44	29	81.06
Turkey	33	70.50	54	74.26	100	47.07	3	99.68	54	62.86
Slovakia	34	70.33	83	46.13	22	80.27	48	65.66	34	77.17
UAE	35	69.36	2	99.11	26	76.05	85	44.32	41	72.85
China	36	68.28	69	55.53	37	69.87	7	98.27	96	43.09
Korea	37	66.92	87	41.08	23	80.18	73	50.58	26	82.92
Norway	38	66.53	91	39.79	20	80.93	97	35.60	3	96.44
Iceland	39	66.45	75	50.35	7	85.91	99	32.74	17	88.74
Indonesia	40	66.26	40	80.98	66	58.24	35	72.82	63	60.35
Australia	41	66.22	84	45.10	34	73.05	84	44.67	12	91.51
Bulgaria	42	66.15	111	27.28	53	63.15	19	88.80	48	65.92
Mauritius	43	65.73	66	58.90	45	64.68	49	65.42	44	70.49
Egypt	44	65.61	29	88.40	87	52.66	28	78.08	74	54.70
Tunisia	45	65.52	56	72.90	58	61.38	29	77.39	76	54.09
Malaysia	46	65.32	45	78.30	52	63.19	57	60.01	46	66.28
Mexico	47	65.18	52	75.48	62	60.06	41	68.89	59	61.45
Jordan	48	64.91	22	91.68	54	62.82	62	56.27	56	62.23
Serbia	49	64.52	101	33.71	49	63.82	25	83.57	57	61.60
Greece	50	64.52	114	24.31	36	70.49	40	69.35	38	73.82
Vietnam	51	64.27	58	72.12	67	58.09	30	76.88	77	53.90
Dominican Republic	52	63.25	44	78.69	61	60.16	45	66.66	71	55.22
Malta	53	63.00	94	36.86	15	82.89	81	46.95	42	72.21
Costa Rica	54	62.75	60	66.29	76	56.32	68	52.49	33	77.67
Cyprus	55	62.70	72	52.24	25	79.03	92	39.64	36	74.64
Philippines	56	62.05	33	85.97	57	61.39	70	51.69	60	61.11
Moldova	57	61.66	65	61.19	48	64.10	55	60.25	61	60.86
Georgia	58	61.65	70	53.86	47	64.22	79	47.83	35	76.81
Belarus	59	61.20	86	43.62	44	65.48	37	71.91	73	55.01
Uruguay	60	61.06	76	50.19	46	64.65	72	50.81	40	73.16

Country	Structural Rank	Structural Score (0- 100)	Demographics Rank	Demographics Score (0- 100)	Economic development and macroeconomic stability Rank	Economic development and macroeconomic stability Score (0- 100)	Trade vulnerability Rank	Trade vulnerability Score (0- 100)	Institutional capacity Rank	Institutional capacity Score (0- 100)
South Africa	61	61.01	34	85.10	113	37.58	38	71.85	58	61.56
Kenya	62	60.96	9	95.45	83	54.17	42	68.15	95	43.33
Armenia	63	60.86	68	57.52	43	65.60	61	56.39	55	62.27
Guatemala	64	60.85	30	88.32	90	51.61	36	72.81	94	44.39
North Macedonia	65	59.79	71	52.49	51	63.60	65	54.03	49	65.41
Morocco	66	59.68	47	77.45	73	56.55	54	61.04	80	52.56
El Salvador	67	59.53	50	76.28	77	55.41	51	64.85	86	49.97
Chile	68	59.41	67	58.32	84	53.80	80	47.15	32	77.83
Pakistan	69	59.08	24	90.39	86	53.15	46	66.42	102	42.00
Senegal	70	58.98	13	94.64	85	53.41	69	51.97	78	53.73
Qatar	71	58.35	1	100.00	56	61.70	108	26.16	45	66.36
B&H	72	58.06	90	40.12	59	60.66	32	75.14	91	47.33
Brazil	73	57.82	59	69.77	102	46.50	52	63.14	64	57.85
Kyrgyzstan	74	57.73	26	88.99	68	58.00	77	48.33	84	51.25
Sri Lanka	75	57.09	61	63.79	104	45.73	47	65.85	69	56.35
Uzbekistan	76	57.02	31	86.96	91	51.28	58	58.78	93	46.04
Peru	77	56.21	51	75.54	89	51.83	63	56.22	85	50.94
Colombia	78	56.10	57	72.73	107	44.52	71	51.02	50	64.46
Bhutan	79	55.79	37	83.25	42	68.23	100	32.44	79	52.98
Barbados	80	55.00	81	46.57	64	58.86	67	52.80	66	57.55
Myanmar	81	54.89	41	80.95	60	60.50	60	56.45	106	34.68
Rwanda	82	54.57	17	94.17	109	41.62	83	45.55	67	56.75
Gambia	83	54.29	4	97.10	79	55.23	87	43.50	97	42.75
Montenegro	84	53.89	82	46.23	55	62.44	89	42.24	62	60.82
Ukraine	85	53.80	53	34.73	118	56.33	116	65.03	117	49.58
Togo	86	53.62	15	94.51	96	48.81	74	49.11	98	42.50
Argentina	87	53.56	63	63.28	95	49.02	59	57.14	87	49.65
Saudi Arabia	88	53.55	11	94.94	74	56.53	111	17.25	47	66.19
Bahrain	89	53.54	23	91.51	81	54.80	93	38.04	90	48.80
Paraguay	90	53.52	36	83.30	92	51.23	88	42.59	82	51.86
Kazakhstan	91	53.10	49	76.88	63	59.91	105	29.81	65	57.70

Country	Structural Rank	Structural Score (0-100)	Demographics Rank	Demographics Score (0-100)	Economic development and macroeconomic stability Rank	Economic development and macroeconomic stability Score (0-100)	Trade vulnerability Rank	Trade vulnerability Score (0-100)	Institutional capacity Rank	Institutional capacity Score (0-100)
Kuwait	92	52.93	32	86.53	82	54.50	102	31.96	70	55.52
Brunei	93	52.51	38	82.63	78	55.28	110	23.75	53	63.43
Oman	94	52.48	8	95.80	106	44.60	94	36.79	75	54.40
Honduras	95	52.10	25	90.27	97	47.37	64	55.23	107	34.60
Ecuador	96	51.89	48	77.28	99	47.12	91	40.63	72	55.22
Russia	97	51.54	79	48.87	80	54.87	75	48.71	81	52.39
Bangladesh	98	51.20	35	83.64	65	58.58	95	36.59	99	42.22
Benin	99	50.87	12	94.88	72	56.57	103	31.89	100	42.14

Source: Whiteshield, Global Labour Resilience Index 2025.

Table 3: Cyclical Traditional dimension by country and pillar

Country	Cyclical Traditional Rank	Cyclical Traditional Score (0-100)	Absorptive Capacity Traditional Rank	Absorptive Capacity Traditional Score (0-100)	Adaptive Capacity Traditional Rank	Adaptive Capacity Traditional Score (0-100)	Transformative Capacity Traditional Rank	Transformative Capacity Traditional Score (0-100)
Singapore	1	78.79	3	84.66	1	78.02	4	73.70
Sweden	2	75.14	9	80.01	6	72.86	7	72.55
Korea	3	74.75	11	79.46	20	58.97	1	85.82
USA	4	73.99	16	76.65	7	71.22	3	74.11
UK	5	73.94	23	71.72	2	76.83	6	73.26
Switzerland	6	73.68	6	81.71	10	67.24	8	72.10
Netherlands	7	70.91	4	82.83	17	62.76	14	67.14
Canada	8	70.77	5	82.53	9	67.67	19	62.11
Finland	9	70.75	13	78.07	12	64.78	11	69.40
Australia	10	70.20	18	73.42	5	73.39	18	63.77
Iceland	11	70.19	1	89.53	11	66.02	26	55.03
Israel	12	70.14	32	68.92	15	62.88	2	78.63
New Zealand	13	69.31	7	81.42	4	73.53	30	52.97
Norway	14	69.03	2	86.15	14	63.28	20	57.67
Germany	15	67.97	20	72.99	23	57.43	5	73.50
China	16	67.77	28	70.26	18	62.47	10	70.57
Belgium	17	67.42	22	72.23	16	62.84	13	67.20
France	18	67.20	27	70.57	13	64.77	16	66.26
Denmark	19	66.59	17	74.67	22	57.82	12	67.26
Austria	20	66.42	8	80.28	34	52.42	15	66.56
Estonia	21	65.96	31	69.37	3	75.32	29	53.19
Ireland	22	65.92	10	79.81	19	62.11	25	55.83
Luxembourg	23	64.32	15	76.75	8	70.34	41	45.87
Japan	24	62.77	12	78.79	73	37.98	9	71.53
Czechia	25	62.02	34	68.30	31	53.92	17	63.84
Portugal	26	60.19	30	69.89	26	56.66	27	54.02
Slovenia	27	59.35	14	77.32	45	48.77	32	51.96
Latvia	28	57.86	24	71.44	25	57.10	45	45.04
Lithuania	29	57.63	21	72.79	28	54.64	43	45.48

Country	Cyclical Traditional Rank	Cyclical Traditional Score (0- 100)	Absorptive Capacity Traditional Rank	Absorptive Capacity Traditional Score (0- 100)	Adaptive Capacity Traditional Rank	Adaptive Capacity Traditional Score (0- 100)	Transformative Capacity Traditional Rank	Transformative Capacity Traditional Score (0- 100)
Malaysia	30	57.39	49	62.03	30	54.29	24	55.87
Poland	31	56.97	40	65.99	47	47.98	21	56.94
Spain	32	56.62	41	65.75	41	50.33	28	53.78
Russia	33	55.97	26	70.69	39	51.55	42	45.68
Hungary	34	55.94	39	66.12	44	49.57	31	52.14
Cyprus	35	54.40	44	64.88	27	55.32	49	42.99
Slovakia	36	54.39	35	68.02	50	47.58	38	47.56
Italy	37	54.38	48	63.04	58	43.18	22	56.92
Bahrain	38	53.80	46	64.37	43	49.66	39	47.38
Malta	39	53.34	29	69.97	32	53.32	60	36.73
Croatia	40	52.81	37	67.52	48	47.83	48	43.08
UAE	41	52.66	65	53.00	24	57.18	36	47.81
Romania	42	51.57	52	60.06	36	51.92	50	42.74
Thailand	43	51.52	36	67.63	75	37.80	34	49.12
Serbia	44	50.71	53	60.02	49	47.80	46	44.30
Barbados	45	50.26	51	60.96	42	50.18	55	39.64
Bulgaria	46	50.18	50	61.88	51	46.26	51	42.42
Belarus	47	49.66	25	70.71	59	42.78	64	35.49
Qatar	48	48.83	47	63.49	46	48.38	70	34.61
Montenegro	49	48.81	56	58.11	21	58.56	83	29.76
Moldova	50	48.63	38	67.05	57	43.81	67	35.02
Vietnam	51	48.22	42	65.53	91	30.57	35	48.57
Ukraine	52	47.68	55	57.13	96	44.73	102	41.19
Oman	53	47.48	54	59.66	35	52.22	81	30.55
Azerbaijan	54	47.33	19	73.09	60	42.48	91	26.43
Chile	55	46.65	71	51.32	33	52.90	63	35.73
Kazakhstan	56	46.63	33	68.76	66	40.16	79	30.98
Brazil	57	46.33	66	52.80	61	42.29	47	43.90
Uruguay	58	46.23	45	64.62	71	38.01	62	36.07
Greece	59	45.64	80	48.47	78	37.25	33	51.19
Georgia	60	44.56	81	48.25	37	51.64	72	33.80

Country	Cyclical Traditional Rank	Cyclical Traditional Score (0-100)	Absorptive Capacity Traditional Rank	Absorptive Capacity Traditional Score (0-100)	Adaptive Capacity Traditional Rank	Adaptive Capacity Traditional Score (0-100)	Transformative Capacity Traditional Rank	Transformative Capacity Traditional Score (0-100)
Philippines	61	44.52	62	55.30	76	37.52	53	40.74
Brunei	62	43.51	73	50.75	40	51.34	84	28.45
North Macedonia	63	43.37	67	52.51	52	45.98	78	31.63
Mauritius	64	43.33	68	52.20	29	54.35	96	23.44
Morocco	65	43.31	108	33.93	67	39.97	23	56.02
Saudi Arabia	66	42.83	95	42.43	38	51.57	71	34.49
Turkey	67	42.19	87	46.46	84	34.68	44	45.43
Mexico	68	41.94	63	53.86	88	33.44	58	38.52
Kyrgyzstan	69	41.85	43	64.99	74	37.98	98	22.60
Armenia	70	41.52	83	47.86	56	43.87	75	32.82
Argentina	71	41.47	64	53.20	80	36.21	68	35.01
Costa Rica	72	41.42	74	50.64	64	41.32	76	32.31
Trinidad & Tobago	73	41.03	57	57.17	65	40.72	93	25.20
Peru	74	40.67	60	55.43	70	38.67	85	27.92
South Africa	75	40.62	98	41.84	53	44.79	65	35.22
Indonesia	76	40.59	72	51.29	82	35.84	69	34.64
Colombia	77	40.57	79	48.85	62	42.26	80	30.61
Mongolia	78	39.78	61	55.35	69	38.74	92	25.26
India	79	39.74	107	35.29	81	36.14	37	47.80
Dominican Republic	80	39.52	82	48.03	92	29.93	54	40.58
Algeria	81	39.21	91	44.77	68	39.44	73	33.43
Kuwait	82	39.17	75	49.73	72	37.98	82	29.80
Panama	83	39.08	59	56.52	89	33.33	87	27.41
Jordan	84	37.80	113	30.20	77	37.34	40	45.87
Tunisia	85	37.45	105	36.21	79	37.18	57	38.95
Uzbekistan	86	37.44	86	47.44	63	41.88	97	23.00
Ecuador	87	36.89	84	47.63	109	23.86	56	39.18
Ghana	88	36.34	88	46.19	100	27.64	66	35.19
B&H	89	35.61	85	47.44	87	34.45	94	24.95
Venezuela	90	35.56	55	58.67	96	28.09	102	19.93
Kenya	91	35.34	77	49.18	86	34.48	99	22.37

Country	Cyclical Traditional Rank	Cyclical Traditional Score (0- 100)	Absorptive Capacity Traditional Rank	Absorptive Capacity Traditional Score (0- 100)	Adaptive Capacity Traditional Rank	Adaptive Capacity Traditional Score (0- 100)	Transformative Capacity Traditional Rank	Transformative Capacity Traditional Score (0- 100)
Paraguay	92	34.74	69	51.77	106	25.70	90	26.75
Egypt	93	34.22	115	26.79	55	44.02	77	31.86
Sri Lanka	94	32.80	100	39.18	85	34.48	95	24.73
Bolivia	95	32.67	70	51.61	93	28.84	105	17.55
Bhutan	96	31.95	104	36.94	110	22.83	61	36.09
Nigeria	97	31.59	89	46.18	98	27.91	101	20.68
El Salvador	98	31.50	78	48.91	103	26.94	103	18.66
Benin	99	31.16	101	39.08	101	27.23	89	27.17
Rwanda	100	30.37	102	38.05	83	34.72	104	18.36
Iran	101	30.07	114	30.12	104	26.75	74	33.33
Bangladesh	102	29.60	110	31.56	114	19.27	59	37.97
Senegal	103	29.53	109	32.33	95	28.37	86	27.89
Ethiopia	104	28.27	92	44.36	117	18.07	100	22.37
Madagascar	105	28.22	76	49.47	102	27.12	114	8.07
Honduras	106	27.99	94	43.54	108	25.04	108	15.39
Pakistan	107	27.91	111	31.42	107	25.05	88	27.26
Togo	108	27.72	97	42.11	105	26.24	109	14.82
Myanmar	109	25.59	90	45.32	112	20.00	112	11.46
Tajikistan	110	25.56	93	44.34	97	28.09	118	4.27
Burundi	111	25.21	96	42.11	94	28.59	117	4.92
Guatemala	112	24.95	103	37.99	111	20.88	107	15.99
Gambia	113	23.56	112	30.48	99	27.77	111	12.44
Mali	114	22.91	99	39.83	118	15.77	110	13.12
Burkina Faso	115	21.65	106	35.83	115	18.35	113	10.77
Mauritania	116	20.06	118	20.55	90	32.69	116	6.94
Iraq	117	19.73	117	22.19	113	19.56	106	17.45
Congo	118	16.51	116	24.16	116	18.08	115	7.28

Source: Whiteshield, Global Labour Resilience Index 2025.

Table 4: Cyclical AI dimension by country and pillar

Country	Cyclical AI Rank	Cyclical AI Score (0-100)	Absorptive Capacity AI Rank	Absorptive Capacity AI Score (0-100)	Adaptive Capacity AI Rank	Adaptive Capacity AI Score (0-100)	Transformative Capacity AI Rank	Transformative Capacity AI Score (0-100)
USA	1	79.46	19	57.19	1	88.72	1	92.47
China	2	78.74	4	85.43	12	65.03	2	85.75
Singapore	3	77.98	8	75.96	2	79.74	4	78.24
Korea	4	77.69	1	93.70	19	60.13	3	79.24
Germany	5	76.39	5	85.37	7	75.72	10	68.07
Finland	6	71.34	7	81.15	5	78.01	15	54.87
Luxembourg	7	70.90	2	91.98	9	71.31	18	49.41
Canada	8	69.36	25	54.34	3	78.21	5	75.53
UK	9	68.20	27	52.78	4	78.20	6	73.63
Japan	10	68.04	3	88.10	31	48.53	11	67.49
Sweden	11	65.17	6	83.49	8	72.65	24	39.38
Switzerland	12	63.83	10	69.24	14	63.69	13	58.56
Israel	13	63.57	32	50.86	6	76.81	12	63.03
France	14	62.49	29	52.27	11	66.77	9	68.42
Netherlands	15	61.66	12	65.47	15	63.19	14	56.32
Australia	16	60.73	33	50.64	17	62.98	8	68.57
Denmark	17	59.02	9	72.87	16	63.06	22	41.12
UAE	18	58.37	11	69.07	27	51.99	16	54.05
Spain	19	55.44	14	63.41	23	54.40	19	48.50
Italy	20	52.18	22	55.84	21	58.67	21	42.04
Estonia	21	49.97	18	58.28	13	64.42	48	27.22
Saudi Arabia	22	49.37	20	56.56	28	50.91	23	40.64
Ireland	23	49.03	30	50.94	20	59.00	26	37.15
Austria	24	48.90	23	55.64	25	53.27	25	37.78
India	25	47.89	85	26.26	10	70.86	20	46.55
Slovenia	26	47.69	17	61.68	29	50.11	40	31.28
Iceland	27	45.70	26	53.27	30	49.75	33	34.08
Belgium	28	45.67	37	46.48	22	56.52	34	33.99
Portugal	29	44.70	58	35.80	18	61.81	27	36.51

Country	Cyclical AI Rank	Cyclical AI Score (0- 100)	Absorptive Capacity AI Rank	Absorptive Capacity AI Score (0- 100)	Adaptive Capacity AI Rank	Adaptive Capacity AI Score (0- 100)	Transformative Capacity AI Rank	Transformative Capacity AI Score (0- 100)
Norway	30	44.40	34	49.62	32	48.32	29	35.26
Cyprus	31	44.35	59	35.04	33	47.79	17	50.20
Malta	32	42.47	52	37.46	24	53.77	28	36.19
Czechia	33	42.16	28	52.54	36	43.36	41	30.58
Bahrain	34	41.43	13	64.85	35	45.69	85	13.74
New Zealand	35	40.87	44	41.16	26	52.29	44	29.15
Qatar	36	40.78	16	61.75	56	32.09	47	28.51
Burundi	37	39.74	108	15.24	55	33.25	7	70.74
Malaysia	38	37.14	48	38.43	38	41.15	39	31.84
Hungary	39	37.02	36	47.21	42	39.19	51	24.66
Oman	40	34.95	21	56.41	57	31.08	74	17.36
Slovakia	41	34.81	31	50.93	46	36.81	77	16.69
Poland	42	34.79	61	34.46	39	39.93	42	29.98
Russia	43	34.11	56	36.40	58	31.04	30	34.89
Lithuania	44	33.99	64	32.80	34	46.31	56	22.87
Brazil	45	33.09	75	28.70	45	36.90	36	33.65
Montenegro	46	32.95	41	43.30	48	35.32	67	20.24
Mali	47	32.32	53	37.40	73	25.45	32	34.10
Kuwait	48	31.66	43	41.52	41	39.68	83	13.78
Uruguay	49	31.39	51	37.83	40	39.83	78	16.51
Thailand	50	31.36	35	48.53	82	21.44	53	24.10
Turkey	51	31.21	82	26.76	44	38.04	46	28.83
Greece	52	30.85	66	31.28	64	28.52	38	32.77
Chile	53	30.79	70	29.89	43	38.69	55	23.79
Vietnam	54	30.48	39	44.77	74	25.20	63	21.46
Mexico	55	30.26	60	34.93	54	33.40	58	22.46
Latvia	56	29.35	49	38.17	49	35.28	81	14.59
Jordan	57	28.75	55	37.09	85	20.01	45	29.14
Bulgaria	58	28.63	68	30.12	50	34.84	64	20.92
Romania	59	28.58	77	27.49	53	33.47	50	24.79
Azerbaijan	60	27.76	15	61.79	98	11.94	101	9.56

Country	Cyclical AI Rank	Cyclical AI Score (0-100)	Absorptive Capacity AI Rank	Absorptive Capacity AI Score (0-100)	Adaptive Capacity AI Rank	Adaptive Capacity AI Score (0-100)	Transformative Capacity AI Rank	Transformative Capacity AI Score (0-100)
Rwanda	67	26.39	46	40.43	65	28.44	98	10.31
Mauritius	68	26.30	42	42.04	77	23.12	84	13.75
Croatia	69	25.58	95	23.41	47	35.99	75	17.35
Dominican Republic	70	25.26	78	27.41	90	15.02	37	33.37
Indonesia	71	25.14	100	20.05	60	29.65	49	25.74
Colombia	72	24.79	90	24.71	61	29.11	66	20.56
North Macedonia	73	24.06	106	17.43	83	20.98	35	33.78
Armenia	74	23.97	86	26.15	52	33.74	95	12.01
Bangladesh	75	23.55	50	37.99	91	14.66	70	17.98
South Africa	76	23.40	89	25.01	66	27.78	73	17.40
Sri Lanka	77	23.35	54	37.40	79	22.40	99	10.24
Peru	78	22.72	67	30.75	75	23.44	82	13.96
Egypt	79	22.58	104	17.52	63	28.61	61	21.62
Senegal	80	22.52	69	30.05	62	28.78	105	8.72
Uzbekistan	81	22.49	38	44.89	94	13.42	103	9.17
Iran	82	22.37	83	26.62	100	10.63	43	29.86
Pakistan	83	22.27	97	22.98	78	22.93	65	20.89
Bhutan	84	22.01					59	22.01
Serbia	85	21.77	101	19.62	81	21.47	52	24.20
Nigeria	86	21.70	72	29.33	80	22.08	86	13.67
Kazakhstan	87	21.45	79	27.06	67	27.62	100	9.65
Philippines	88	20.99	93	23.81	72	26.16	91	12.98
Benin	89	20.80	57	36.14	88	17.37	104	8.89
Tajikistan	90	20.47	76	28.46	89	16.21	76	16.76
Tunisia	91	20.36	102	18.83	87	19.51	57	22.75
Congo	92	19.89	71	29.78	84	20.60	102	9.28
Togo	93	19.86	73	29.26			97	10.47
Kenya	94	19.86	84	26.59	69	27.46	112	5.53
Ecuador	95	19.86	91	24.54	95	13.02	60	22.01
Bolivia	96	19.37	99	20.39	108	3.38	31	34.34
Guatemala	97	18.67	47	39.67	99	11.01	113	5.33

Country	Cyclical AI Rank	Cyclical AI Score (0- 100)	Absorptive Capacity AI Rank	Absorptive Capacity AI Score (0- 100)	Adaptive Capacity AI Rank	Adaptive Capacity AI Score (0- 100)	Transformative Capacity AI Rank	Transformative Capacity AI Score (0- 100)
Algeria	98	18.34	63	32.96	105	6.36	80	15.69
Panama	99	18.25	80	26.96	76	23.16	117	4.62
Morocco	100	18.03	96	23.39	101	10.50	68	20.18
Ghana	101	17.66	87	25.72	93	13.71	87	13.56
Kyrgyzstan	102	17.53	103	18.47	68	27.53	109	6.59
Mongolia	103	16.68	107	16.93	86	19.75	90	13.37
B&H	104	15.93	110	10.06	92	13.83	54	23.91
Brunei	105	15.79					79	15.79
Georgia	106	15.04	111	4.31	70	27.33	88	13.47
El Salvador	107	14.27	88	25.64	97	12.19	116	4.99
Gambia	108	13.80	62	33.96	112	0.00	107	7.45
Trinidad & Tobago	109	12.68			96	12.99	94	12.37
Venezuela	110	12.44	94	23.65	111	0.28	89	13.38
Belarus	111	11.97			106	6.21	72	17.73
Ethiopia	112	11.91	92	23.93	107	5.26	110	6.55
Moldova	113	10.85	81	26.77	112	0.00	111	5.77
Paraguay	114	10.34	109	13.50	102	9.23	106	8.30
Madagascar	115	9.58	98	20.82	110	0.76	108	7.16
Burkina Faso	116	9.37	105	17.50	112	0.00	96	10.62
Honduras	117	4.79	112	0.17	103	9.20	115	5.01
Mauritania	118	0.75			109	1.04	118	0.46

Source: Whiteshield, Global Labour Resilience Index 2025.

Table 5: Global Labour Resilience Index 2025 by world region

Country	Number of Countries	GLRI Rank	GLRI Score (0-100)	Structural Rank	Cyclical Rank
North America	2	5	75.18	10	6
Europe	37	31	59.89	30	33
East Asia & Pacific	14	42	55.94	48	42
Middle East & North Africa	15	64	45.97	72	61
Central Asia & S. Caucasus	9	73	42.86	79	70
South Asia	5	82	40.28	69	89
Latin America & Caribbean	19	80	40.30	80	80
Sub-Saharan Africa	17	100	33.51	93	100

Source: Whiteshield, Global Labour Resilience Index 2025.

Note: Displayed values are averages by region.

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