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

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

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

UK NATIONAL LABOUR RESILIENCE PERFORMANCE

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

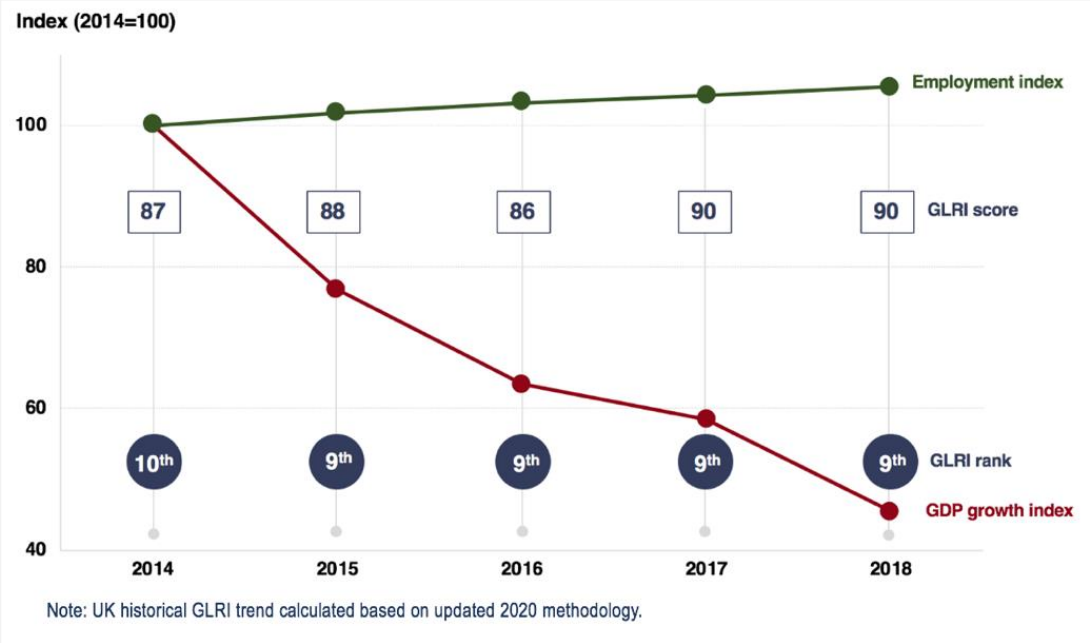
According to the Global Labour Resilience Index 2020, the United Kingdom is the ninth most resilient labour market in the world maintaining the same position it had five years ago.

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

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

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

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

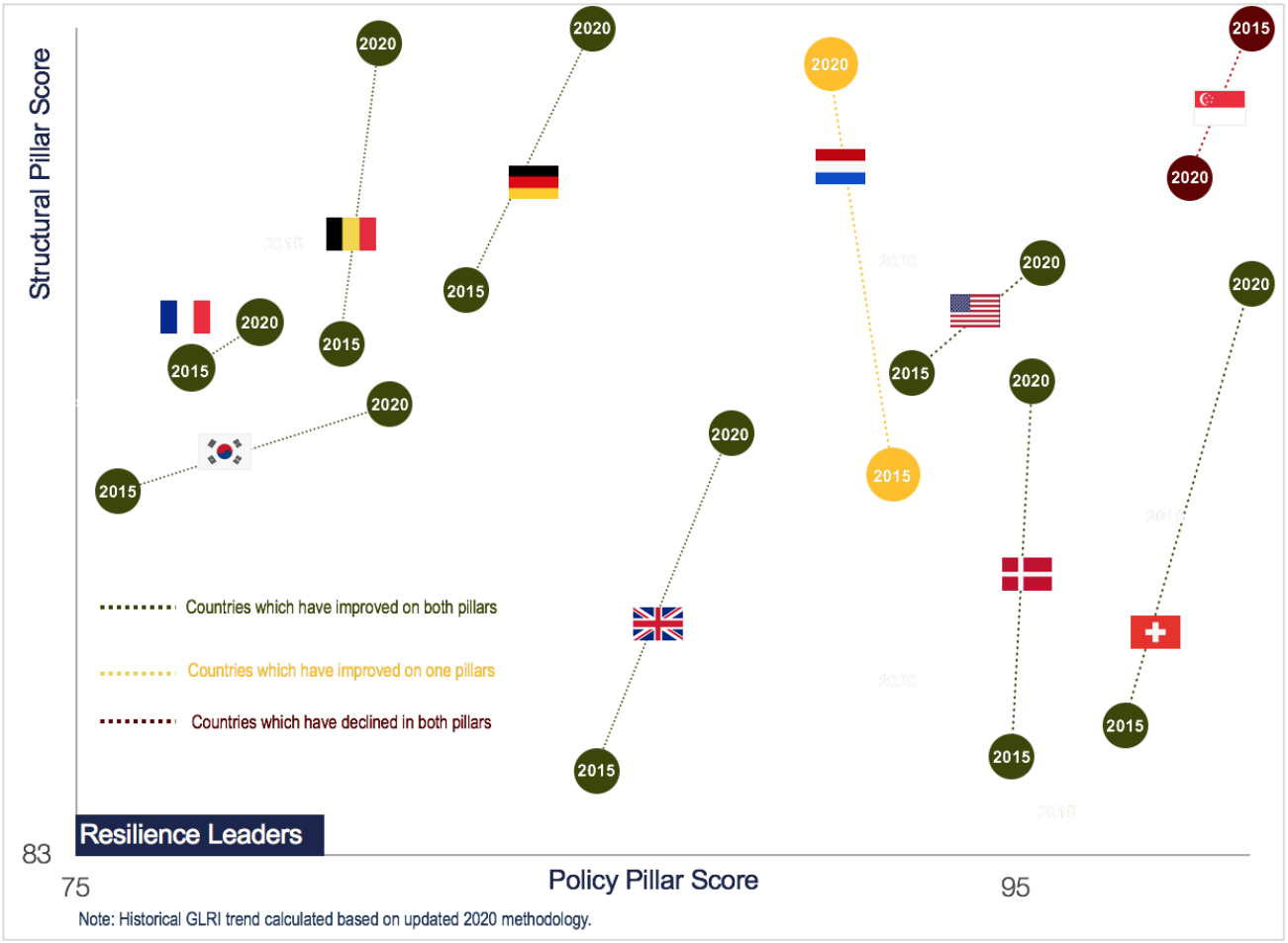


Source: Whiteshield Partners, World Bank, ILO

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

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

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



Source: Whiteshield Partners

STRUCTURAL PILLAR: HIGHLY DIVERSIFIED BUT UNEQUAL

Solid structural foundations in terms of economic capabilities and diversification

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

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

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

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

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

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

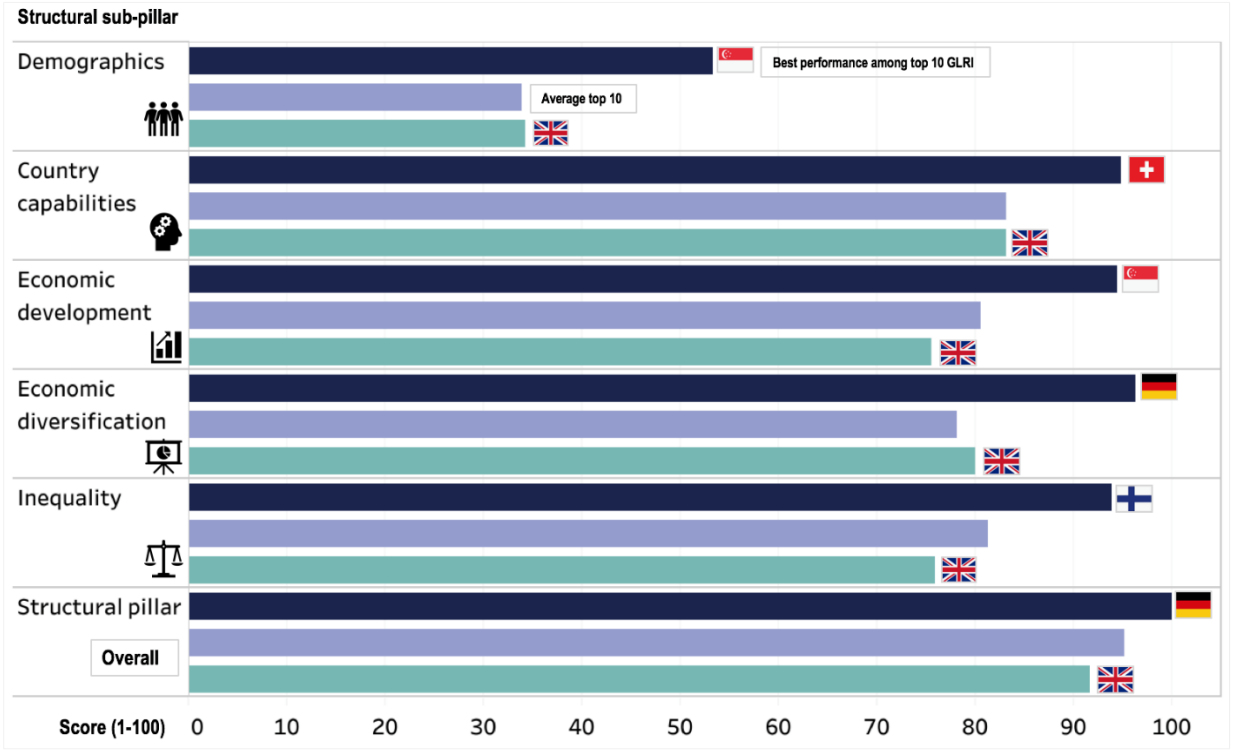
In summary, the structural profile of the UK is consistent with its skewed labour market resilience performance - low unemployment rate and rapid recovery capacity associated with a complex and diversified economy and flexible labour market; but higher levels of income inequality and lower productivity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

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

[47] Office for National Statistics

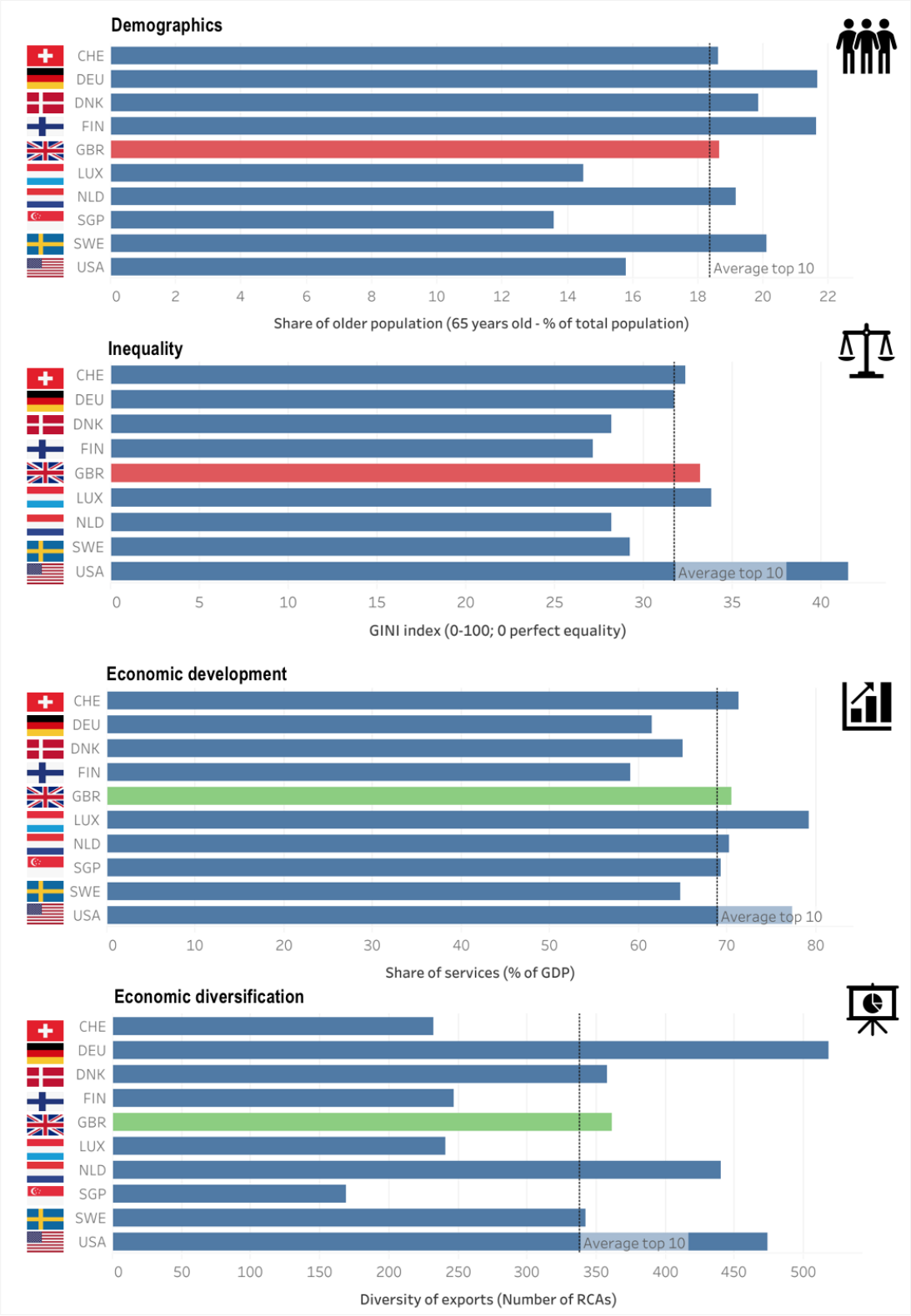
[48] https://migrationobservatory.ox.ac.uk/resources/briefings/eu-migration-to-and-from-the-uk/

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



Source: Whiteshield Partners

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



Source: Whiteshield Partners

POLICY PILLAR: INNOVATION AND ENTREPRENEURSHIP LEADER, BUT WITH A POLARIZED LABOUR MARKET

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

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

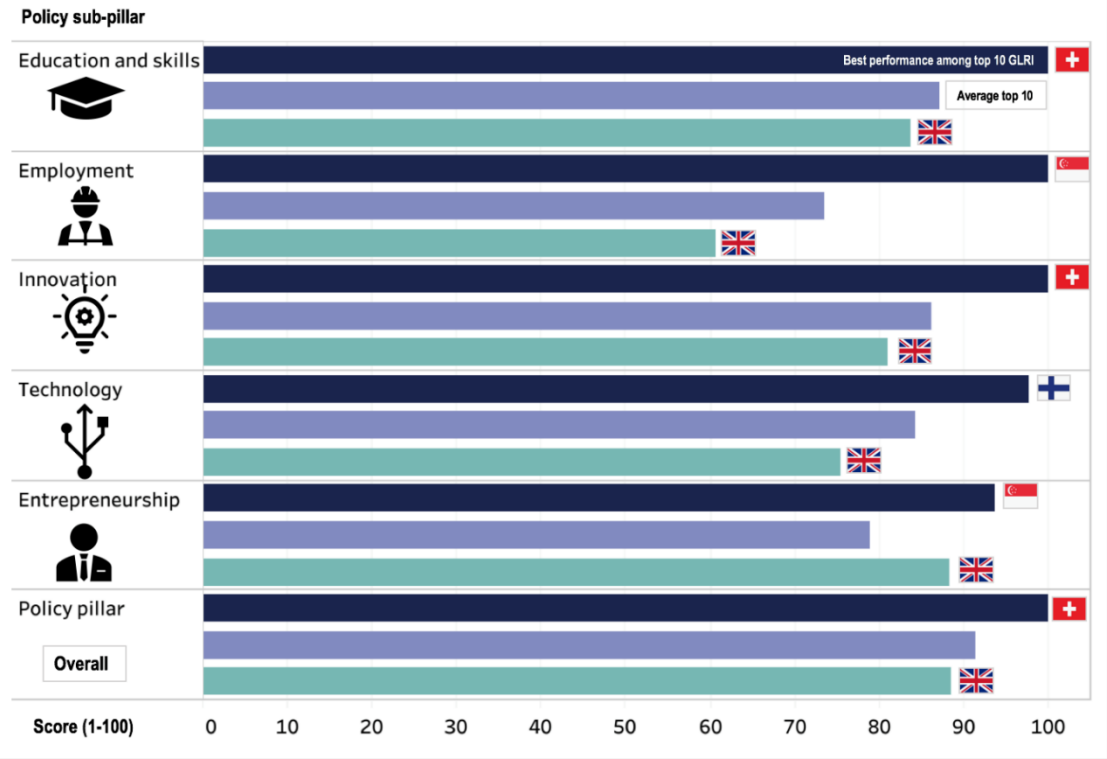
In education, the UK has managed to sustain a strong foundation with a high access to education overall (illustrated in the 7th highest tertiary attainment rate worldwide) and high quality of education (visible in the high performance of its students in PISA tests and strong capacity for critical thinking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

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

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

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

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



Source: Whiteshield Partners

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

Source: Whiteshield Partners

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

KEY FEATURES OF INNOVATION SUPPORT ECOSYSTEM

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

KEY INNOVATION SUPPORT STRATEGIES

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

KEY INNOVATION SUPPORT FIGURES

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

CREATING KNOWLEDGE

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

EXPLOITING KNOWLEDGE

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

KEY STAKEHOLDERS

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

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

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

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

ENABLING INNOVATION

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

SUPPORTING INNOVATION

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

Source: Whiteshield partners, NESTA, Innovation toolkit

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

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

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

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

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

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

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

Declining performance in many technology indicators, threatening UK leadership position

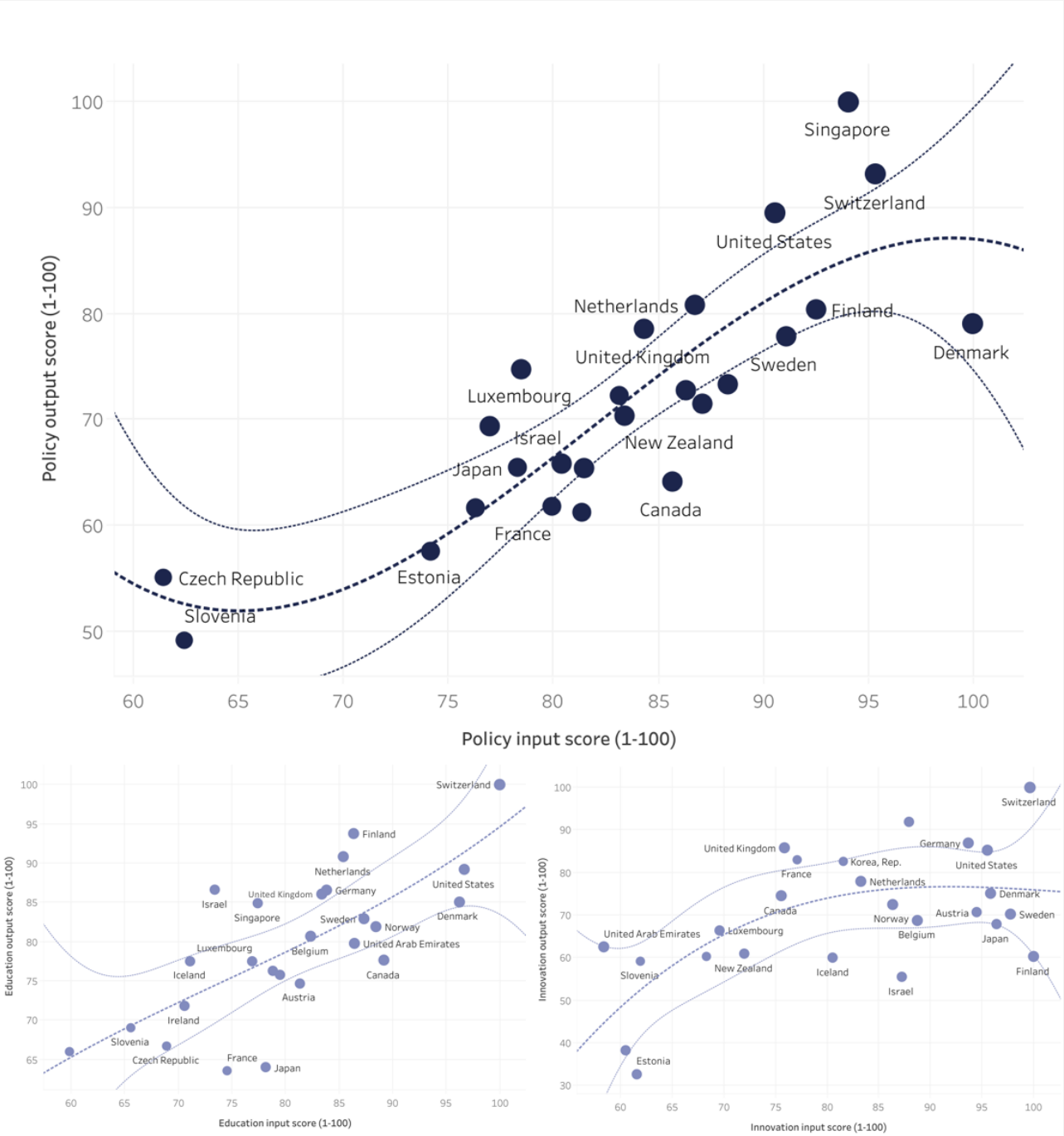
Technology is one dimension in which the UK has witnessed the strongest decrease in performance between GLRI 2015 and GLRI 2020. The UK still ranks among the top 20 for this dimension but has declined relative to other top ranked countries, in particular in technology outputs such as ICT trade and high-tech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

[49] Department for Business, Innovation and Skills, Digital skills for the UK economy, 2016

[50] https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/researchanddevelopmentexpenditure/bulletins/ukgrossdomesticexpenditureonresearchanddevelopment/2017

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

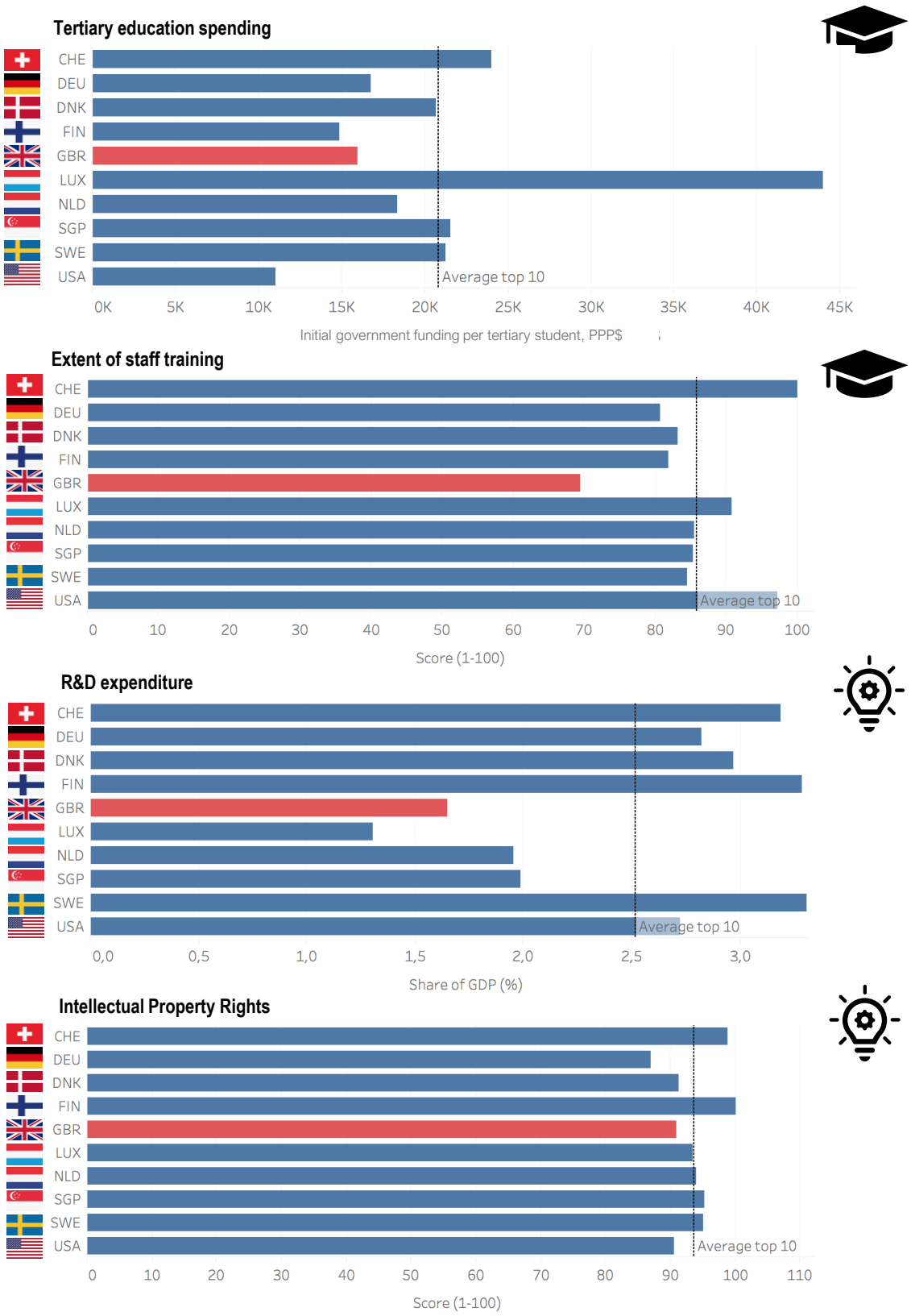
Figure 33: Performance of GLRI top 25 countries in policy inputs vs policy outputs in education and innovation (GLRI 2020)



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

Source: Whiteshield partners

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



Source: Whiteshield Partners

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

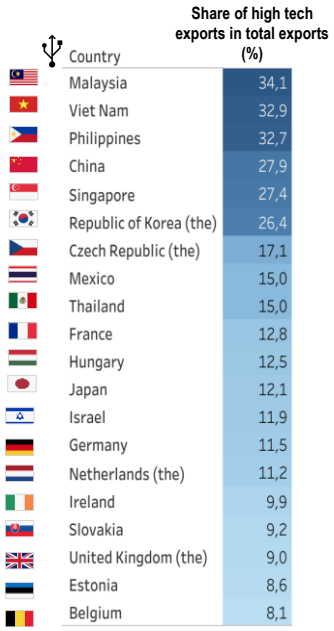
The UK ICT sector benefits from a high-performing environment reflected in its advanced tertiarization of the economy and a vibrant tech-entrepreneurship ecosystem. The country shows strong performance in several key inputs for the digital economy such as strong ICT-related investments (for instance,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

However, the UK is falling behind in the high-tech sector. For instance, the share of high-tech activities in manufacturing is approximately 40% of total manufacturing output compared to shares as high as 80% for Singapore, 70% for Ireland and 60% for Switzerland[54]. The rising competition faced by the UK is most visible in trade related indicators. The UK ranks 30th in terms of ICT services exports with a total share of 3.2% in total exports far behind peer-countries such as Ireland (22.7%), Finland (8.1%) or Sweden (6.2%)[55]. High-tech exports, in particular, clearly demonstrate the leadership of rising leaders. While the share of high-tech exports in the UK is relatively high at almost 10%[56] of total trade, it is much lower than peer countries' (including Singapore, France, Japan, Germany, the Netherlands and Ireland). The gap is even more significant with rising leaders such as Malaysia, Philippines and Vietnam where high-tech exports exceed 30% of total trade (Figure 35).

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

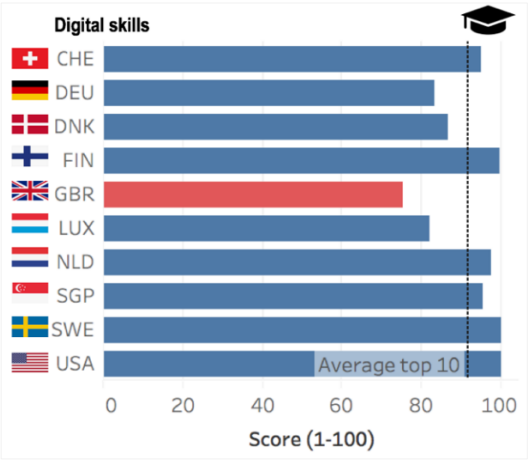
[52] IHS Global Insight, Information and Communication Technology Database, 2018.
[53] Eurostat, 2017.
[54] UNIDO, 2017.
[55] UNCTAD, 2018.
[56] WIPO, 2018.

Figure 35: Top 20 performers in share of high-tech exports in total exports



Source: Whiteshield Partners, WIPO, 2018

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



Source: Whiteshield Partners

Polarization of the UK labour market

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

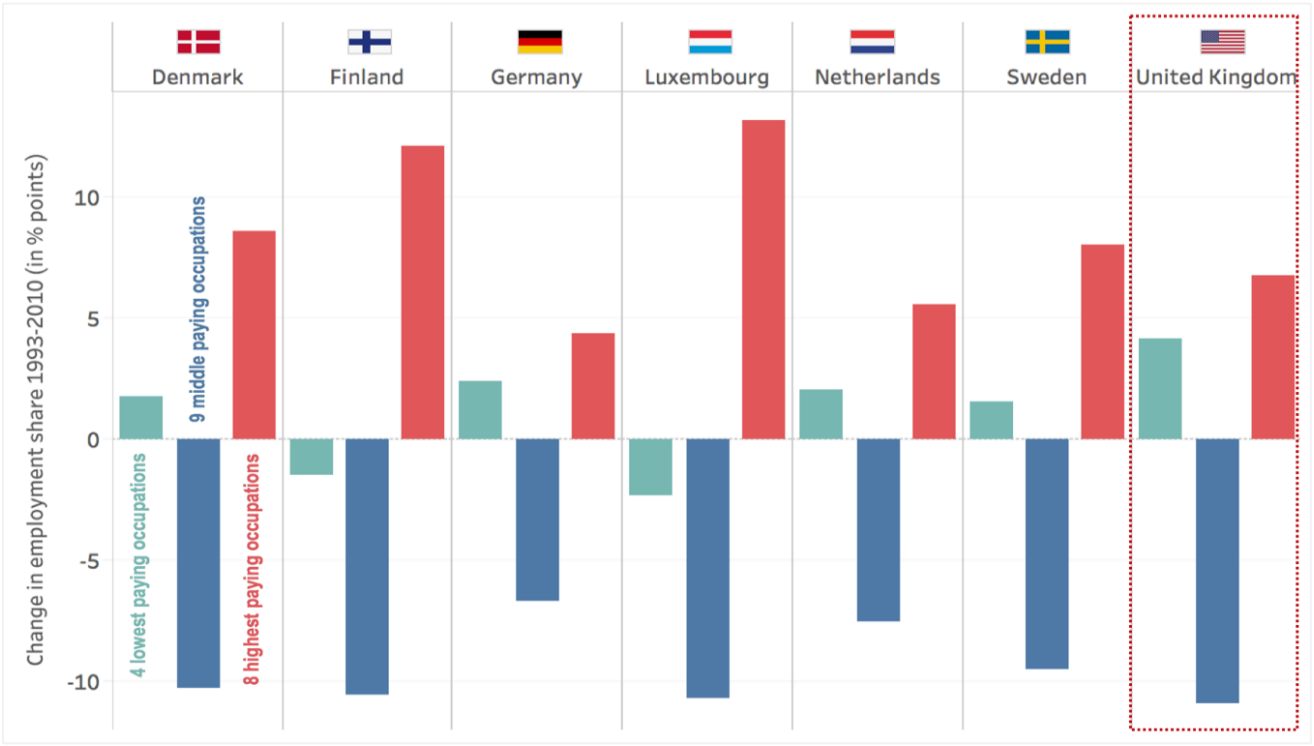
One important area related to the UK's high level of inequality which needs to be monitored closely is polarization of the labour market. Although the polarization of the labour market between high-skilled, high-paying jobs and low and middle skilled, lower paying jobs is a common challenge faced by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

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

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

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

Figure 37: Occupational changes in terms of share in employment for EU top 10 GLRI countries

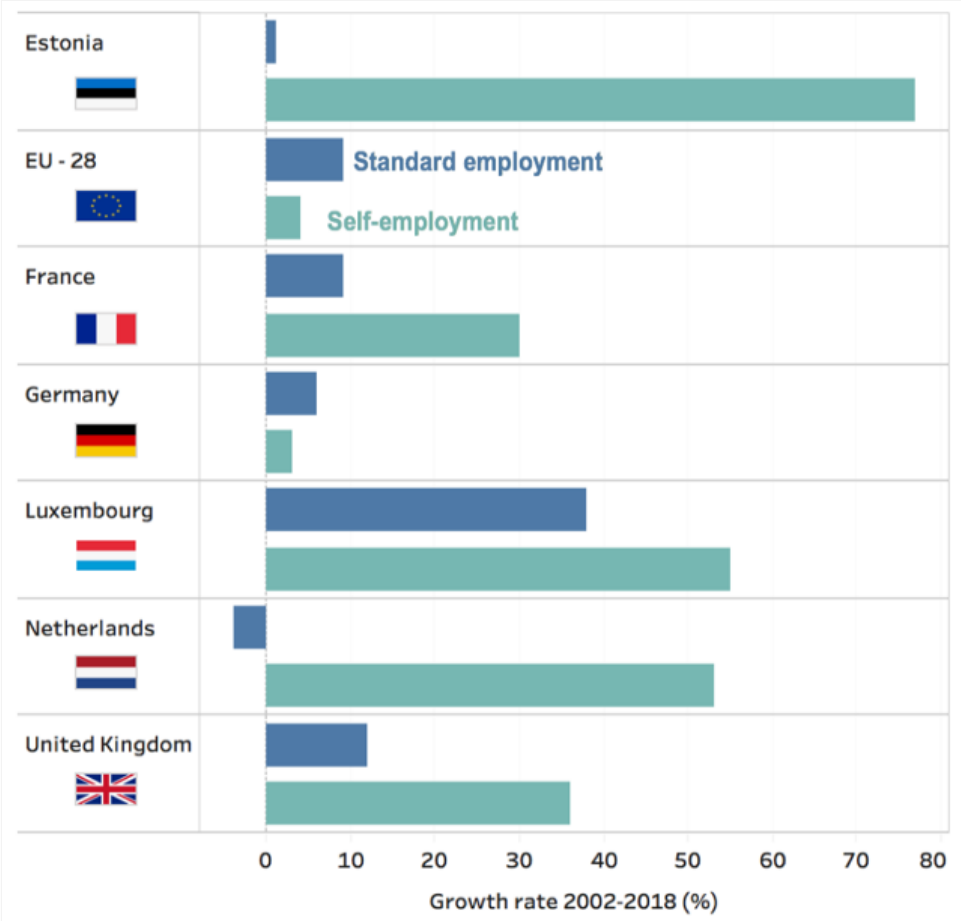


Source: Whiteshield Partners, CEDEFOP

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

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

Figure 38: Growth rate of self-employment and standard employment in selected EU countries (2002-2018)



Source: Whiteshield Partners, Eurostat

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

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

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

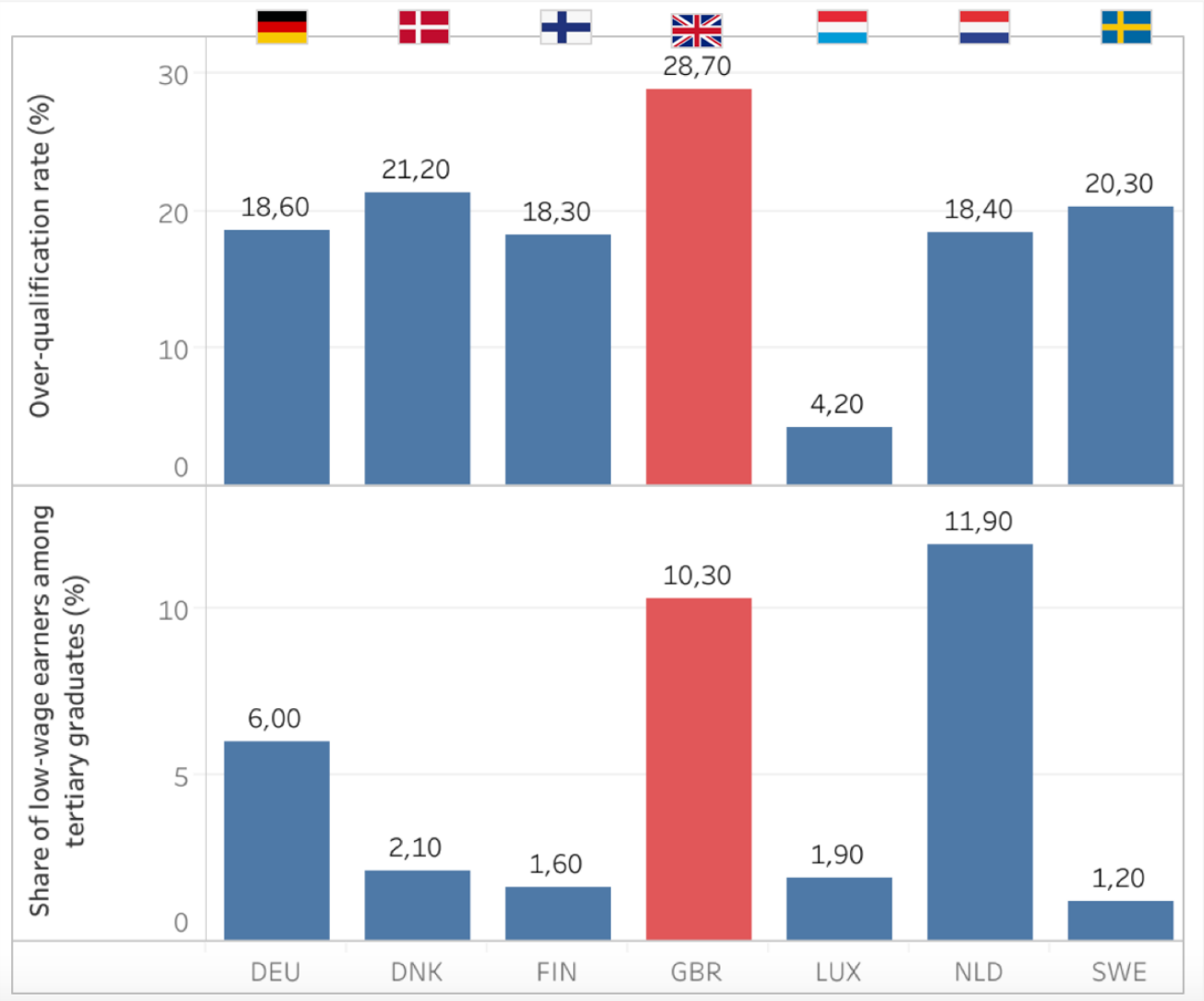
It should be noted that the UK is under-performing in certain social indicators even when compared to other "market-driven" model countries such as the USA and

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

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

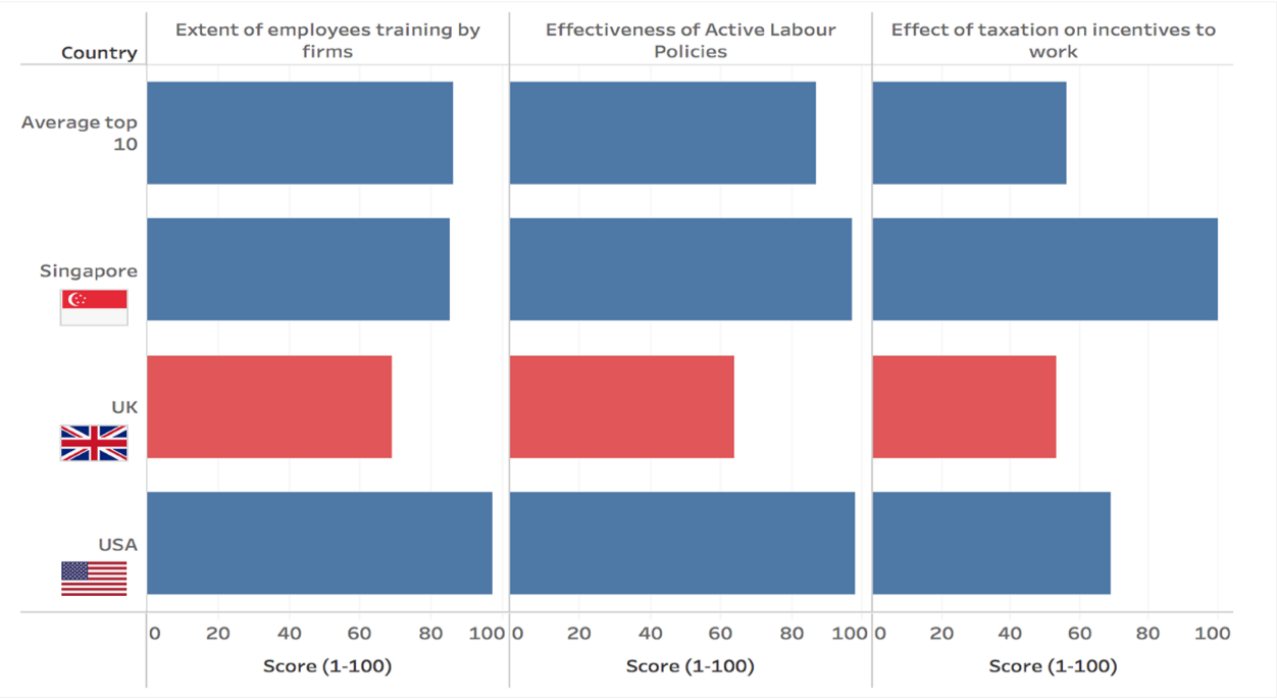
Currently, the UK presents a mixed picture in terms of resilience outcomes. On the one hand, the UK benefits from a low unemployment rate, the second lowest among GLRI top 10 performers after Germany. On the other hand, the UK also has the lowest labour productivity among top 10 performers as well as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

Figure 39: Indicators of skills mismatch for EU countries of the GLRI top 10



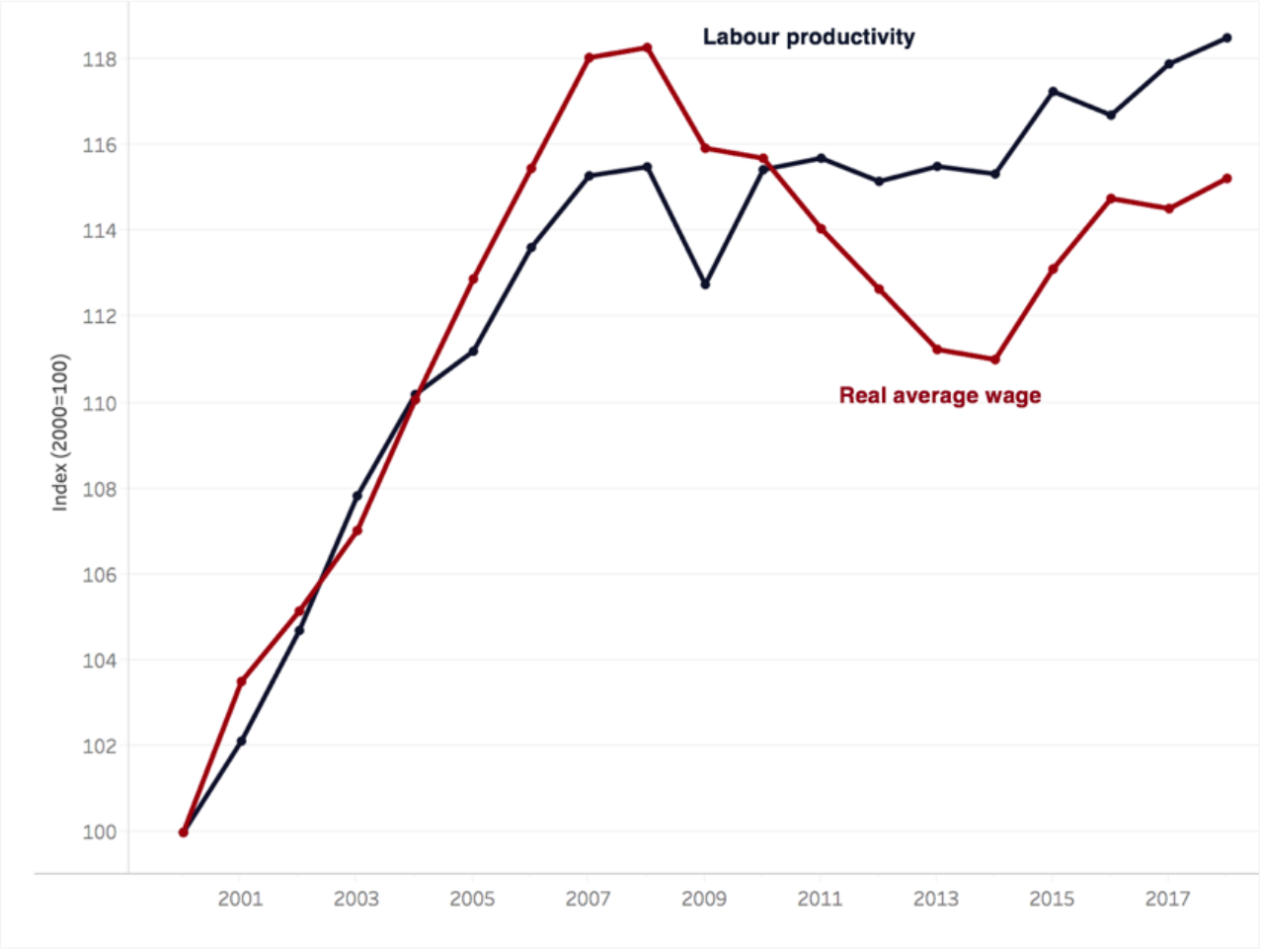
Source: Whiteshield Partners, CEDEFOP

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



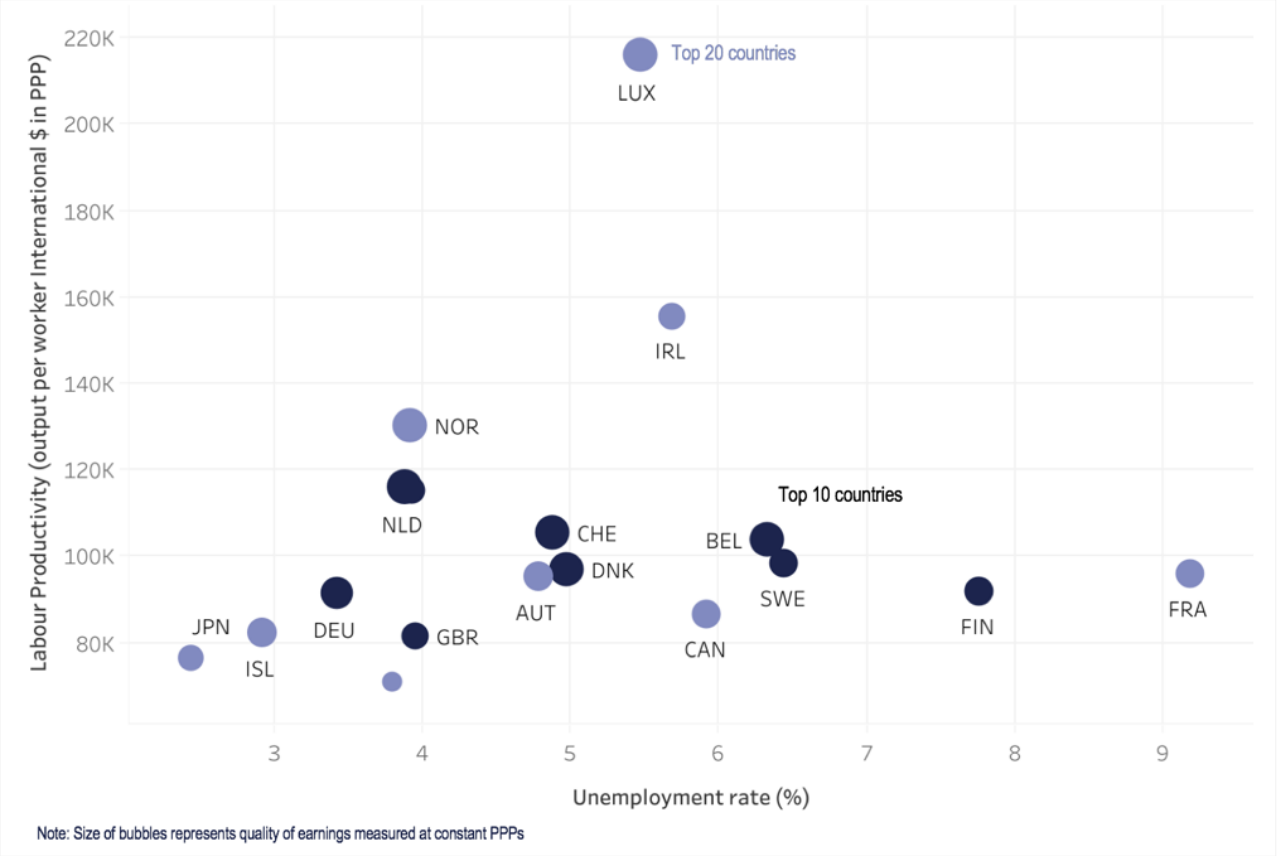
Source: Whiteshield Partners, CEDEFOP

Figure 41: Growth of labour productivity and real wages in the UK (2000-2018)



Source: Whiteshield Partners, ILO, ONS

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



Source: Whiteshield Partners, ILO, ONS

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

REGIONAL LABOUR RESILIENCE PERFORMANCE: STRONG REGIONAL DISAPARITIES[59]

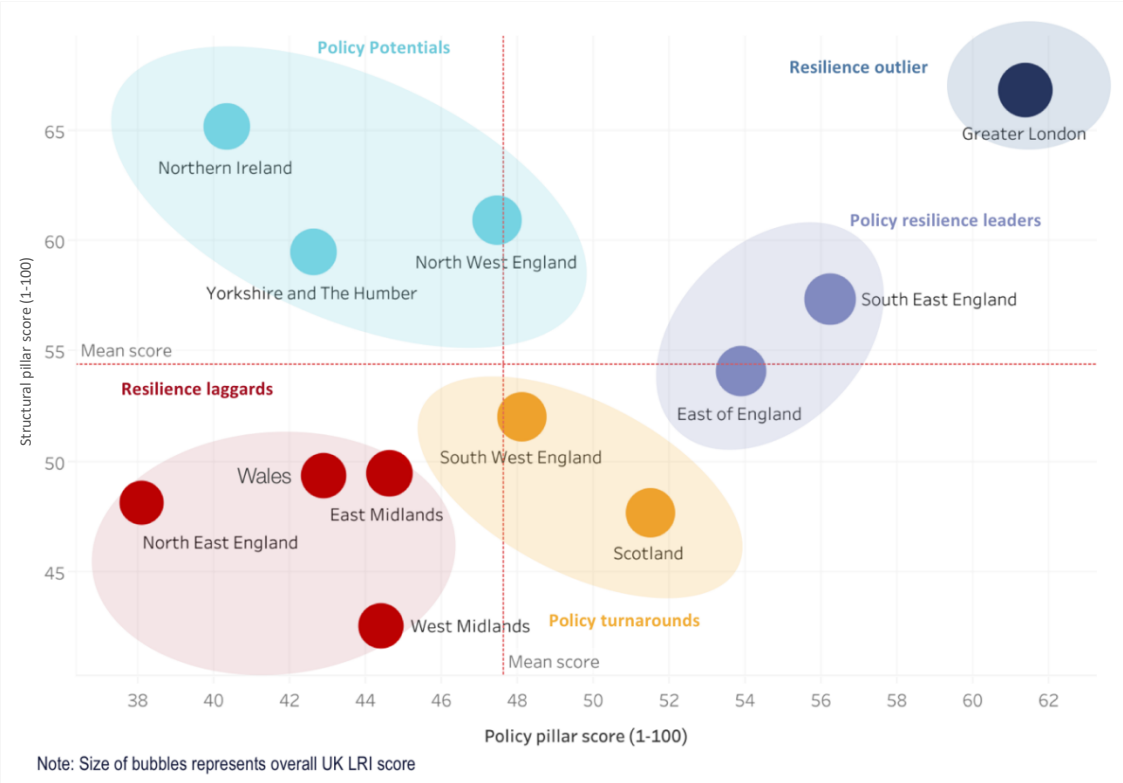
Analysis of disparities in regional resilence are particularly important for the UK, which is more divided than most other comparable advanced economies in the EU and US. The following section provides a sub-national analysis of labour market resilience in the UK comparing the positioning of the 12 regions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

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

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

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

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



Source: Whiteshield Partners

First, there is the Greater London area which is a *resilience outlier* compared to other regions on both the structural and policy dimension. Second, South East England and East of England which are policy resilience leaders. Third, Northern Ireland, North West England and Yorkshire & The Humber are *policy potentials* with a strong structural comparative advantage but lower than average policy performance. Fourth, Scotland and South West England are *policy turnarounds* overall, although Scotland's strong

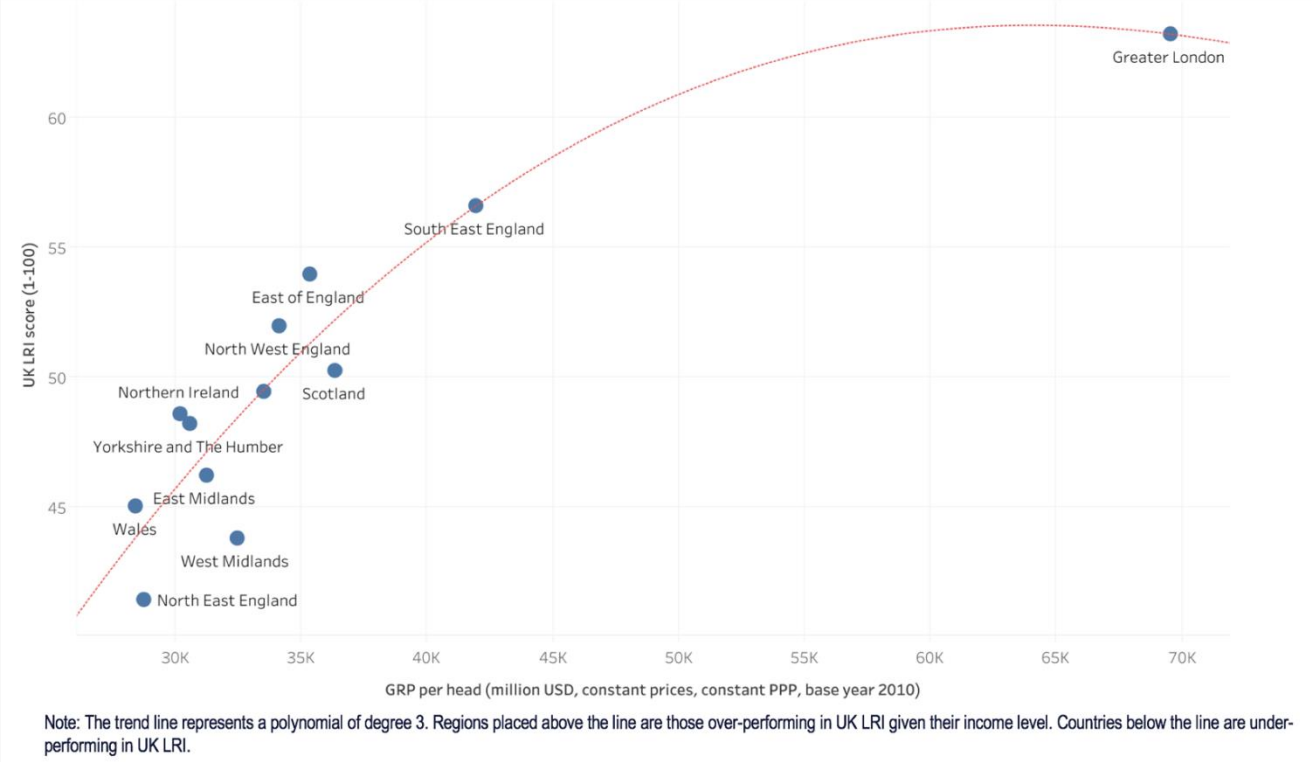
[59] Based on the initial findings of V 1.0 of the UK Regional Labour Market Index. A more in depth version of the Index will be developed in collaboration between Whiteshield Partners and IFOW taking into account additional factors such as occupational characteristics by sector.
[60] See Appendix 1 for overview of labour resilience methodology extended to the sub-national level.

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

Correlation between income and labour market resilience reinforces inequality

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

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



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

Source: Whiteshield Partners, OECD

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

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

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

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

On the policy pillar, London ranks first in all areas except for innovation. Its main strengths are in educational attainment (with the highest share of tertiary graduates in the workforce among EU regions), knowledge-intensive employment in services (which represents almost 60% of total employment[63]), and labour productivity. London's productivity is 133%[64] of the UK average - both a cause and effect of London's preeminent status as a center of commerce and finance in the country. It is a significant reason for London's ability to compete with other mega-cities for the best and the brightest employees. It is also the result of highly productive firms locating in London to gain from the knowledge spillovers and an experienced workforce.

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

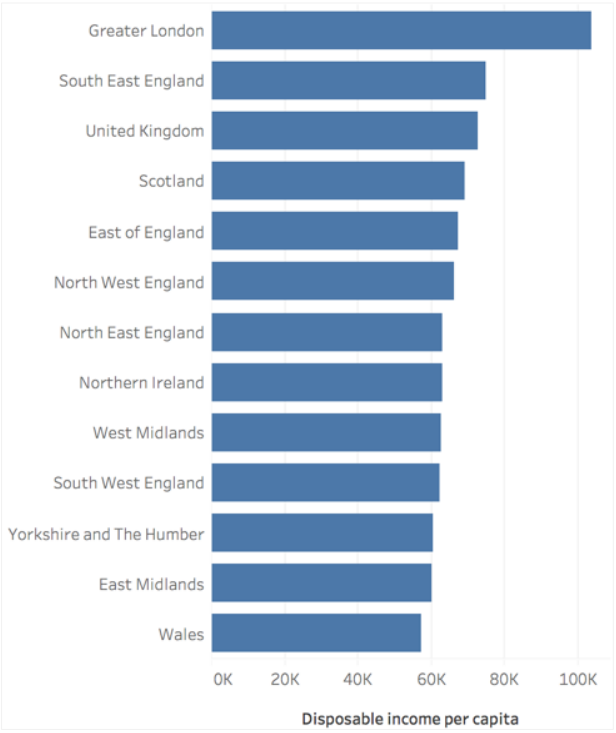
London's innovation performance is surprisingly weak, however, ranking 7th among the 12 UK regions (Figure 46). R&D spending is particularly low at 1.1% of GRP[66], much lower than the best performer (East England) (Figure 47). The number of patent applications is approximately 60% of East England's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

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

[61] OECD, regional statistics database, 2016.
[62] OECD, regional statistics database, 2018.
[63] OECD, regional statistics database, 2017.
[64] OECD, regional statistics database, 2017.
[65] Although it should also be noted that almost 50% of new businesses in London do not survive after 3 years.
[66] OECD regional statistics, 2016.
[67] OECD regional statistics, 2015.

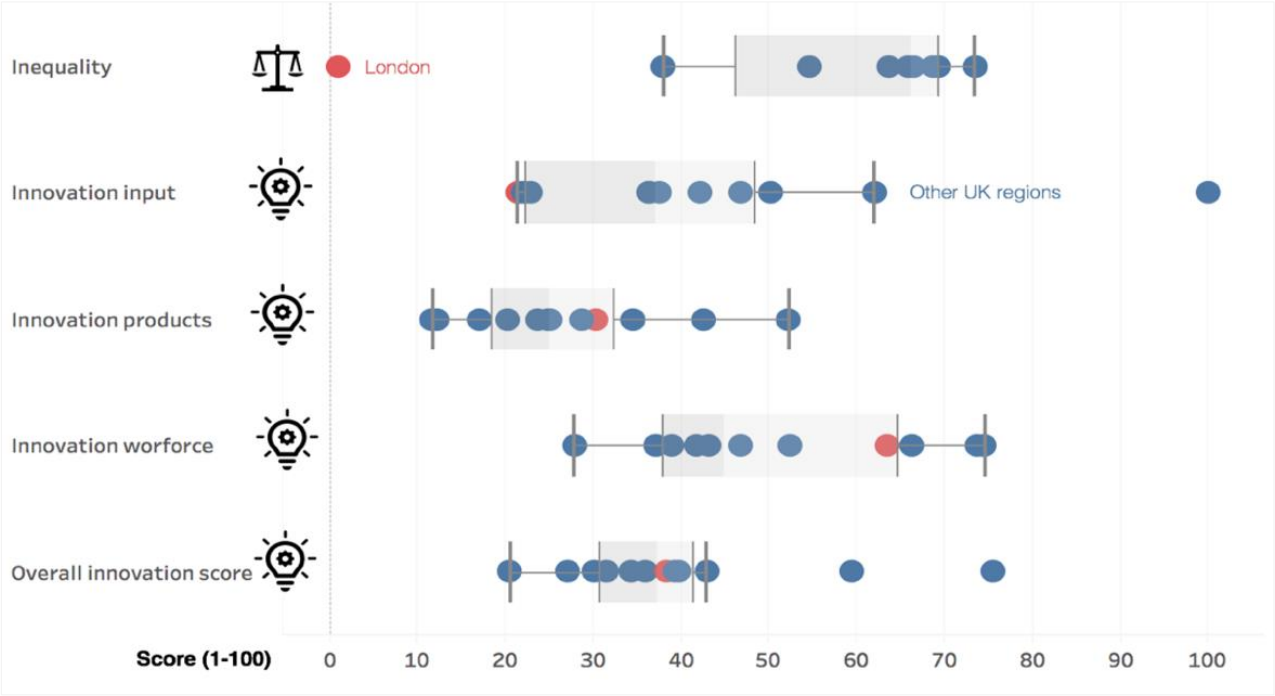
Figure 45: Disposable income per capita by UK region

Figure 46: Share of R&D spending by UK region



Source: Whiteshield Partners, OECD

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



Source: Whiteshield Partners

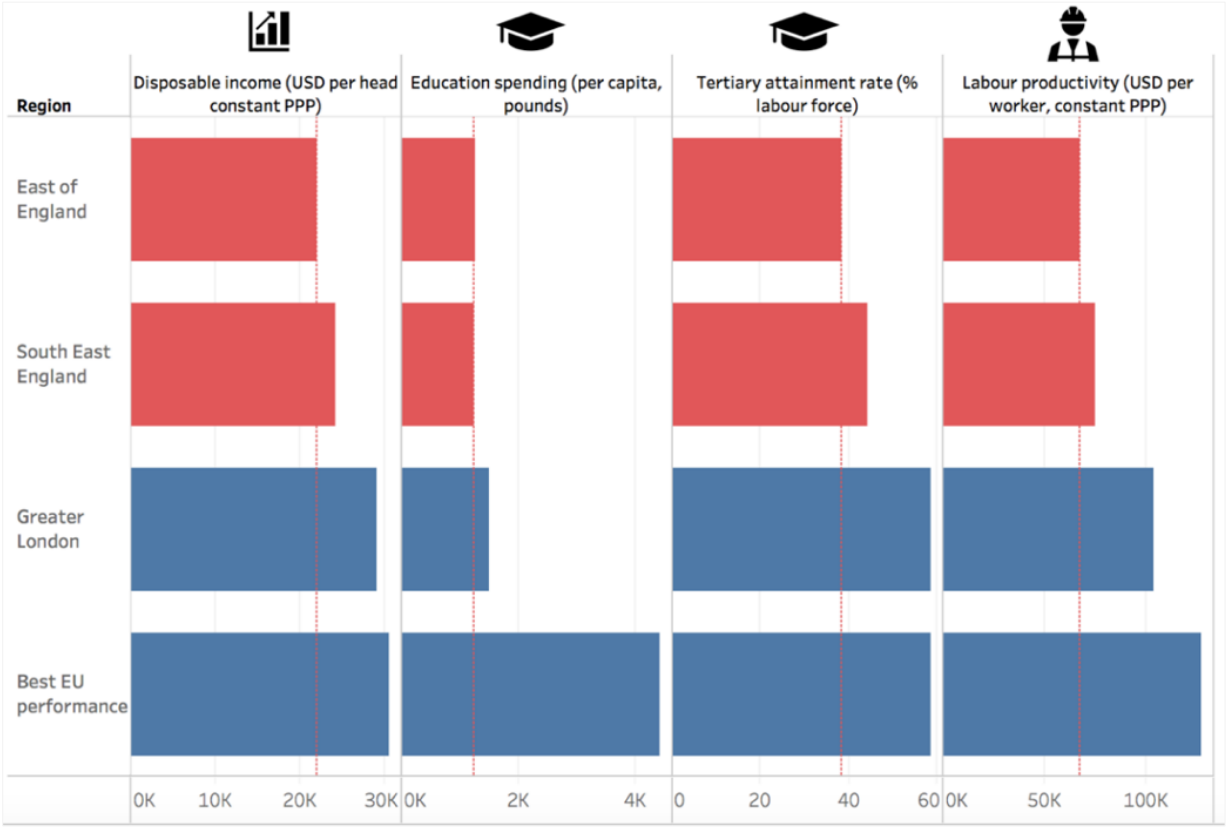
Policy resilience leaders South East England and East England should focus further on productivity, education and demographics

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

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

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

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



Source: Whiteshield Partners

[68] OECD, regional statistics database, 2018.
[69] OECD, regional statistics database, 2016.
[70] OECD, regional statistics database, 2017.

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

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

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

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

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

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

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

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

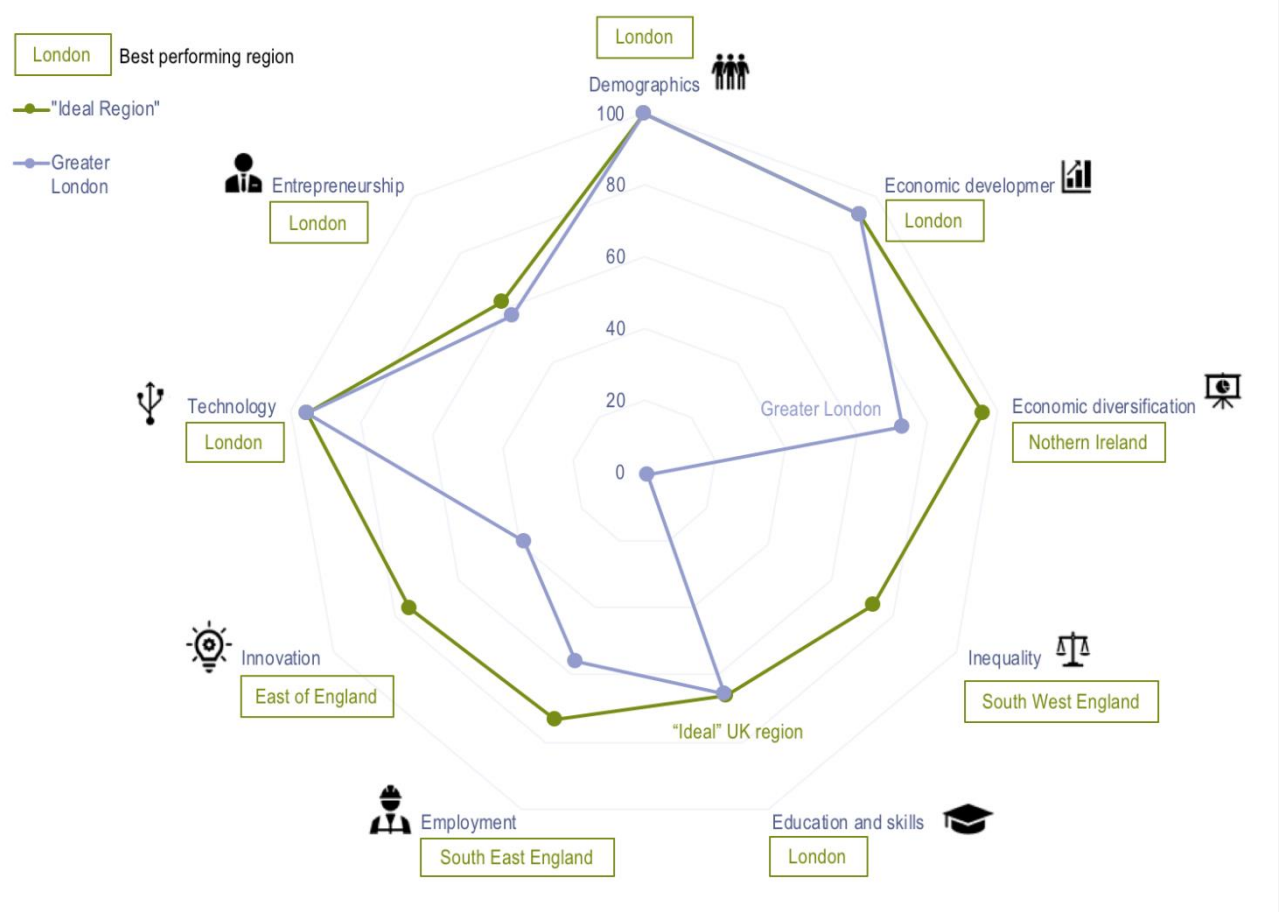
East Midlands, Wales, West Midlands and North East England should aim to catch up to the level of South West England in education (especially tertiary attainment), technology (through improving broadband access) and employment (increasing the labour force participation rate). Currently, many of the youth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

There is strong potential for policy learning and convergence between regions

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

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

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



Source: Whiteshield Partners

POLICY RECOMMENDATIONS

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

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

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

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

Improve regional data relevant to labour resilience

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

Adopt a horizontal, cross-department approach

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

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

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

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

Provide targeted support for entrepreneurs to close digital skills gaps

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

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

Access to finance and support for entrepreneurs

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

Invest further in effective vocational training programs

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

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

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

FUTURE SKILLS

Policies to strengthen labour market resilience

CONTEXT & OBJECTIVES

- Employee skills are rapidly outdated with rapid advances in technology.
- The objective of Future Skills is to help Canadians prepare for, acquire and maintain jobs as innovation and technology continue to place new demands on workers' skills and training.

KEY INSIGHTS

- Measurement: emphasis on capturing major trends through data, analysis and measurement of outcomes.
- Partnership: collaboration with firms, chamber of commerce, labour unions, and not-for-profits.
- Co-financing: the program leverages project partnerships and co-financing opportunities to explore new and innovative approaches to skills development and outcome measurement.

MEASURES / OUTCOMES

- The Future Skills program launched in May 2018 with a committed budget of $225 million for the first 4 years and $75 million thereafter.

DESCRIPTION / APPROACH

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

The Future Skills Centre will work on:

- Examining major trends that will have an impact on national and regional economies and workers
- Identifying emerging skills that are in demand now and in the future that may impact people's education and training decisions
- Developing, testing and evaluating innovative approaches to help Canadians gain the skills they need to adapt and succeed in the workforce
- Sharing results and best practices with governments, the private sector, labour, educational and training institutions, not-for-profit organizations, academics and subject matter experts to support broader adoption of innovative approaches across Canada.

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

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

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

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

Box 24: Examples of initiatives to regulate the Gig economy

REGULATING THE GIG ECONOMY AND PROTECTING SELF-EMPLOYED WORKERS

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

Source: Whiteshield Partners

Box 25: Examples of initiatives to protect gig workers and enhance their access to basic workers' rights

SUPPORTING SELF-EMPLOYED WORKERS AND ENHANCING WORKERS' RIGHTS

DESCRIPTION	INSIGHTS FOR THE UK
ENHANCING RIGHTS OF SELF-EMPLOYED WORKERS: SICK LEAVE	
The concept of **"Bread funds"** emerged in the Netherlands to provide paid sick leave to self-employed workers since they are not covered by national legislation. A bread fund is a collective of self-employed workers (usually up to 50) who contribute monthly to the fund and receive a payout in case of sickness. In addition to financial support, the community spirit often leads to moral and practical support.	Even the most advanced protections for self-employed workers at the national level only include health insurance and pension schemes. Unemployment benefits and sick leave are rarely guaranteed to self-employed workers by national regulations. Hence, it is important to consider innovative alternatives like bread funds and more importantly to facilitate cooperation between self-employed workers to help them cope with the potential drawbacks of their status.
PORTABLE BENEFITS SYSTEM FOR FLEXIBLE WORKING ARRANGEMENTS	
"The Black Car Fund" was established by the State of New York to provide workers compensation insurance to self-employed drivers in the industry of livery-for-hire driving services. The fund surcharges every ride by 2.5%, which is paid by the customer, collected by the ride platform, transmitted to the fund, and used to cover workers' compensation insurance. The fund is an industry-wide initiative, meaning that benefits are portable regardless of the platform to which the worker is affiliated and even in the case of multiple affiliations.	While working arrangements are becoming increasingly flexible, it is important to adapt benefits systems. A recent trend gaining interest is the adoption of portable benefits which are not specific to a job or company but are exclusively tied to workers. This is particularly relevant in the context of the gig economy, where workers often hold multiple jobs and affiliations to online work platforms. The Black Car Fund is an illustration of how to adopt portable benefits. Although this case is specific to one industry and one type of benefit (injury compensation), it is possible to generalize its working model.
THE EMPLOYED ENTREPRENEUR STATUS	
Smartcoop is an example of innovative cooperation enabling individuals to combine entrepreneurial and autonomous activities with employee status to grant access to benefits and support services/training (legal, financial, consulting) enjoyed by employees.	The entrepreneurial cooperative model is an innovative mechanism to encourage entrepreneurship while guaranteeing protection for individuals and their access to social benefits and support services. Ultimately, they can create their own company after this supportive transitional phase.

Source: Whiteshield Partners

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

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

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

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

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

R&D towards the less prosperous northern regions of the country is a step in the right direction. The UK is one of the most centralized countries in the developed world and this appears to be impeding local resilience in key areas.
At the same time, national government should incentivize firms to set up or establish branches in the regions, likely to be increasing attractive as digital infrastructure is improved and communication costs fall.

Develop best practice twinning programs between cities and regions

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

Promote further equality

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

Review legislation to address remaining problem areas

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

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

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