

Programme for Government Commitments – Economy

This year's Programme for Government sets out the actions that we will take over the next twelve months and across the next five years to nurture economic prosperity for all of Scotland's people and places. Through these actions we will deliver on our ambitions for a wellbeing economy – that is an economy that is sustainable and based on good, green jobs with fair wages that will generate the revenue needed to deliver the best public services. More immediately, the Programme for Government continues our pledge to support our economy and key sectors to recover from the effects of the pandemic. It paves the way for the 10 year National Economic Strategy which, alongside the Scottish Government's Covid Recovery Strategy, will deliver the long-term change that Scotland needs as we build a greener, fairer and more inclusive wellbeing economy, where everyone can flourish.

Programme for Government Economy commitments:

Economic transformation and wellbeing economy

- Launch a 10-year National Strategy for Economic Transformation, overseen by a new Advisory Council to support Scotland's economic recovery.
- Launch a National Challenge Competition on Economic Transformation, backed by £50 million.
- Set up a group of external advisors to provide international and expert guidance on developing a wellbeing economy in Scotland.
- Appoint a Wellbeing Economy Ambassador to promote this work.
- Publish a Wellbeing Economy Monitor.
- Ensure that every region has a Regional Economic Partnership.
- Refresh the way we work in partnership with businesses.

Just Transition

- We will implement in full the recommendations of the Just Transition Commission. Supported by Just Transition plans for industry, our National Strategy for Economic Transformation will represent a coherent Green Industrial Strategy for Scotland.
- Invest in opportunities for people to access the new, good and green jobs of a just transition, including a £500 million Just Transition Fund for the North East and Moray and a £100 million Green Jobs Fund
- This year, we will make the first payments from the Green Jobs Fund and implement a skills guarantee, helping workers in carbon-intense sectors to upskill, reskill, and transition to the green jobs of the future.

Skills and Training

- Invest an additional £500 million over this Parliament to support new jobs and reskill people for the jobs of the future.
- As part of this, invest over £200 million in adult upskilling and retraining opportunities, including up to £20m this year through the National Transition Training Fund.
- Expansion of the Young Person's Guarantee and the Parental Employability Support Fund.
- Provide additional support for long term unemployed people.
- Working with the Enterprise and Skills Strategic Board and other stakeholders we will develop a new innovation strategy and ensure that the support we provide is easy to access and focused on areas of greatest opportunity.
- We will also ensure that we provide accessible, streamlined support and opportunities for entrepreneurs and start-ups in all sectors as we look for an innovation-led recovery.

Fair work and workplace equalities

- We are applying Fair Work First criteria to public sector funding and contracts, including new criteria supporting flexible and family friendly working and opposing fire and rehire practice.

- We will support a specific accreditation programme for Living Hours in the same way we have supported Living Wage Accreditation.
- At least halve the disability employment gap in Scotland by 2038.
- Develop an ethnicity pay gap strategy by the Spring of 2022 as part of our continuing work to improve labour market outcomes for minority ethnic workers in Scotland.
- We continue to take forward a range of actions within our gender pay gap action plan to reduce gender workplace inequality.
- Establish a £10m fund – starting with £2 million this year – to support four-day working week pilots and explore the benefits of a 4-day working week.
- In partnership with SCDI, we will establish a Business Purpose Commission to help redefine business in the 21st century and build trust between business and society.
- We will continue to develop plans for a new Centre aimed at improving business performance, productivity, innovation, Fair Work, workforce resilience and worker wellbeing.

Investment and green finance

- Invest £33 billion over the course of this Parliament in our National Infrastructure Mission in order to provide economic stimulus and boost international competitiveness.
- Commence work to agree options for creating a national infrastructure company.
- Provide the new Scottish National Investment Bank with £2 billion in capital (£1 billion in this parliament, £200 million this financial year)
- Establish Scotland as a world-leading centre for green and ethical finance.
- Increase the amount of private capital in the economy by developing and promoting investment opportunities to global capital markets, including a Green Investment Portfolio which will be worth £3 billion by 2022.
- Overcome barriers to private investment in priority sectors and new technologies by setting the right macroeconomic conditions and deploying financial and pricing incentives through our Green Market solutions programme.
- Announce the first “pathfinder projects” for the Green Growth Accelerator ahead of COP26, as the first step to unlocking up to £200m of public sector investment.

Green ports

- We are committed to establishing Green Ports in Scotland – helping us create a sustainable economy and deliver a just transition to net-zero.

International trade & investment

- The Programme for Government commits Ministers to delivery of the suite of 10-year international economy plans that have been published over the last two years, including:
 - Scotland’s Vision for Trade (Jan 2021) – with a set of five core principles underpinning the trading relationships we want Scotland to have - Inclusive Growth; Well-being; Sustainability; Net Zero and Good Governance.
 - Inward Investment Plan – Shaping Scotland’s Economy (Oct 2020).
 - taking an evidence-led approach to attraction and expansion of inward investment that is aligned to Scotland’s values as a nation.
 - Global Capital Investment Plan (March 2021) – to attract and retain capital investment flows into priority areas of our economy, aligned to our commitment to a just transition to net zero and in support of a green recovery.
 - Export Growth Plan – A Trading Nation (May 2019) to increase Scotland’s international exports from 20% to 25% of GDP by 2029. This would double the value of our international exports which is key to Scotland’s future economic growth and prosperity.

Digital connectivity

- Continued delivery of broadband access through the Reaching 100% (R100) programme.
- Support the creation of gigabit islands, securing a ‘fair share’ of UKG funds.
- Activate up to 35 4G masts by September 2022.

- Support 60,000 households to get online by the end of this year through Connecting Scotland.

Digital capacity and capability of businesses

- Provide £100 million over this Parliament in a range of programmes to increase the digital capacity and capability of business.
- This includes £25 million this year to reopen the Digital Boost Fund – providing grants and support to help SMEs access the right digital skills and equipment.
- Continue to implement the recommendations of the Logan review – including an initial £4 million this year to create five new ‘tech-scaler’ hubs by 2022.

Business Support

- Extend 100% non-domestic rates relief for properties retail, leisure, aviation and hospitality sectors for all of 2021-22.
- In fulfilment of a first 100 days commitment, the Scottish Government delivered a second payment of £1,500 for taxi and private hire drivers, and up to £10,000 for taxi operator firms
- We will maintain the Business Growth Accelerator and Fresh Start Reliefs.
 - The Business Growth Accelerator provides 100% relief until 12 months after first occupation of new-builds, and no increases in rates for 12 months after a property improvement
 - Fresh Start Relief provides 100% relief for 12 months for businesses occupying certain long-term empty properties.
- Maintain the Small Business Bonus Scheme for the lifetime of the Parliament – ensuring that 100,000 business properties pay no rates.
- Introduce legislation to prevent the inappropriate use of material change of circumstances provisions in the non-domestic rates legislation in relation to COVID-19, or COVID-19 restrictions (the UK Government has already laid primary legislation to rule out COVID-19 appeals in future, and retroactively).
- We will help local authorities to tackle a known avoidance tactic on empty non-domestic properties.

Localism

- Review the Community Empowerment Act, to consider how we can give local communities more of a say over how local public assets are used.
- Introduce a Local Democracy Bill to devolve more decisions to more local spheres of democratic governance, empowering places and enabling communities to take responsibility for some services.
- Launch a consultative draft of Scotland’s fourth National Planning Framework (NPF4) this autumn.
- We launched a refreshed Scotland Loves Local campaign in the government’s first 100 days, as well as a £10 million multi-year Scotland Loves Local Fund to support local people, businesses and community partnerships.
- Progress the Community Wealth Building Bill in this Parliament, helping create and protect jobs and enable greater community and third sector ownership of assets.
- Reform and modernise the compulsory purchase system in Scotland, making it clearer, fairer and faster for all parties

Rural, islands and economy

- Establish a new £20 million Rural Entrepreneur Fund, starting FY 2022/23, providing up to £10,000 to support the relocation or creation of 2,000 new businesses.
- Establish a commission to undertake a review of land-based learning, attracting more people into land-based sectors and improving the learning ‘pipeline’ (early years/school through university/college to post-education training), reporting in December 2022.
- Invest £30 million over the next five years through the Islands Programme to support delivery of the National Islands Plan (a statutory requirement).

- Introduce a new £5 million Islands Bond Fund (summer 2022) providing up to £50,000 to up to 100 households by 2026, supporting island residents to remain in their community, or to encourage people to move there.
- Deliver at least three Carbon Neutral Islands by 2040, creating jobs, protecting our island environments from climate change, and contributing to net zero.

Place Based Investment Programme, 20 minute neighbourhoods and vacant and derelict land funding

- From this year, we are delivering our Place Based Investment programme, backed with £325 million over the next five years to accelerate our shared ambitions for place, 20-minute neighbourhoods, town centre action, community led regeneration and community wealth building.
- Over the course of this Parliament, we will deliver on our vision for “20-minute neighbourhoods” across Scotland: places where people can have their needs met locally within a 20-minute walk from their homes, reducing emissions and encouraging active travel.
- Complementing this, we are also now rolling out our new £50 million low carbon Vacant & Derelict Land Investment Programme over the next five years, supporting ambitious local approaches to unblocking the reuse of persistent vacant and derelict land to deliver new green infrastructure, supporting a just transition to net zero.
- Key to the resilience of communities has been the action taken by communities themselves. We will build on this to ensure that resilience can be sustained as part of our recovery and renewal through continuing support from our Empowering Communities Programme.

Tourism

- We have launched the £25 million Tourism Recovery Fund – part of a wider £129 million investment in the sector – to drive forward immediate actions to help the sector back on its feet.
- We are maintaining investment of over £6 million annually in the Rural Tourism Infrastructure Fund, helping tourist attractions and their communities deal with the impact of increased visitor numbers on the local infrastructure.
- In our first 100 days we set up a taskforce to develop an Agritourism Growth Strategy Group, supporting farmers to diversify their land use.
- We have published a refreshed food tourism action plan.
- We have provided £2.75 million help rural areas to welcome back visitors, including more seasonal rangers, temporary toilets, car parking and campervan facilities

Global Climate Emergency

- Support a world-changing deal at COP26
- Implement in full the recommendations of the Just Transition Commission.
- Establish a Scottish office of the UK Climate Change Committee.
- Establish a national Nitrogen Balance Sheet.
- Bring forward the next full Climate Change Plan to first half of this Parliament (by the end of 2023). We will set out the process to deliver a draft of the next Climate Change Plan for consideration in the first half of this parliamentary session.

Transport

- Provide a range of low and zero carbon transport initiatives with £287 million investment through to 2025-26 from our Future Transport Fund.
- Remove the majority of fossil-fuelled buses from public transport by 2023 and invest £120 million in zero emission buses.
- Convene the Bus Decarbonisation Taskforce to take the next steps toward removing the majority of fossil fuel buses from public transport.
- Bring provision of ScotRail services into the public sector under Scottish Government control.
- Have 30% of the state-owned ferry fleet consisting of low carbon vessels by 2032.

- Decarbonise passenger rail services.
- Commission a Fair Fares Review to ensure a sustainable and integrated approach to public transport fares.
- Publish and consult on the recommendations of our Strategic Transport Review 2 recommendations.

10 Year National Strategy for Economic Transformation

Office of the Chief Economic Adviser

Structure of Scotland's Economy: Overview



Scottish Government
Riaghaltas na h-Alba
gov.scot

Enterprise, Business & Industry: summary of key emerging challenges from the analysis (1/2)

Sub-theme

1. Productivity

Challenge

1.1 Scotland's productivity growth has been stagnant since the 2008-09 financial crisis - 30 percentage point below level that could have been achieved if pre-financial crisis growth rates had been sustained.

1.2 Scotland's productivity performance varies significantly across sectors and businesses of different sizes. Retail and wholesale sector amongst our lower productivity performing sectors

2. Infrastructure - Transport

2.1 Overall Scotland has good transport infrastructure and transport system. Most challenges relate largely to improving the attractiveness of public transport to address congestion and to deliver on 'net zero'. There are also regional challenges with respect to rural and remote areas

2.2 Concerns in some sectors that lack of direct air freight routes from Scotland impacts on competitiveness of Scotland

3. Infrastructure - Digital
(including tech adoption)

3.1 Scotland's digital capability remains very low. Latest (2020) data shows that 72% of business in Scotland fall in the bottom half of the digital maturity index scale. Only 21% of business fully equipped to meet the business technology needs. Key areas that lag are: micro businesses, sectors - agriculture, construction, transport and communication, regions - South of Scotland and domestic markets

3.2 Only 1 in 5 businesses feel that they are fully equipped with digital skills. More businesses reporting they are well equipped for digital technology but with skills gaps (56% in 2021 compared to 41% in 2014). Looking to the future, more than half (54%) of business are not taking any action to develop employee digital skills and they are not planning to do so in the future.

3.3 Scotland performs well on digital infrastructure - only a very small proportion of premises (1.2%) do not have decent broadband, although in terms of 4G coverage, a much greater proportion of Scotland's landmass is without coverage. Scotland (and the UK as a whole) lags behind a number of other nations with regards to Full Fibre coverage, although it is improving.

4. Trade

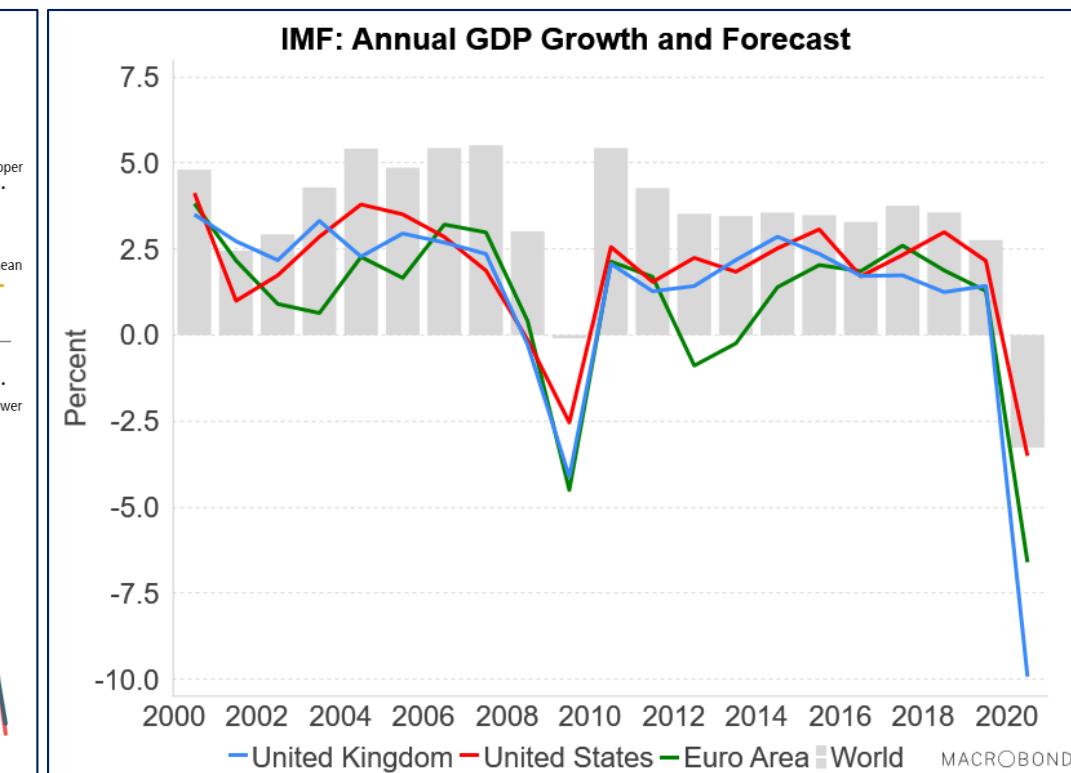
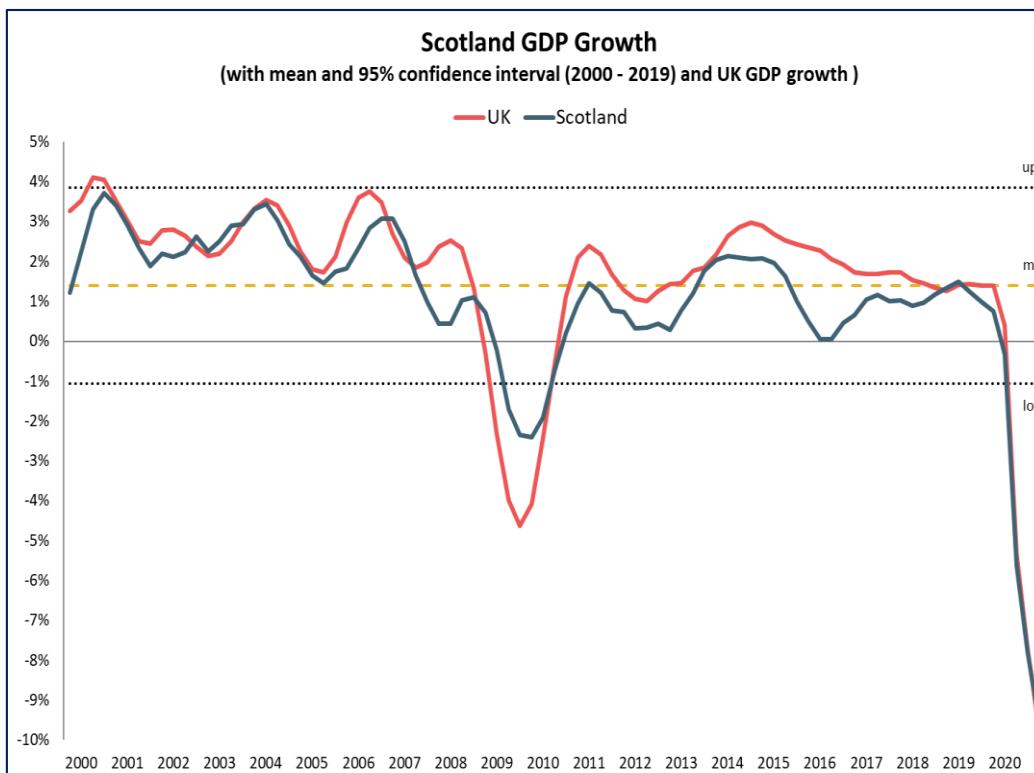
4.1 In terms of growth in "exports as a % of GDP" Scotland underperforms relative to comparable advanced small economies. This is particularly the case in key global markets. While Scotland outperforms comparator countries in a few sectors - drinks, wholesale & retail trade, engineering services, business support activities and utilities, it underperforms across the remaining sectors of the economy.

Enterprise, Business & Industry: summary of key emerging challenges from the analysis (2/2)

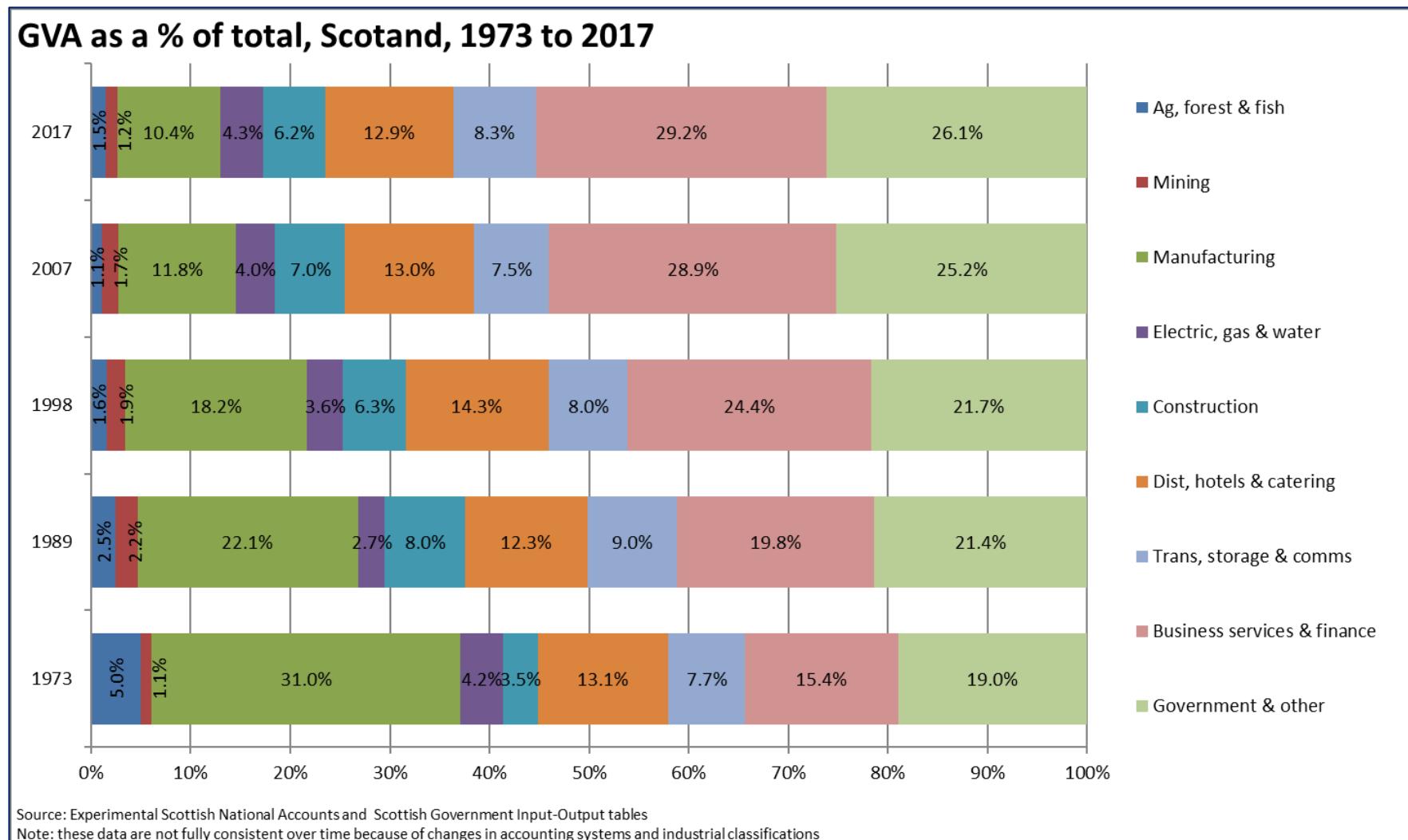
Sub-theme	Challenge
5. Private capital	<p>5.1 Scotland's investment growth among the lowest across OECD member countries. There is need to close the gap in growth of FDI flows when compared to other OECD countries.</p> <p>5.2 Transition to net zero and in response to technology change and other drivers will require significant investment in both business and public sectors. Does Scotland have the capacity to mobilise the required capital.</p>
6. Entrepreneurship	<p>6.1 Based on the Total Early-stage Entrepreneurial Activity (TEA) rate (measure of the proportion of the adult working age population that is actively trying to start a business, or that own/manage a business which is less than 3.5 years old), Scotland lags on entrepreneurship when compared to other OECD countries.</p> <p>6.2 TEA rate in Scotland increased by 0.9 percentage points between 2018 and 2019 to 7.2% - lower than the UK rate (9.9%) and lower than the rate of most other OECD countries that reported in 2019 - ranking 22 out of 26 countries.</p>
7. Innovation	<p>7.1 Based on Gross Expenditure R&D (GERD), Scotland ranks low on innovation when compared to OECD and EU averages (GERD as % of GDP). Lower levels of Business and Enterprise R&D (BERD) are the main driver for Scotland's low rank. The challenge is how to get BERD performance to match HERD, and to translate overall R&D activity into improved technology outcomes.</p>

Scotland's Economic Growth Performance

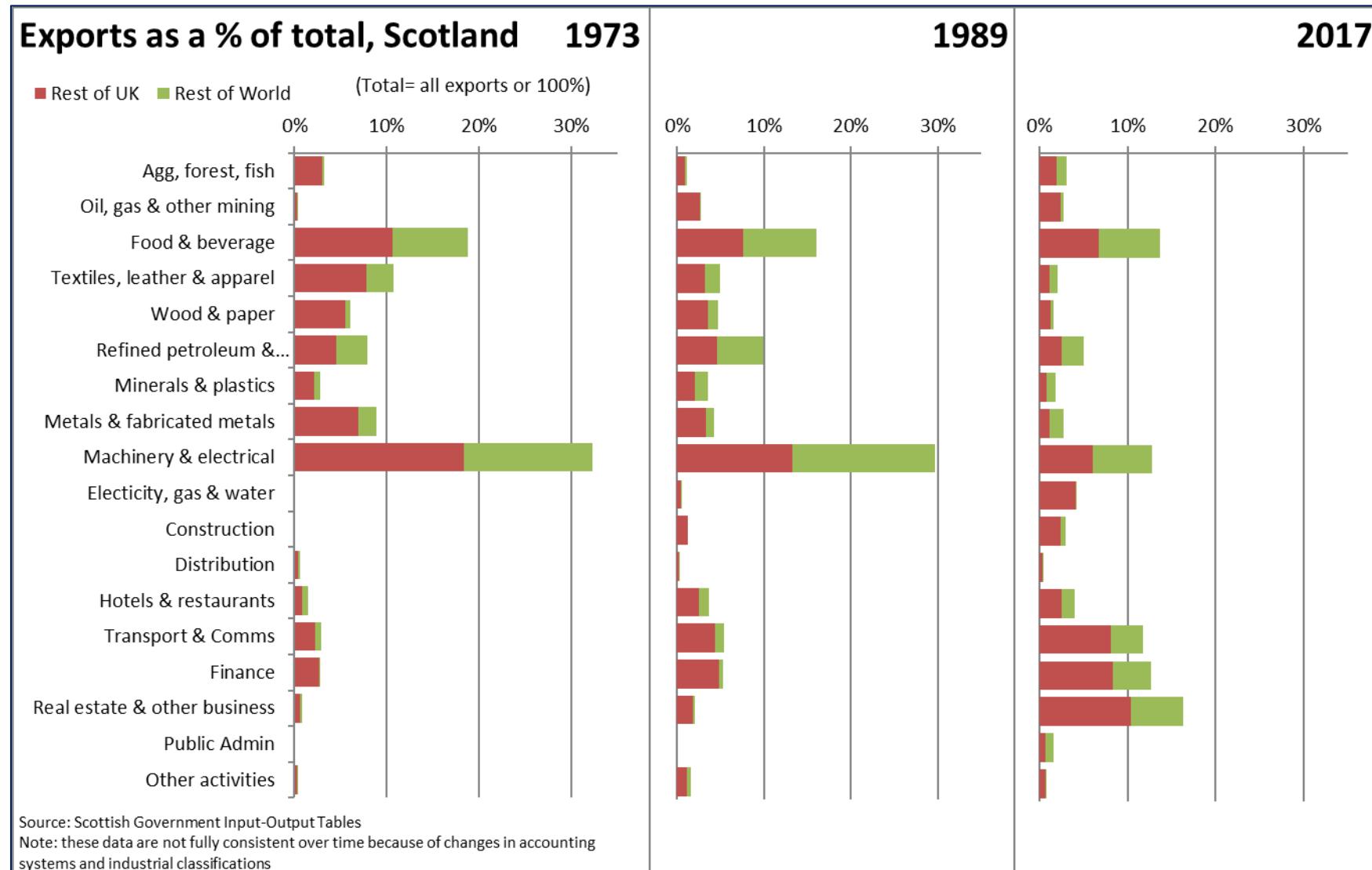
- Economic growth in Scotland in the decade following the financial crisis has been relatively subdued during which the economy was significantly impacted by a range of global headwinds reflecting global trade and the oil price shock from 2014.
- The average GDP growth rate between 2000-2019 was 1.4%, however between 2000–2007, it was 2.4% and fell to 0.7% between 2008-2019.
- The pandemic and necessary restrictions have had a significantly sharper impact on economic output in 2020 compared to the financial crisis though the nature and drivers of the financial crisis were very different.
- Scotland's growth rate in Scotland has only been outwith the 95% confidence interval (lower band) during the financial crisis and the pandemic. There is potential for it to rise outwith the upper band in 2021 as the economy rebounds back to pre-pandemic levels of output.



The structure of the Scottish economy has evolved significantly over the past c.40 years reflecting restructuring and increased openness and competition within the global economy.



Scotland's Exports Over Time

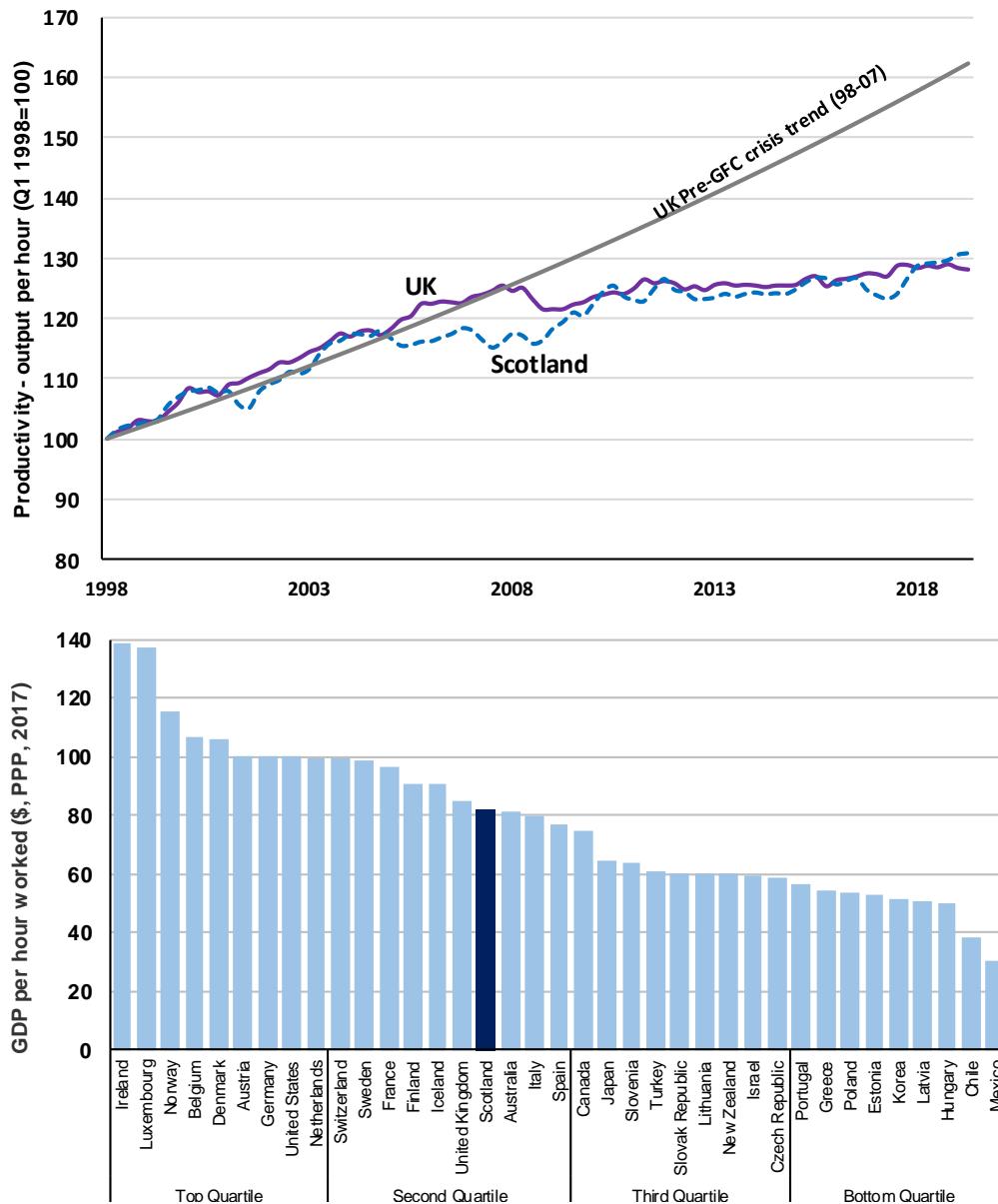


Economic Performance: Overview

National Performance Framework: Overview of Trends

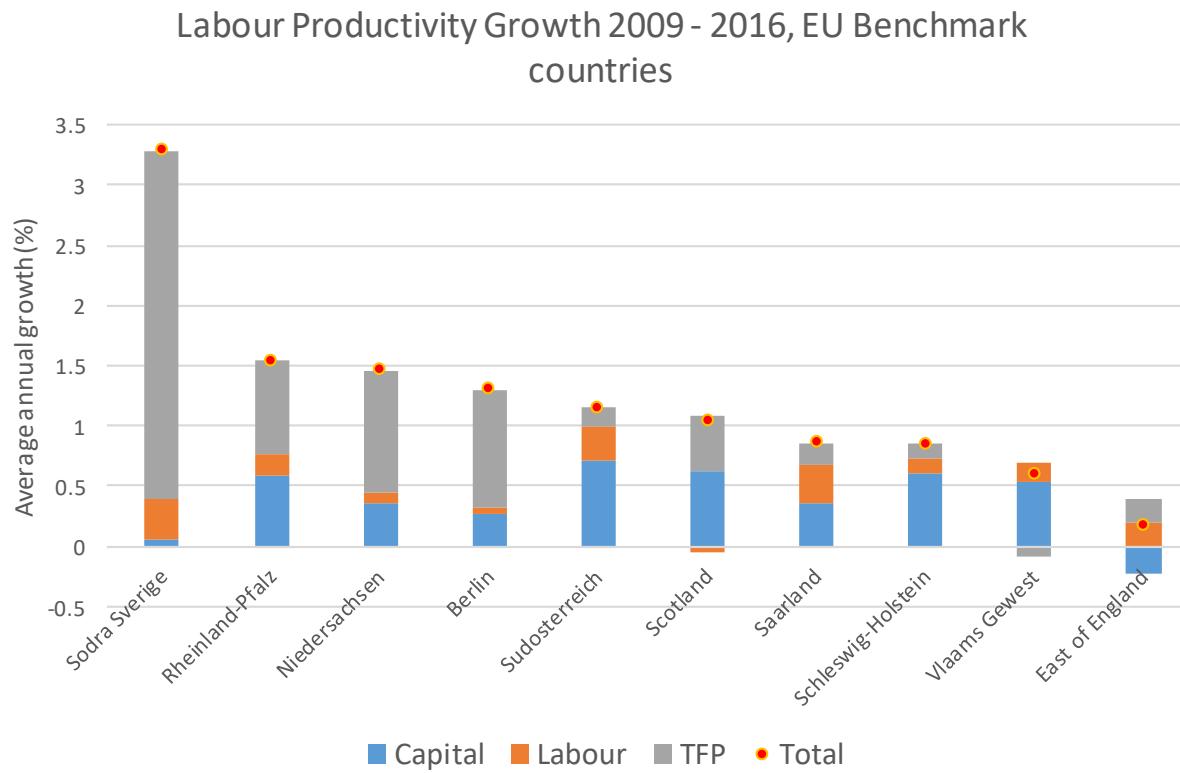
Indicator	Latest Performance	Direction
Productivity	In 2018 productivity levels in Scotland were 83.8% of the lowest level in the top quartile (France).	
International exporting	Exports increased in almost every year between 2010 and 2018 (2014 was the exception) and in 2018, were 38.7% higher than in 2010.	
Economic growth	The annual GDP growth rate of Scotland was 0.4 percentage points lower than the average of the previous three years, indicating worsening economic conditions.	
Carbon footprint	Scotland's carbon footprint in 2017 was 70.7 million tonnes of carbon dioxide equivalent (MtCO2e). This is a decrease of 3.5 per cent over the year.	
Natural capital	The Natural Capital Asset Index (NCAI) was 102.6 in 2019 and generally appears to have remained relatively stable since 2000.	
Greenhouse gas emissions	In 2019, Scotland's GHG Account for assessing progress to statutory targets, indicated a reduction of 51.5 per cent.	
Access to superfast broadband	Since January 2014, superfast broadband access for residential and non-residential premises in Scotland has increased by 35 percentage points from 59.3% to 94.7%.	
R&D spend	Spending on research and development in Scotland increased between 2007 and 2018, from an estimated 1.24% of GDP in 2007 to 1.65% of GDP in 2018.	
Income inequality	Income inequality has consistently been fluctuating over time with no clear trend.	
Entrepreneurial activity	The Total Early-stage Entrepreneurial Activity (TEA) rate in Scotland increased by 0.9 percentage points between 2018 and 2019 to 7.2%, and has risen 2.2% since 2002.	

Scotland's Economic Competitiveness: Productivity



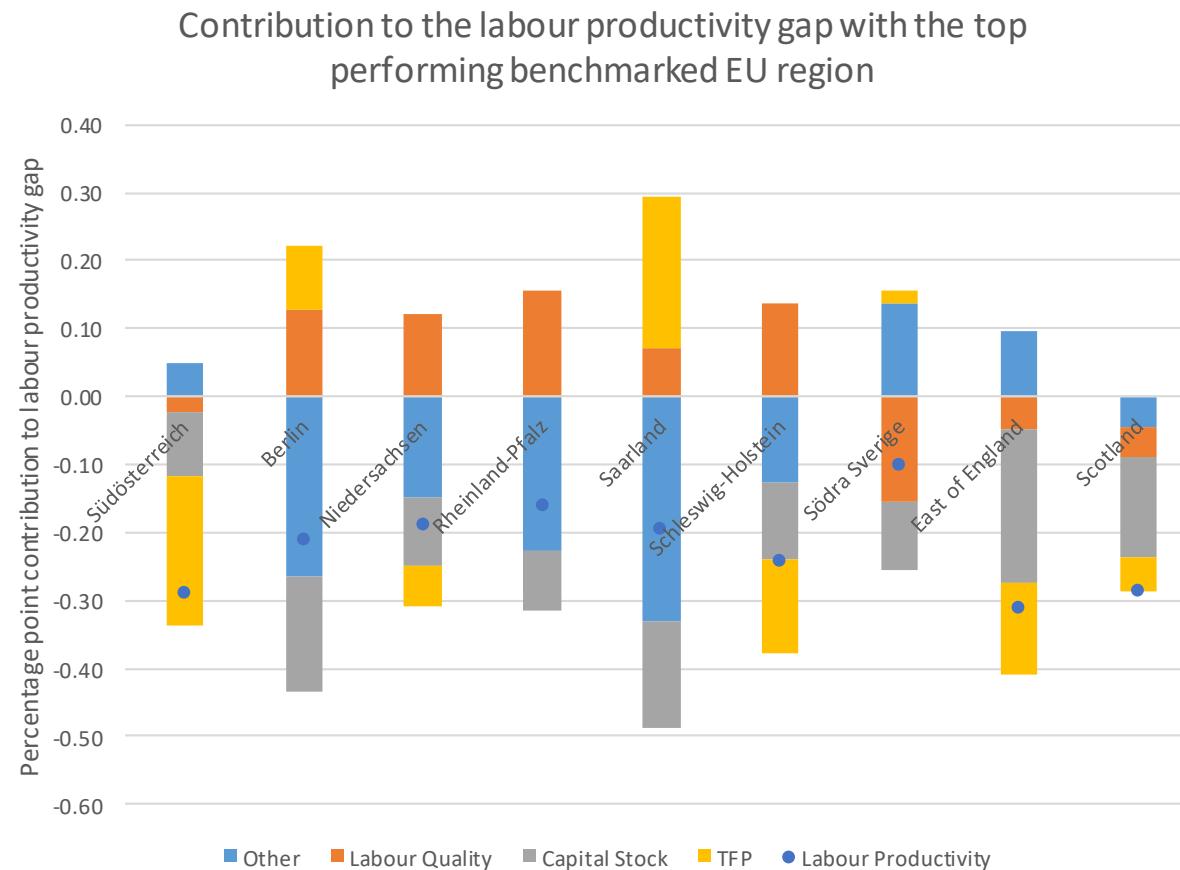
- Productivity, generally measured as output per unit of labour, is one of the headline measures of economic performance and competitiveness. The National Performance Framework tracks Scotland's Rank for productivity against key trading partners in the Organisation for Economic Co-operation and Development (OECD).
- Productivity growth has slowed across all developed nations and has particularly struggled since the global financial crisis. In the NPF, Scotland's rank for productivity has remained 16 out 37 in the last six years to 2018.
- A range of issues contribute to Scotland's slow productivity growth:
 - shift from manufacturing to low productivity services;
 - lower business investment;
 - slowing reallocation across firms and jobs;
 - rising concentration of market power / declining competition;
 - rising inequalities of income and wealth;
 - a slowing in the rate and rising costs of innovation.
- Our aim is to move to the top quartile of OECD countries (NPF target). Whilst we have made progress in closing the productivity gap with the UK, the gap remains largely unchanged compared to top performing OECD countries over last 2 decades.

Scotland's productivity performance benchmarked against EU comparator regions



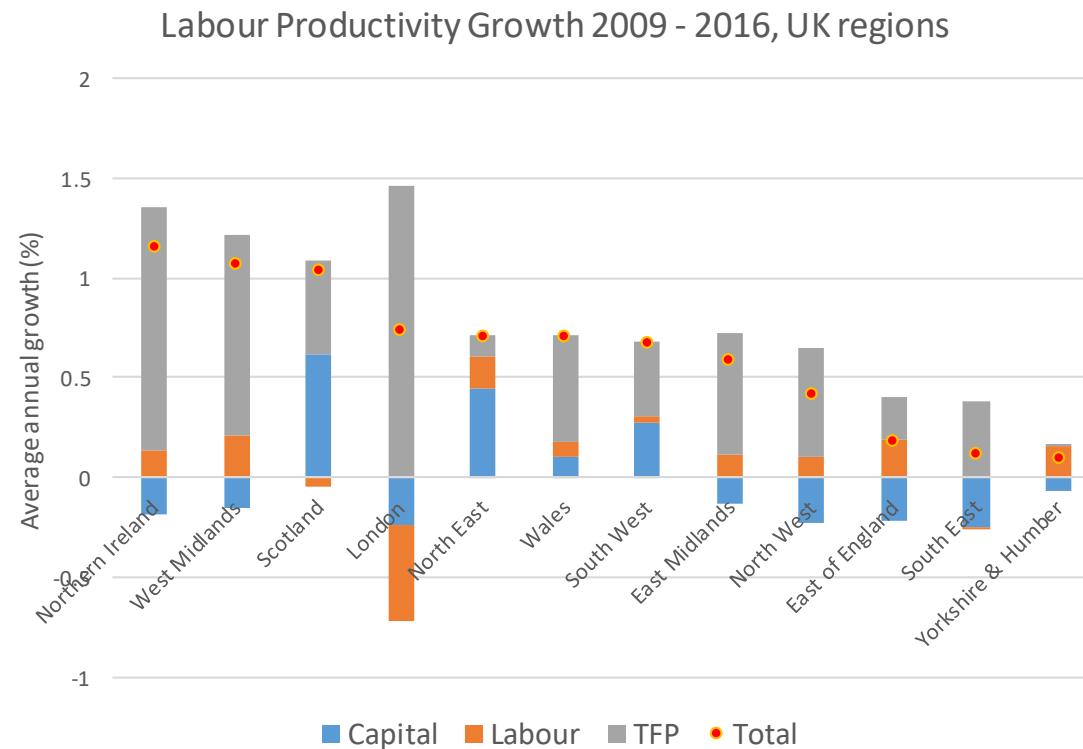
- Unlike most other comparator regions, Scotland has seen no recent impact on productivity growth from labour quality between 2009-2016. This is despite Scotland having one of the highest shares of tertiary education level in the comparator regions.
- Within the EU comparator regions, the role of capital driving productivity growth ranks in the middle.
- Scotland's capital per unit of labour [i.e. capital stock] is lower than the majority of regions in Belgium, Germany, the Netherlands, north of France, Ireland and Nordic countries.

Factors contributing to the gap in performance against EU comparator regions



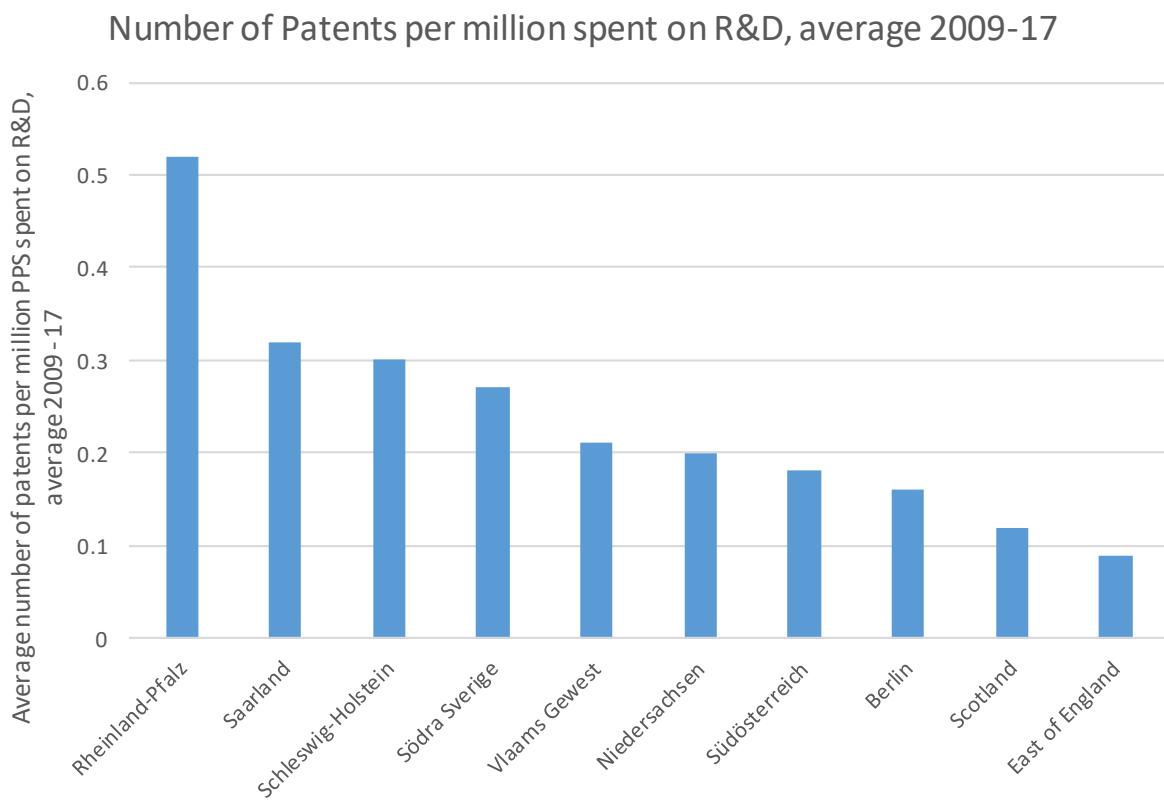
- Half of the gap between Scotland and the leading EU region can be accounted for by differences in capital.
- However, unlike any other EU comparator region, Scotland has productivity gaps in Capital, Labour Quality and Total Factor Productivity.

Scotland's productivity performance benchmarked against UK regions



- Scotland's labour market performance compares favourably with other parts of the UK and has closed the productivity gap with the UK as a whole.
- This improvement has been driven by Scotland's relatively stronger performance on capital over this period, along with Total Factor Productivity.
- Scotland and the UK have relatively high FDI - but this does not (yet) show through in productivity performance.

Understanding Scotland's Total Factor Productivity growth

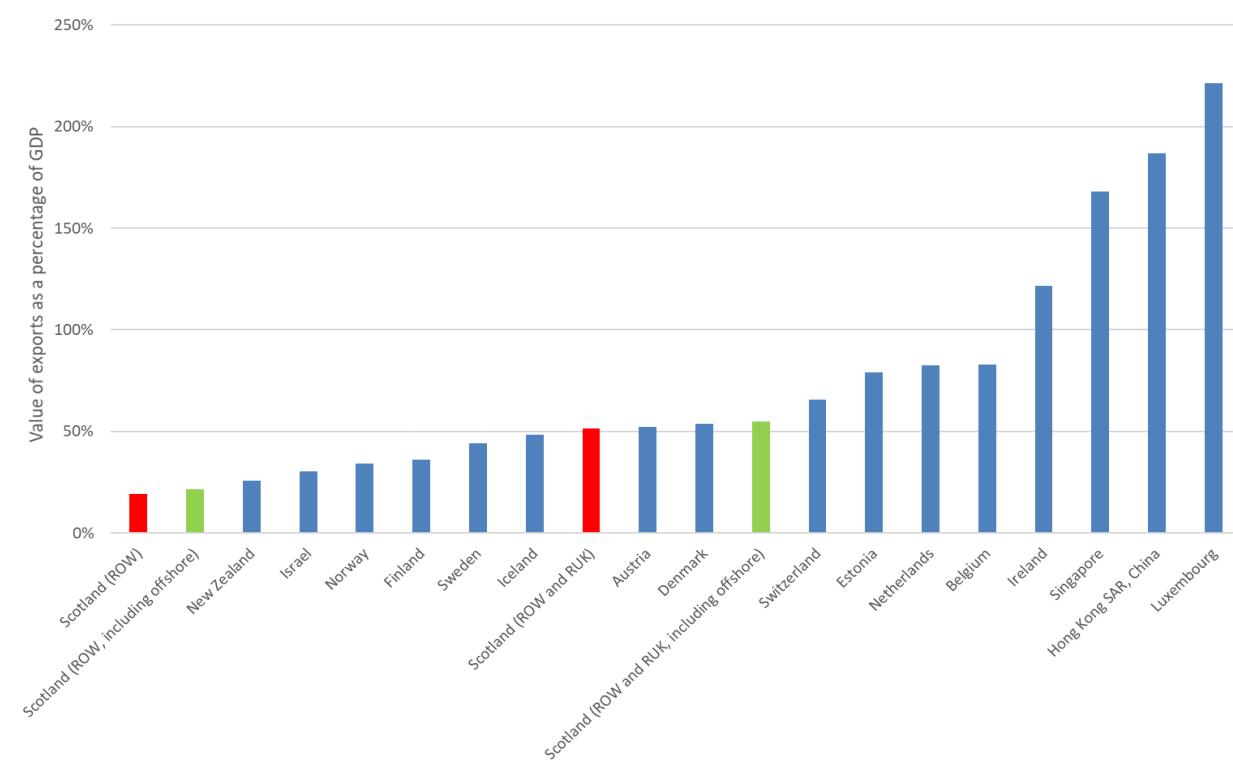


- Scotland has a high share of R&D spend going in HE and Government and overall has a poor ratio of R&D spend to patents, particularly for business.
- The results for Scotland show a direct impact of R&D intensity on TFP growth.
- In the case of Scotland this is statistically significant and economically more important than the average in our sample of regions.
- Results show a statistically significant impact from increasing the share of R&D expenditure on GDP, well above that found in the referenced literature, but this is not matched for human capital.
- However, in Scotland this R&D intensity does not lead to technology transfers away from the leading firms to less productive ones as the human capital gains made by the most productive firms are not transferred onwards from these leading firms.

Performance on Productivity Drivers: Trade & Investment

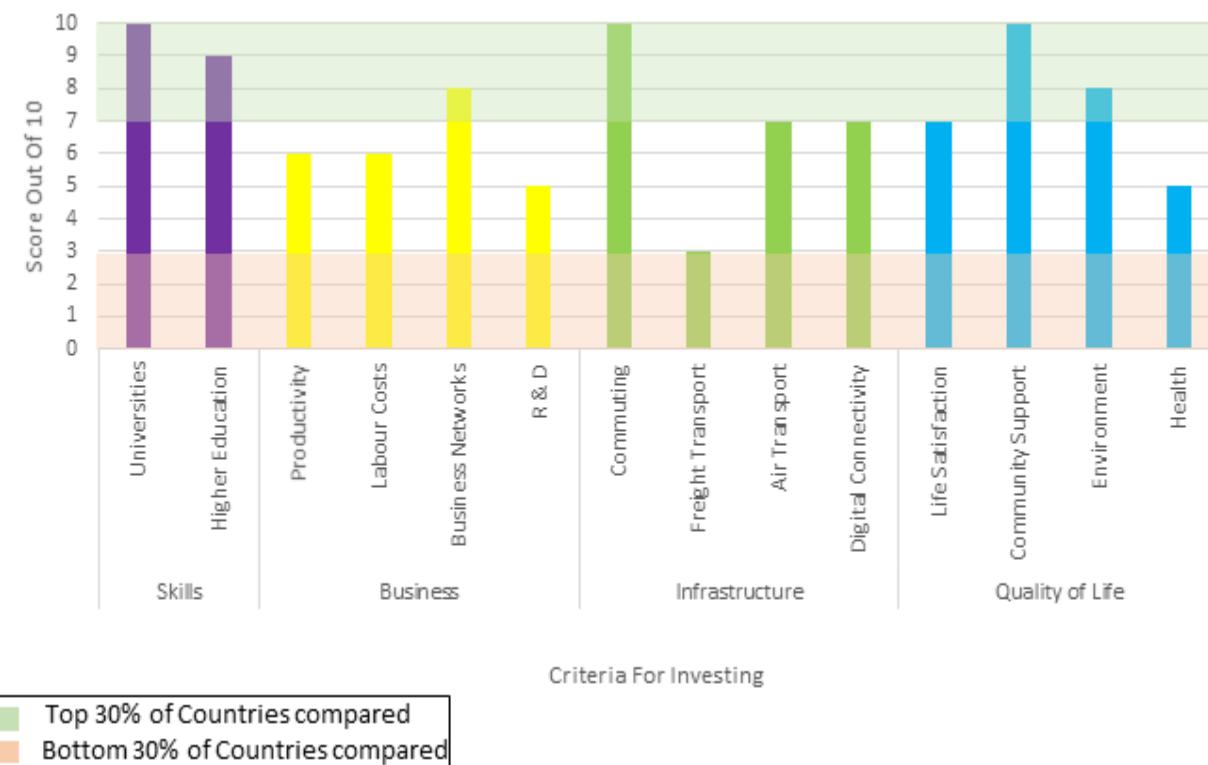
- The Inward Invest Plan analysis gave Scotland a score out of 10 for a range of factors that affect inward investment attractiveness (competitiveness). This is based on how well Scotland compared to the other countries (a score of ten was allocated if Scotland ranked in the top decile, in the second decile a score of 9 and so on).
- Scotland performs well on a number of measures, particularly in relation to skills and quality of life, but is in the middle range in terms of some of the business measures and health, and performs poorly in terms of air freight transport links.

Exports as a percentage of GDP; selected small, advanced economies



Source: Scotland's Export Growth Plan: Methodology Note, OCEA

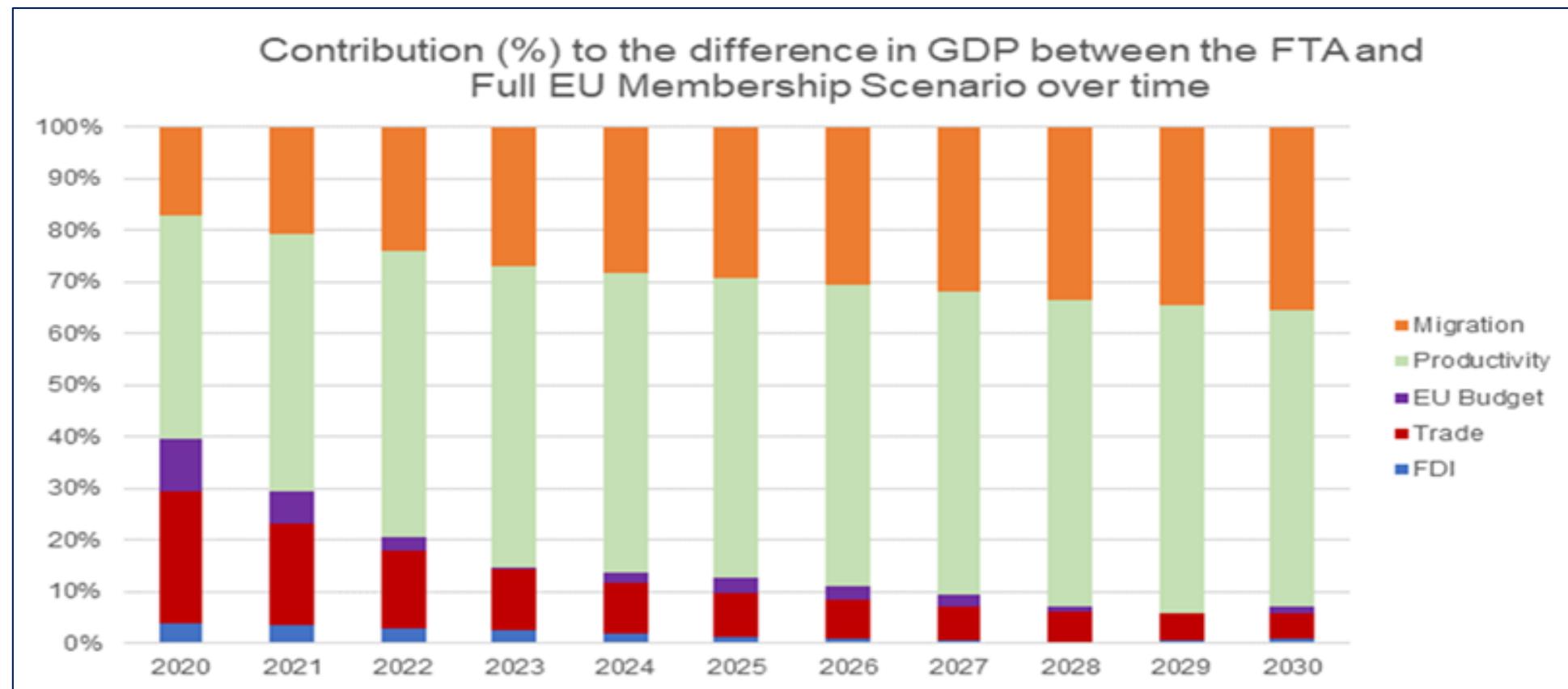
Comparing Scotland's attraction factors for inward investment



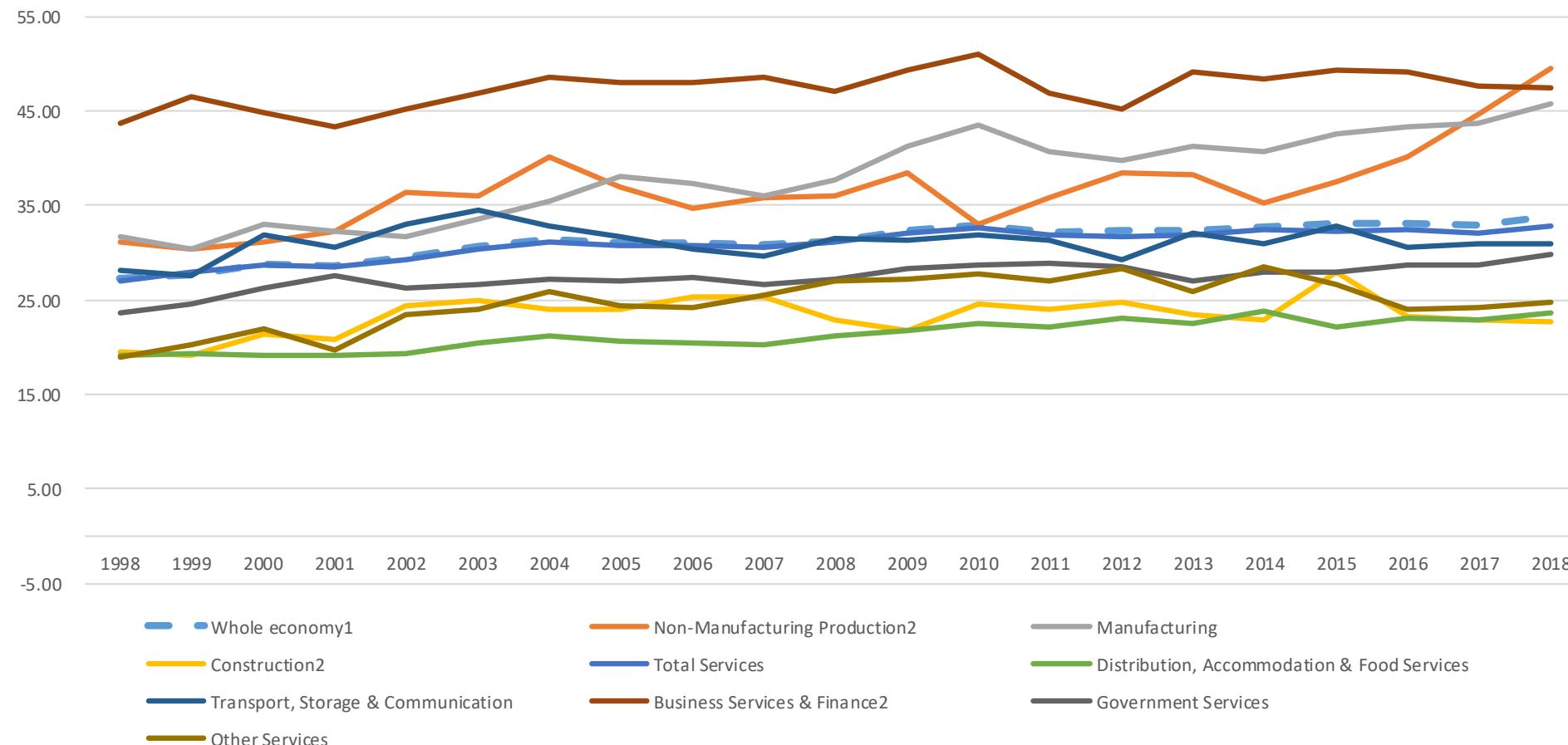
Source: Inward Investment Plan: Methodology Note, OCEA

Scotland's Competitiveness: Impact of EU Exit

- EU exit will continue to impact the economy via migration and labour supply, productivity, trade and investment.
- In the short term, we have already seen the impact of disruption to trade flows and border delays.
- In the long term, productivity impacts and migration become more important drivers of growth forgone. In the longer term, EU Exit will mean a permanently smaller economy, relative to remaining in the EU.



Real GVA per hour by Broad Industry Grouping

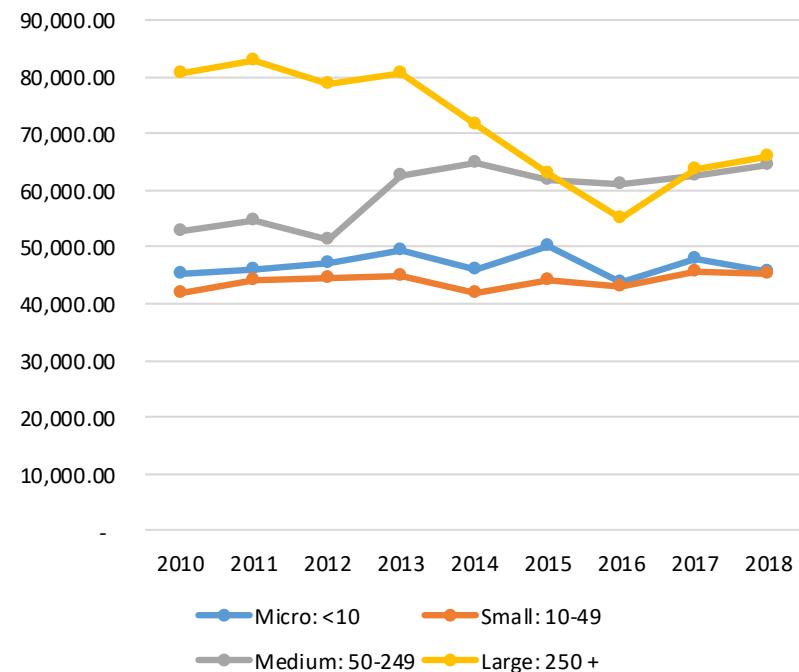


Scotland's productivity performance varies significantly across sectors. The majority of Scotland's broad industry groups perform below the national average

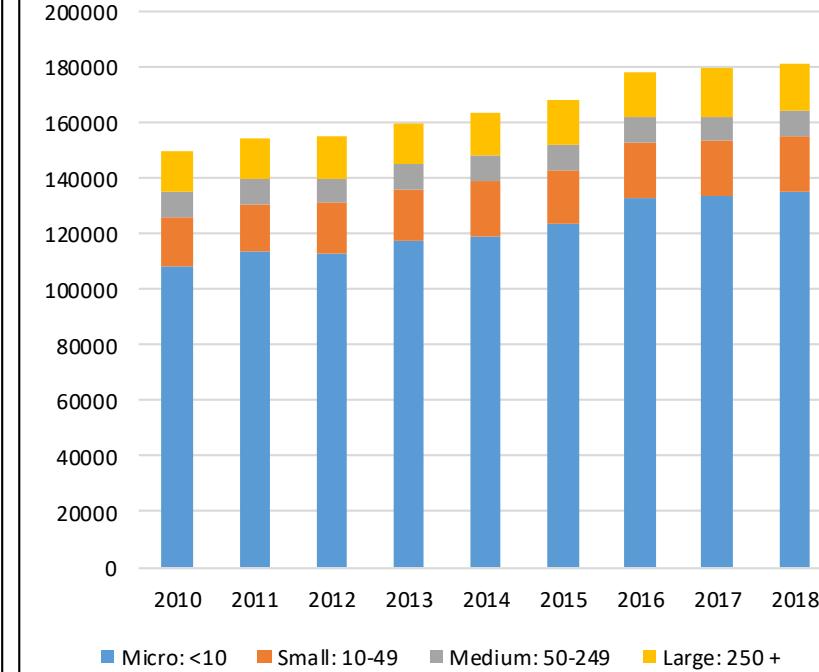
- Only non-manufacturing production (primary industries and utilities), businesses and finance and manufacturing perform above the national average (Scotland's areas of strength on productivity performance).

Economic Structure: Size Distribution of Private Businesses

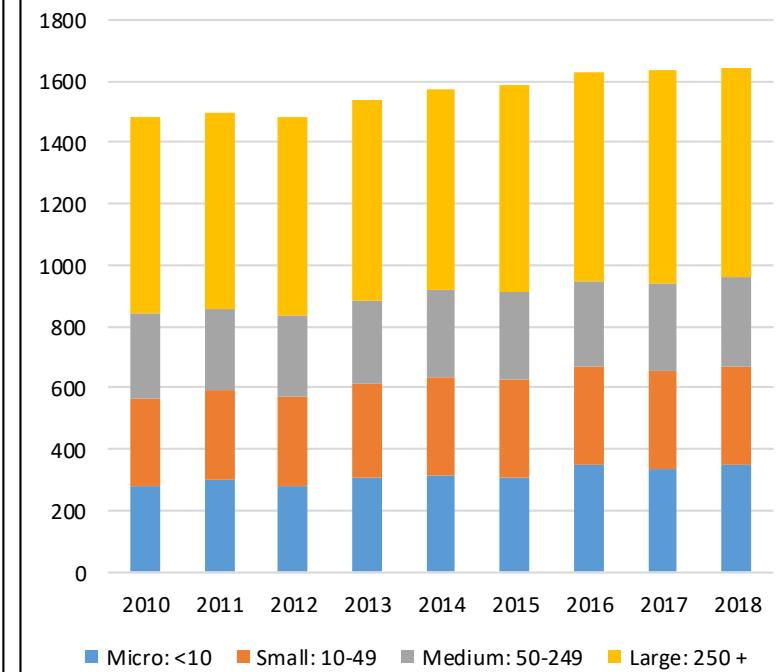
Real GVA per Worker, 2010-2018



Number of business unit, 2010-2018



Employment '000s, 2010-2018



While productivity levels for large businesses have declined since 2013, there remains a significant gap between smaller SMEs (micro & small) and the medium and large businesses

The smaller SMEs account for the vast majority of our business base

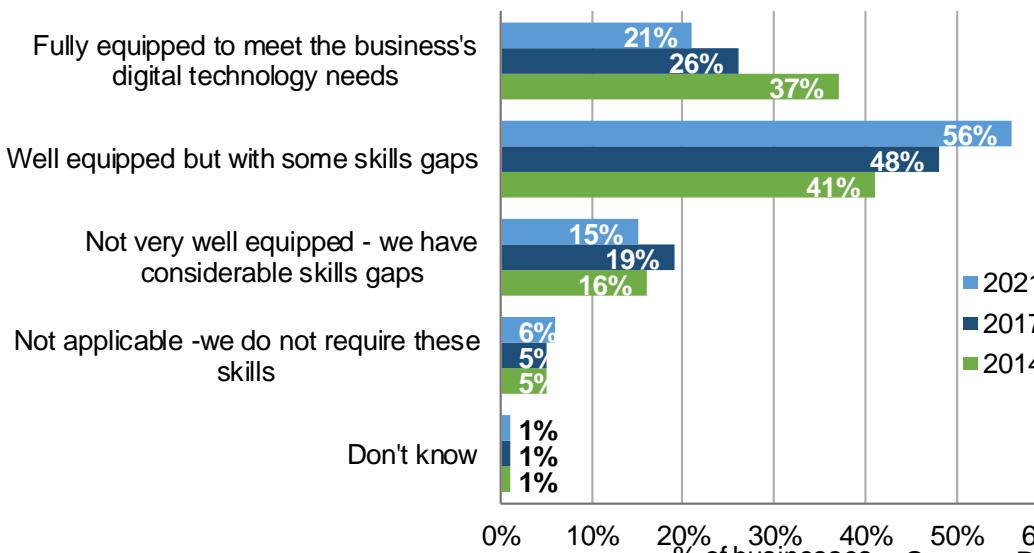
- Micro and small business account for 85% of Scotland's private sector business base (with above exclusions)

While the micro and small businesses account for a smaller share of private sector employment, 40% is significant for productivity improvements to have transformational impact on wellbeing

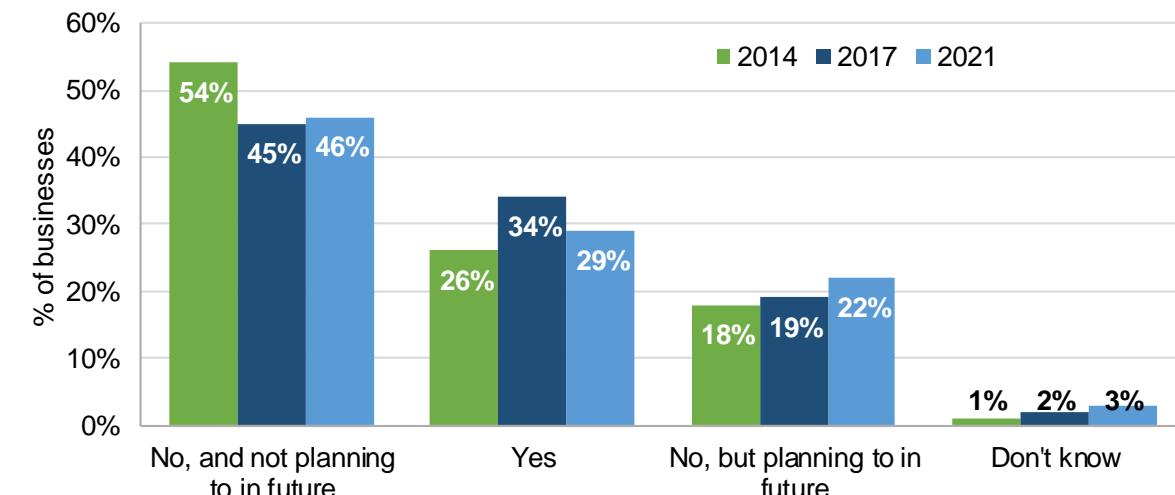
Digital Skills will be increasingly important

- The proportion of businesses that feel their staff are *fully equipped* to meet digital technology needs has decreased since 2014, but the proportion that feel staff are *well equipped* is increasing. Businesses in Agriculture and Hotels/Restaurants were most likely to report considerable skills gaps in 2021.
- Of business reporting skills gaps, 23% were not able to identify specific skills for improvement. Commonly cited skills requiring improvement include basic technology skills e.g. email, internet navigation, Microsoft Office (26%), cyber security skills (11%), software skills (10%), web development skills (5%) digital marketing (6%), general business and commercial skills (5%) and coding skills (4%).
- Amongst businesses with relevant skills gaps who were not taking action to address this, the most commonly cited barriers include resource/time constraints, and costs.

How equipped staff as a whole are in terms of skills to meet the business' digital technology needs (%)



Whether the business is taking any action to develop its current employees' digital technology skills, for example by providing training (%)



Source: Digital Economy Business Survey, 2021.
(Sample: 2014 = 4,002; 2017 = 3,258; 2021 = 3,346)

Digital Infrastructure (1)

- Fixed and mobile networks in Scotland have generally coped well with increased demands during the pandemic despite increased demand on broadband and mobile networks.
- The number of premises in Scotland without access to at least decent broadband continues to shrink (2020 estimate: 1.2%)
- **Superfast broadband** (minimum download speed of at least 30 Mbit/s) coverage increased to **94% of homes in Scotland** in 2020, up from 92% the previous year. It is estimated that around 57% of premises able to access superfast broadband now take a superfast or faster service.
- Almost 1.1 million (**42%**) homes in Scotland have access to a **gigabit-capable broadband connection** – as well as delivering download speeds of up to 1 Gbit/s, these services offer faster upload speeds and are more reliable than older broadband technologies.
- Over 437,000 (**17%**) premises in Scotland now have access to **full-fibre broadband** – an increase of over 238,000 premises and the highest year-on-year increase seen so far.
- While Scotland performs well in terms of 4G coverage by premises compared to other UK nations, a much greater proportion of Scotland's landmass is without coverage.

Fixed Broadband Connectivity, % of Residential Premises			
	Superfast Coverage	Full Fibre Coverage	Gigabit Capable
Scotland	94%	17%	42%
England	96%	16%	25%
Northern Ireland	89%	56%	56%
Wales	94%	19%	19%
UK	96%	18%	27%

Source: Ofcom Connected Nations Annual Report 2020

Indoor premise 4G coverage by UK nation (all operators)	
Scotland	81%
England	81%
Northern Ireland	65%
Wales	73%
UK	80%

Source: Ofcom Connected Nations Annual Report 2020

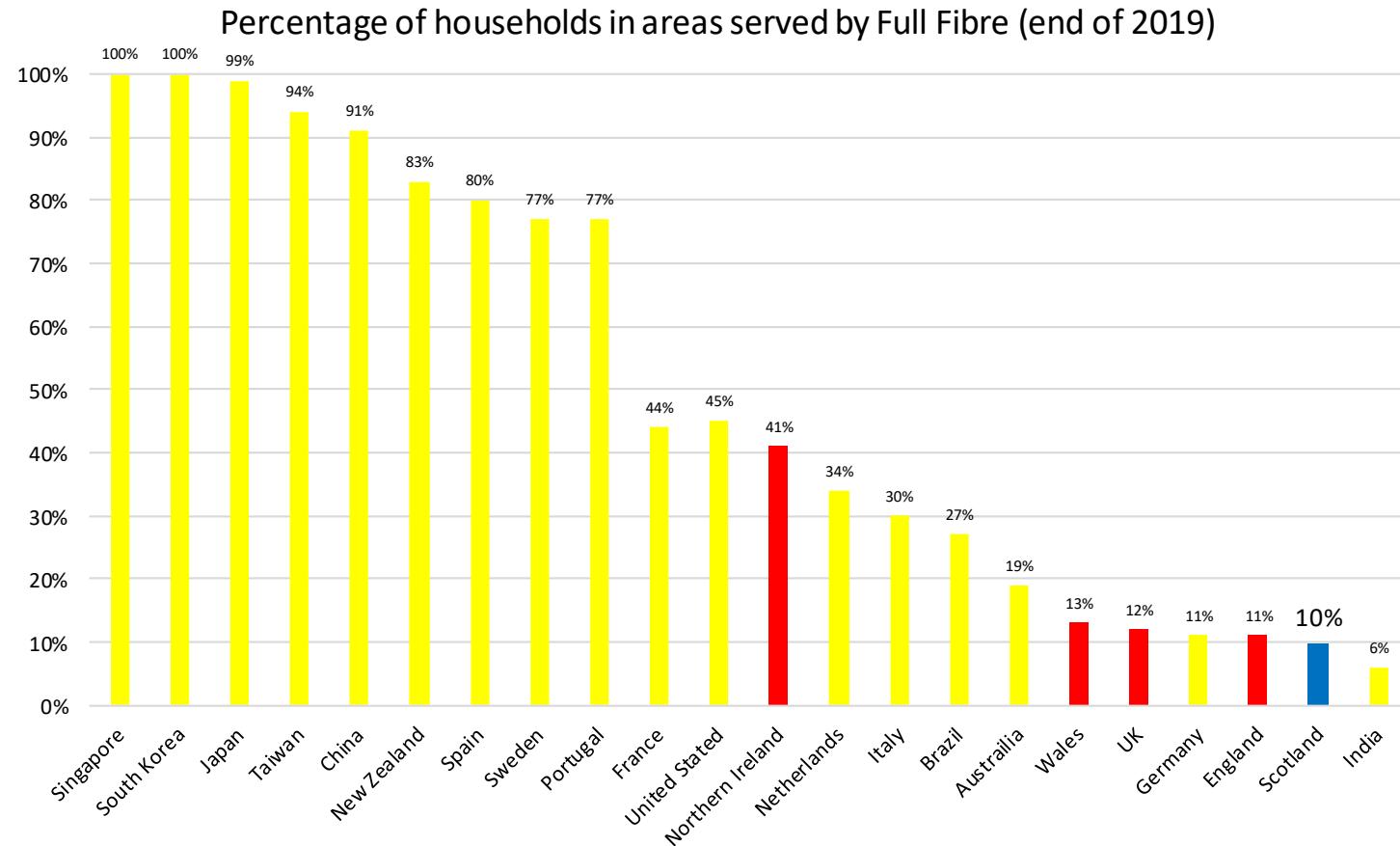
4G Not Spots - UK	
	Proportion of Landmass without 4G Coverage
Scotland	19%
England	3%
Northern Ireland	3%
Wales	10%

Source: Ofcom Connected Nations Annual Report 2020

Source: Ofcom Connected Nations, September 2020

Digital Infrastructure (2)

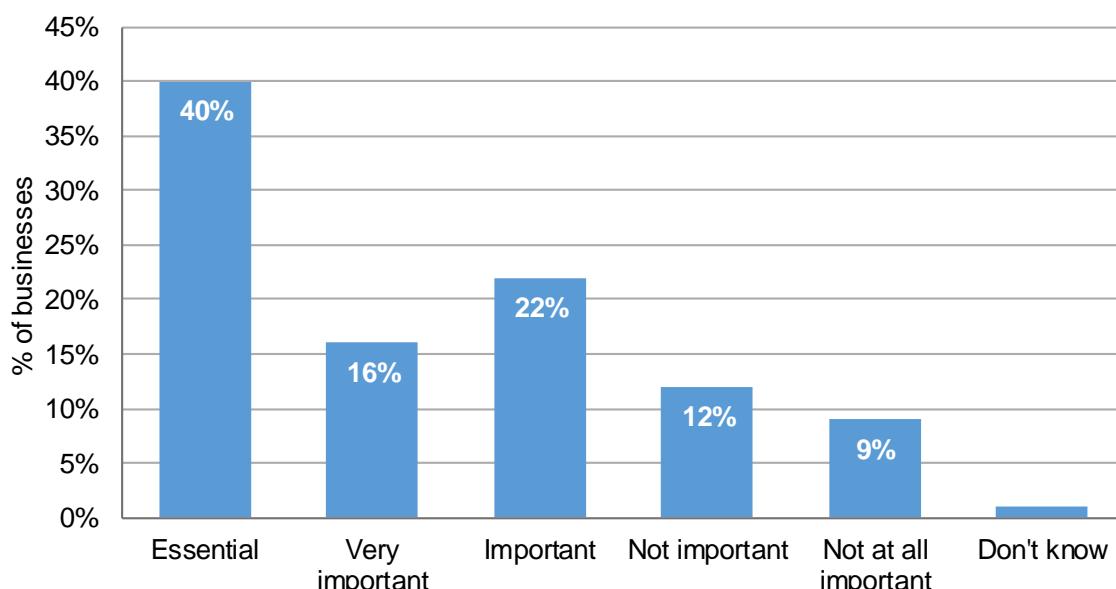
- Data suggests that Scotland (and the UK as a whole) lags behind a number of other nations with regards to Full Fibre coverage. Full Fibre infrastructure offers a degree of future proofing in digital connectivity, and can offer download speeds of up 1,000 Mbit/s.
- Note that this data is accurate to the end of 2019 – since then, Full Fibre coverage in residential premises in Scotland has improved from 10% to 20% (as of Spring 2021).



E-Commerce & Digital Technology in the Pandemic

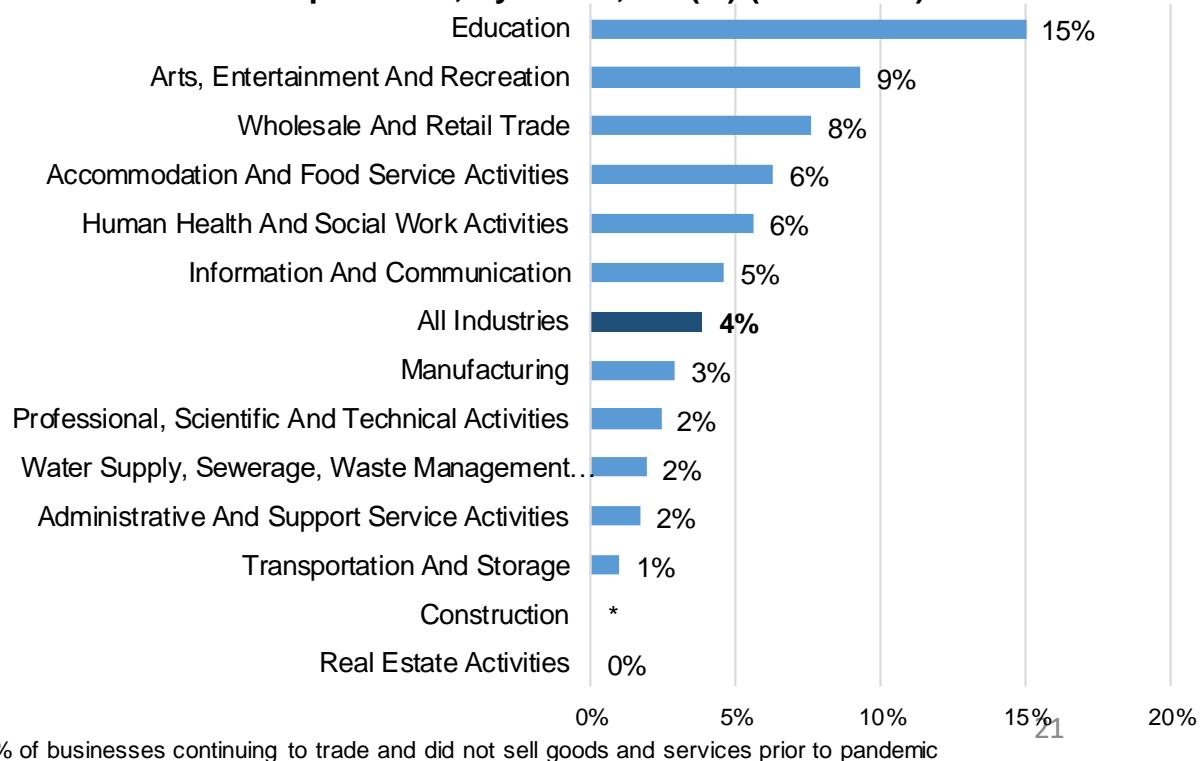
- As we have responded to the Covid-19 pandemic, the importance of digital connectivity, technology, and skills have become more apparent than ever - 40% of businesses reported that digital technology was essential to the operation of the business in responding to the Covid-19 pandemic, and 38% stated that it was important or very important.
- Many businesses have responded to this increased demand for online shopping by expanding their existing E-Commerce capability or began to sell online for the first time. According to ONS BICS, 4% of businesses in the UK started selling goods or services online for the first time during the pandemic. The Education sector saw the greatest proportion of businesses start to sell online (15%), followed by the Arts, Entertainment & Recreation (9%), and Wholesale and Retail Trade (8%).

Importance of digital technology to the current operation of business in responding to Covid-19 pandemic (%)

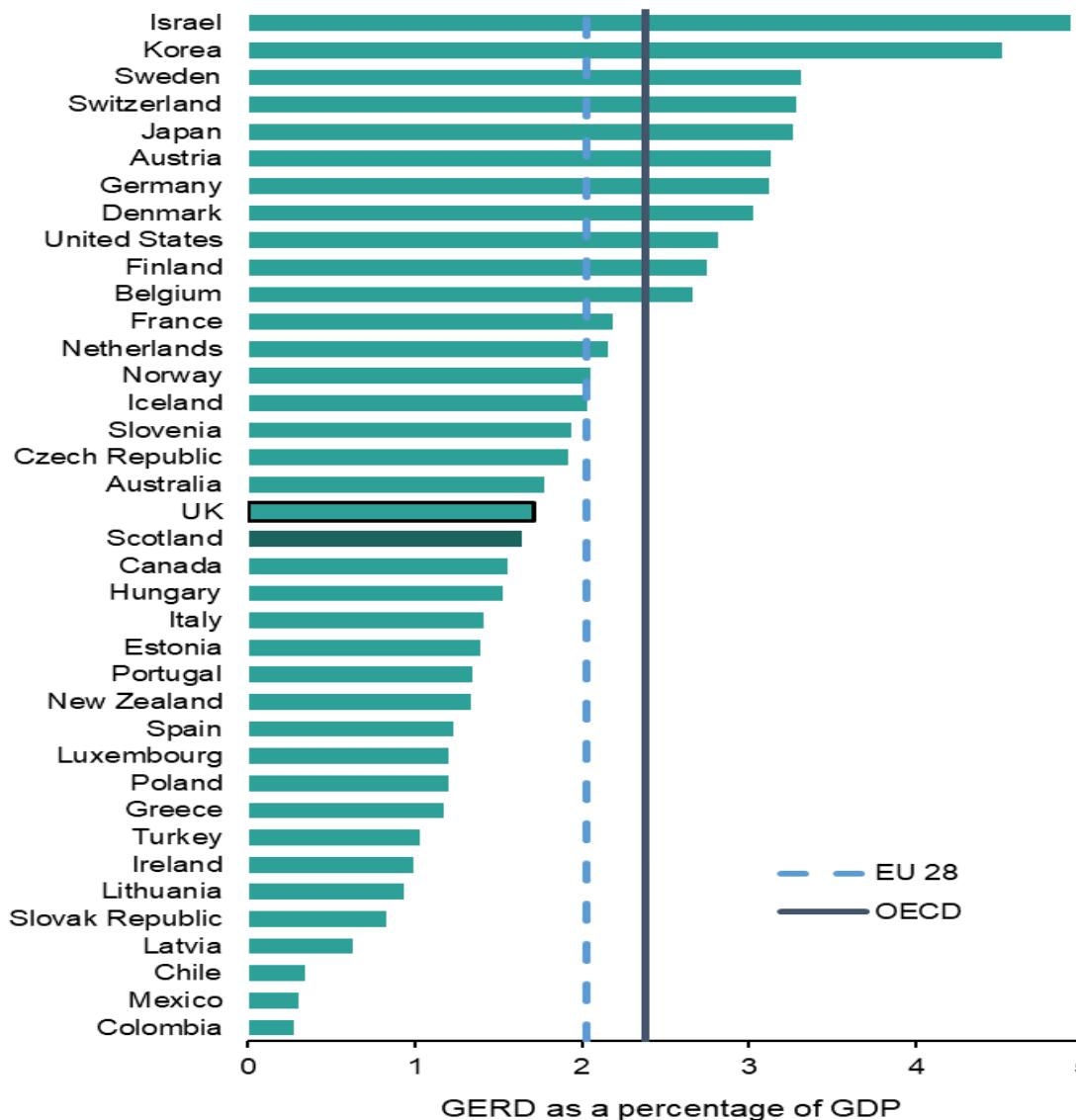


Source: Digital Economy Business Survey, 2021.
(Sample: 2021 = 3,346)

Business has started selling goods or services online during the COVID-19 pandemic, by sector, UK (%) (ONS BICS)

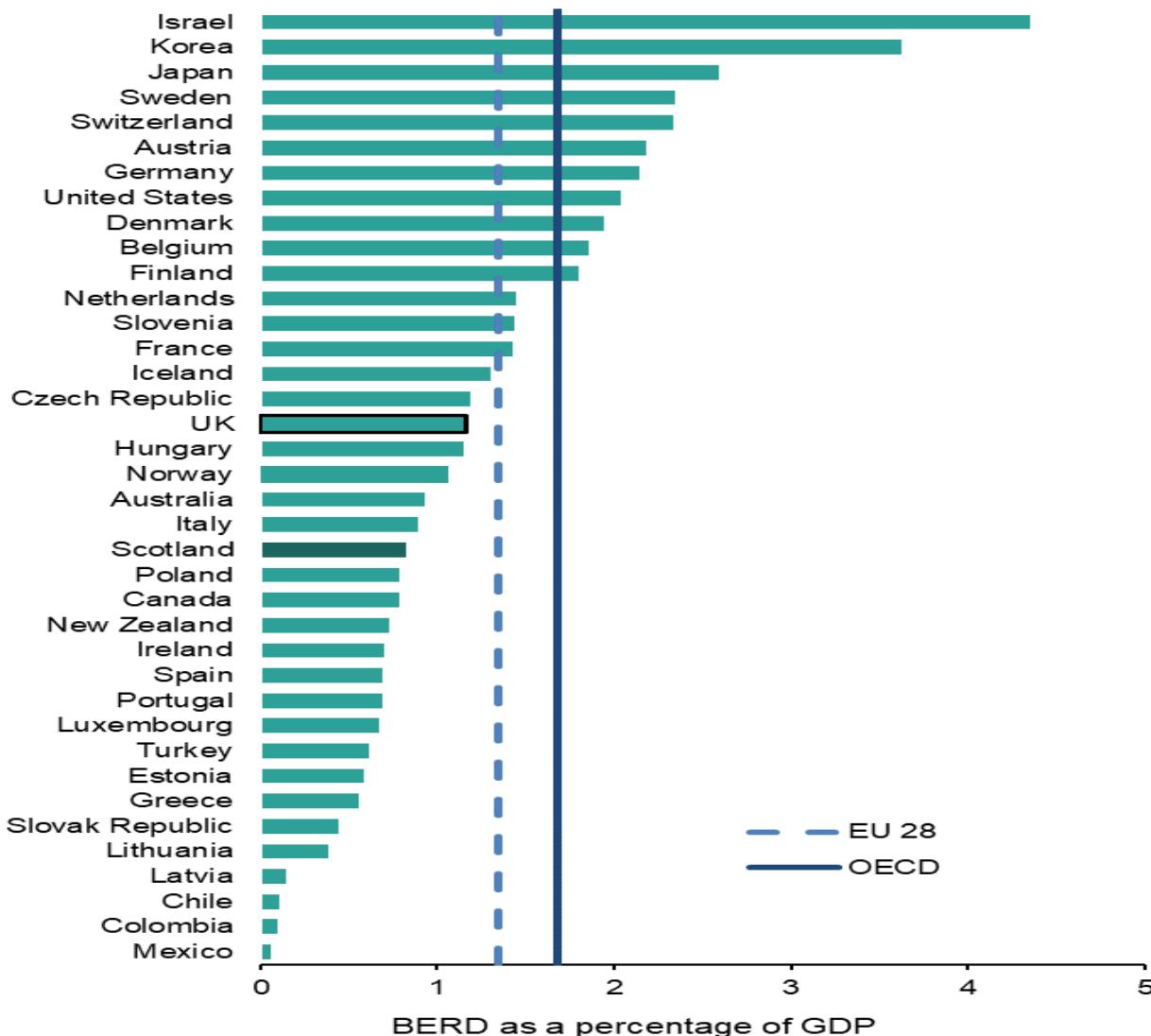


Scotland's Gross Expenditure on R&D (GERD)



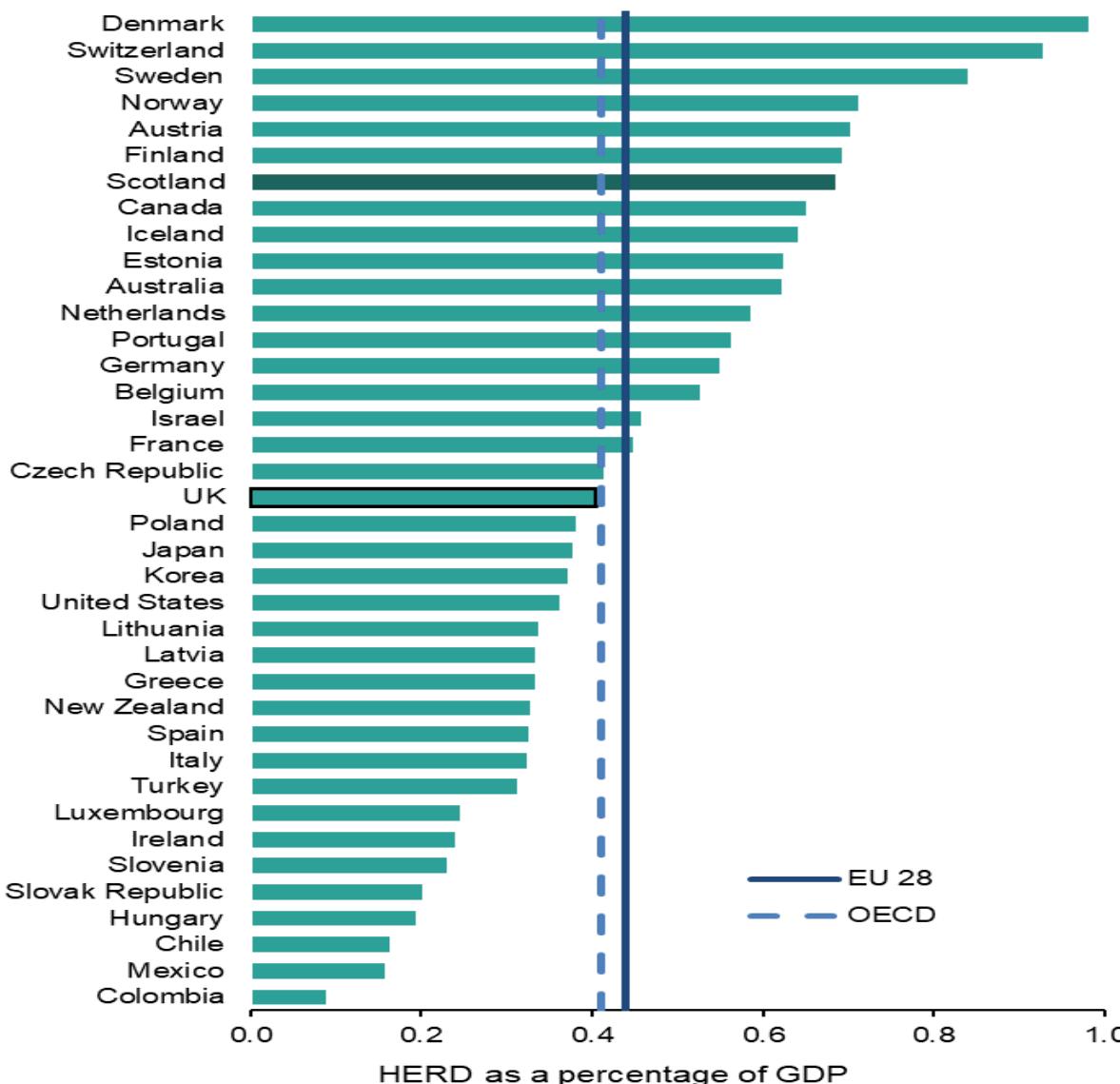
- Scotland's GERD was £2,706 million in 2018, 7.3% of the UK total. For Scotland this represents an increase of 4.4% in real terms on 2017.
- Scotland's GERD in 2018 represented 1.65% of Gross Domestic Product (GDP), below that for the UK (1.71%), the EU (2.03%) and the OECD (2.38%). Scotland's GERD as a percentage of GDP ranked in the third quartile of the OECD countries in 2018.
- The two main components of GERD are Business Enterprise (BERD) spend and Higher Education (HERD) spend. Compared to most other OECD countries, Scotland's HERD spend makes up a relatively large proportion of total GERD, whereas BERD spend makes up a relatively small proportion.

Scotland's Business Enterprise R&D (BERD) Spend



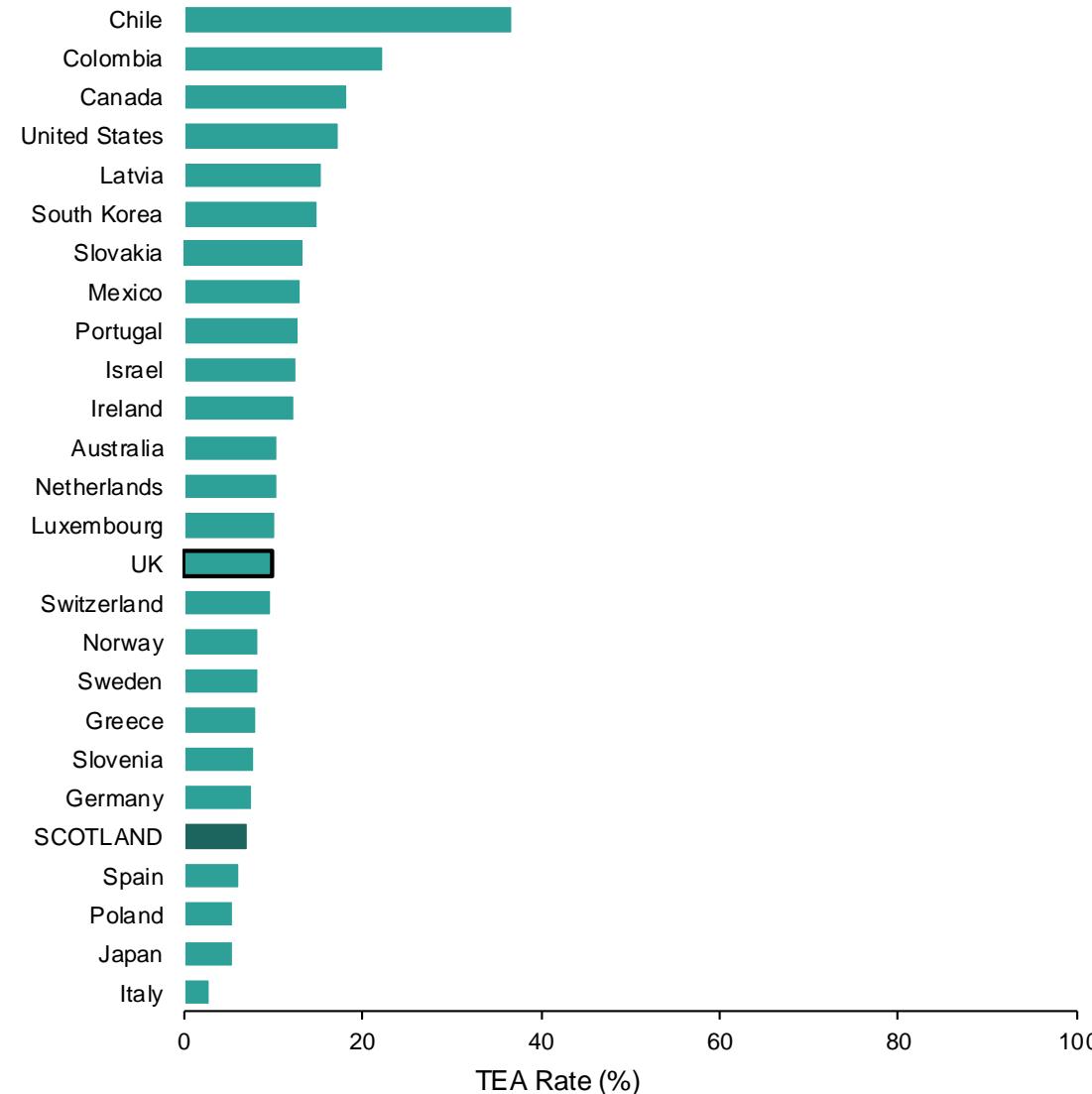
- Scotland has experienced relatively strong growth in BERD over recent years: Scotland's BERD spend was £1,356 million in 2018 - up 6.4% in real terms between 2017 and 2018, compared to a 3.9% real terms increase for the UK over the same period.
- However, Scotland's BERD spend is still relatively low compared with other countries. At 0.83%, Scotland's BERD spend as a percentage of GDP ranked in the third quartile of the OECD countries in 2018, well below the EU (1.34%) and OECD (1.68%) averages, whereas the UK ranked in the second quartile.

Scotland's Higher Education R&D (HERD) Spend



- Scotland's HERD spend was £1,126 million in 2018 – up 3.1% in real terms between 2017 and 2018, compared to a 5.3% increase for the UK.
- In 2018, Scotland ranked seventh among the OECD countries for HERD spend as a percentage of GDP, putting it in the first quartile, whereas the UK ranked in the second quartile. In 2018, HERD spend as a percentage of GDP in Scotland was 0.69% compared to 0.41% in the OECD.

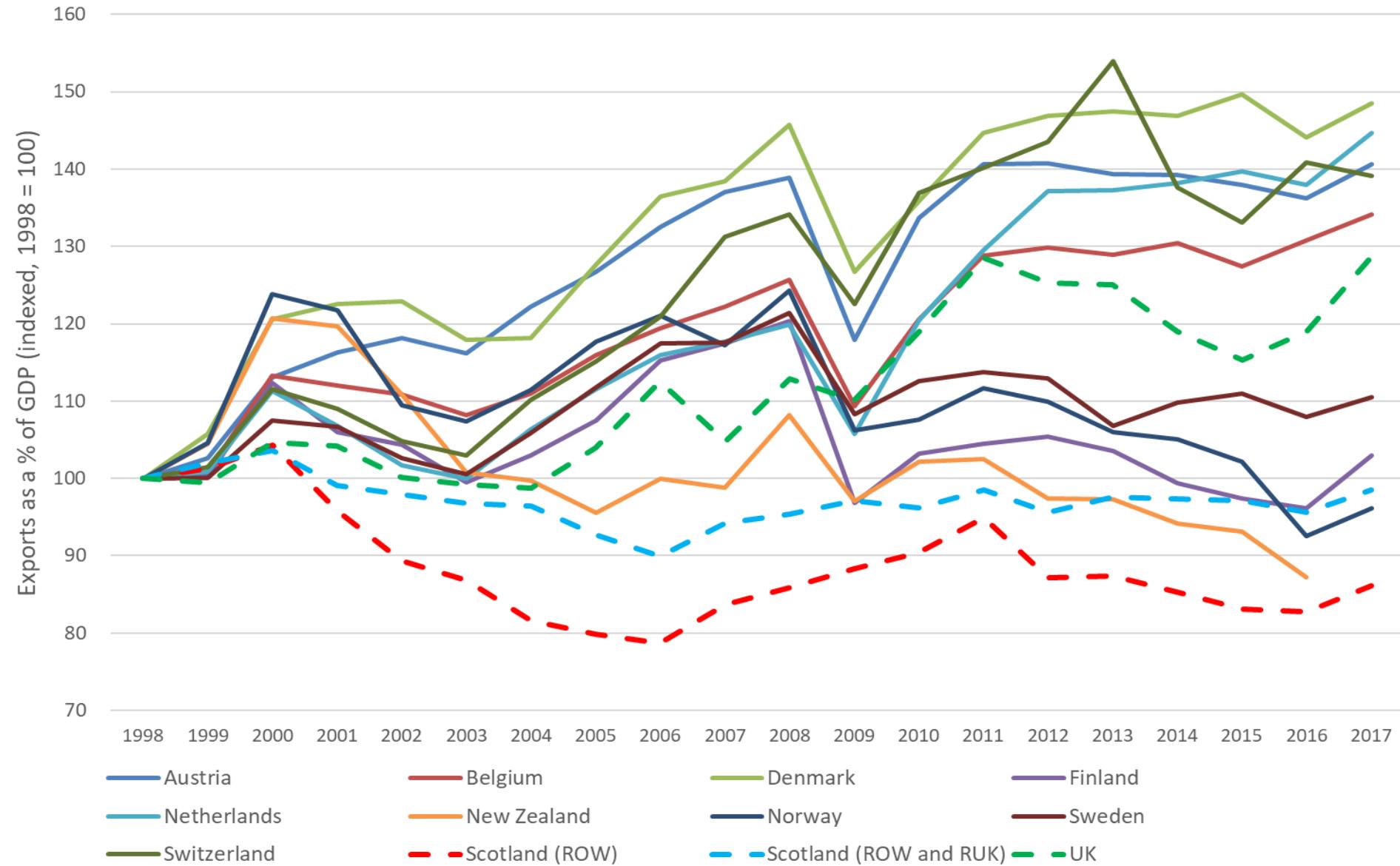
Scotland's Total Early-stage Entrepreneurial Activity (TEA) rate



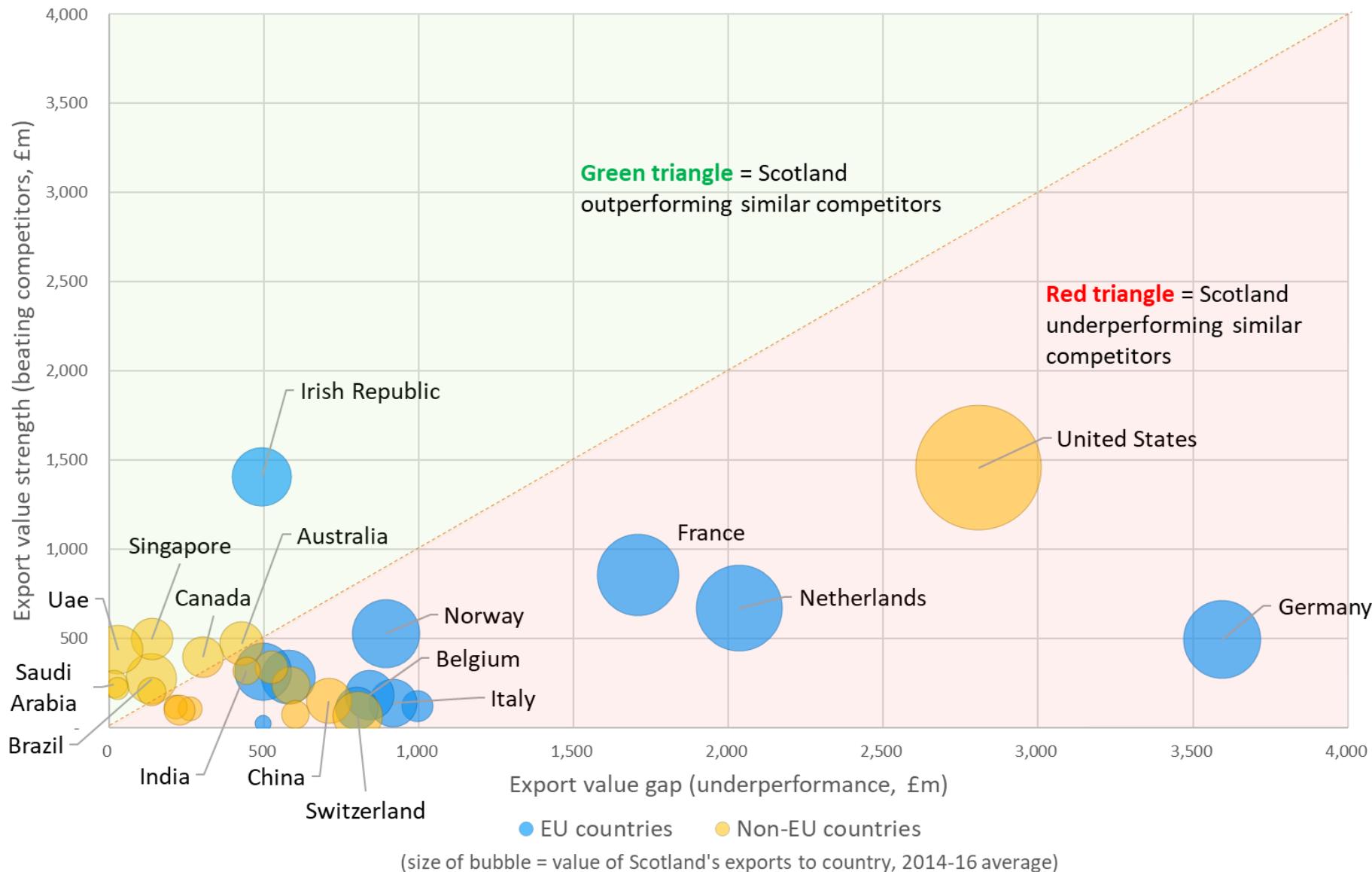
- The TEA rate measures the proportion of the adult working age population that is actively trying to start a business, or that own/manage a business which is less than 3.5 years old.
- TEA rate in Scotland increased by 0.9 percentage points between 2018 and 2019 to 7.2% - lower than the UK rate (9.9%) and lower than the rate of most other OECD countries that reported in 2019.
- TEA rates in 2019 were similar across the home nations of Scotland (7.2%), Wales (7.0%), and Northern Ireland (6.6%). The rate in England at 10.5% was significantly higher.

Exporting: Scotland is underperforming in international terms

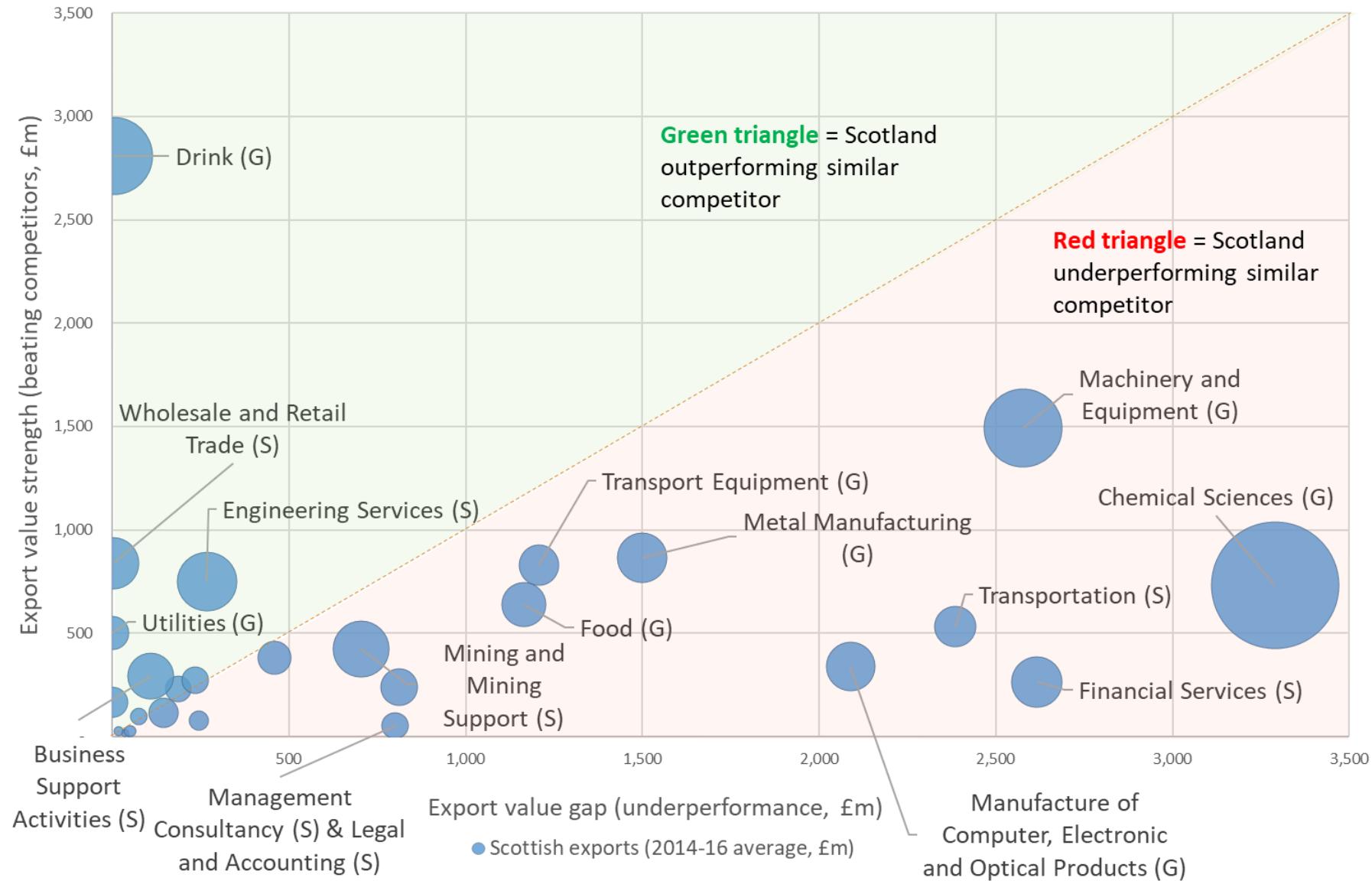
Country	Exports as % of GDP, 2016
Belgium	83%
Netherlands	82%
Switzerland	66%
Denmark	54%
Austria	52%
Scotland (ROW and RUK)	51%
Sweden	44%
Finland	36%
Norway	34%
United Kingdom	28%
New Zealand	26%
Scotland (ROW)	19%



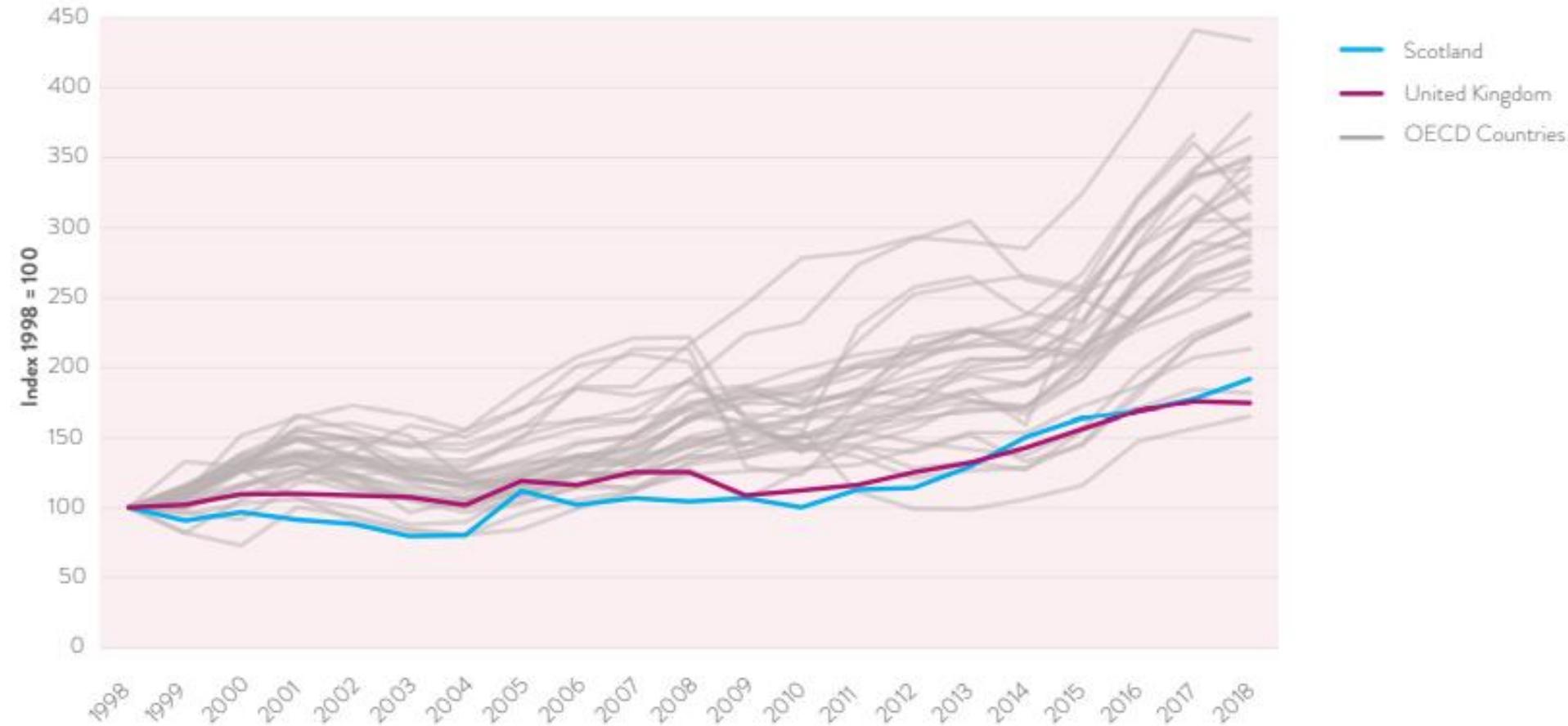
Scotland underperforms competitors in key markets



Scotland has star performers, weaker elsewhere

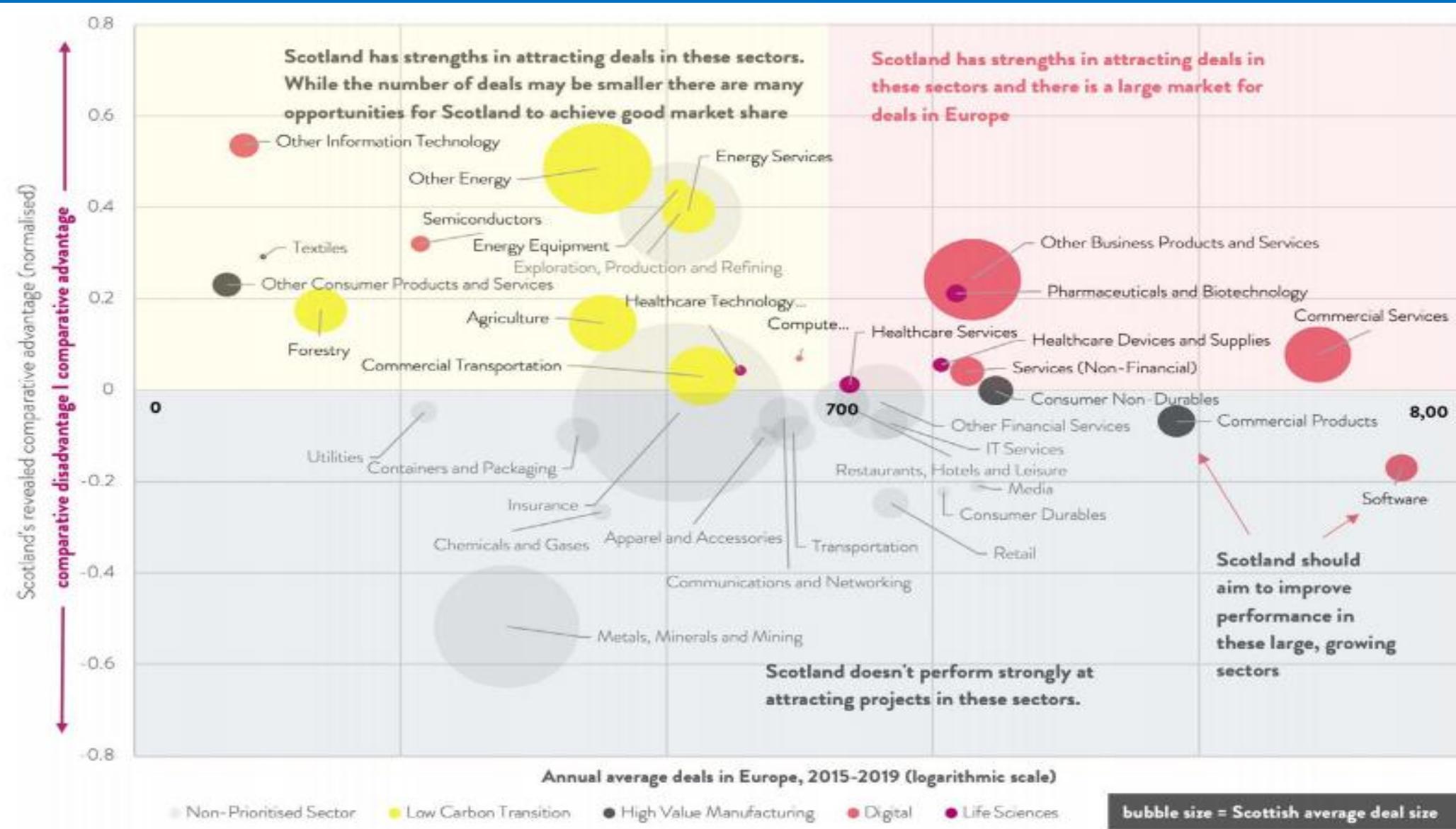


Business capital investment, comparing Scotland with the UK and other OECD countries (index 1998 = 100)



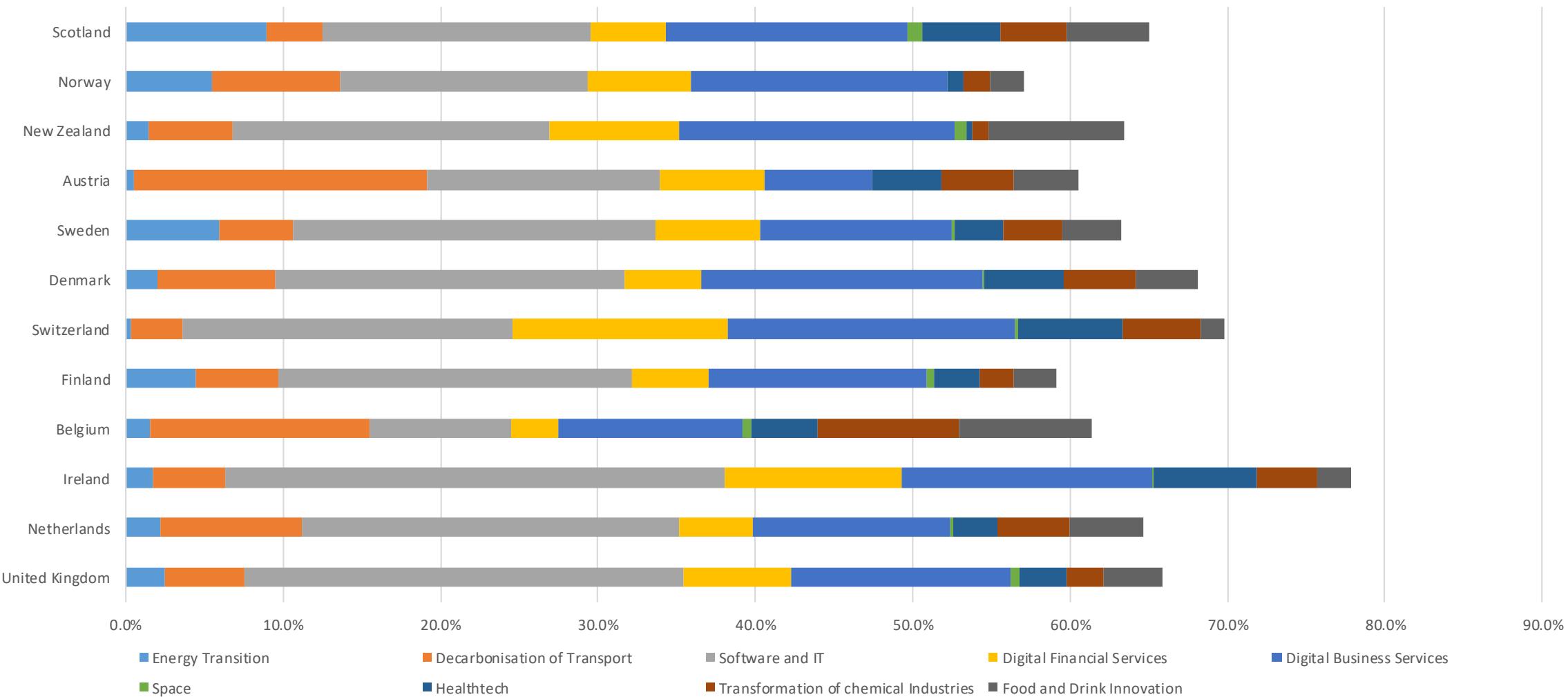
Source: Scotland (Quarterly National Accounts Scotland), UK (ONS), OECD countries (OECD).
Note “business capital investment” based on national accounts measure gross fixed capital formation.

Scotland's strengths and sectoral themes for capital investment



Source: Office of the Chief Economic Adviser analysis of Pitchbook data

Opportunity Areas as a share of total FDI 2015-2020



Net Zero, Natural Capital & Circular Economy: Overview

Net Zero, Natural Capital and Circular Economy: summary of key emerging challenges from the analysis (1/2)

High-Level Theme	Challenge / Opportunity
1. Buildings	1.1 Only around 11% of households have a low carbon heating system and just over half of our non-domestic building stock has heating from low or zero carbon sources. To reach net zero we will need to change the heating systems of over 2 million homes and almost 100,000 non-domestic buildings by 2045.
2. Electricity	2.1 We need to continue our progress, and move from a low to a zero carbon electricity system. Operating a zero carbon electricity system will mean finding new ways to provide a range of technical services and qualities currently provided by fossil fuel and nuclear generation.
3. Transport	3.1 In 2019 Scotland recorded the first fall in transport emissions since 2013, and the CCPu includes measures that will further reduce emissions while stimulating the economy. Many of the technological solutions needed to achieve net zero, such as in aviation, maritime and heavy goods vehicles, are in the early stages of development, and substantial innovation is required to bring them to market. However, alongside technological advances, managing transport demand and embedding behaviour change will also be vital.
4. Industry	4.1 Emissions in this sector predominantly come from manufacturing, as well as mining and construction. Combined, these sectors are fundamental to the Scottish economy, contributing £26 billion annually and employing over 300,000 people. There are wide-ranging opportunities in decarbonising this sector, including the development of CCS and use of hydrogen to displace fossil fuels.
5. Waste and circular economy	5.1 We recycle over 60% of Scotland's waste; the amount of waste going to landfill in Scotland is at its lowest since records began; and in 2018, waste and resources sector emissions were over 70% lower than in 1998. Achieving our milestones will require meeting our ambitious waste reduction and recycling targets, including: (a) ending landfilling of biodegradable municipal waste and significantly reducing food waste; (b) accelerating efforts to address legacy emissions from closed landfill sites; and (c) ensuring a more rapid transition to a fully circular economy in Scotland.
6. Land use, Land use Change and Forestry	6.1 Recent years have seen some success in these areas: for example 22,000 hectares of new woodlands have been planted in the last two years, and, as of March 2020, over 25,000 hectares of peatland have been put on the road to restoration. However, around 80% of Scotland's peatlands are degraded and Scotland remains heavily deforested compared to many other European countries.

Net Zero, Natural Capital and Circular Economy: summary of key emerging challenges from the analysis (2/2)

High-Level Theme	Challenge / Opportunity
7. Agriculture	<p>7.1 Agriculture and food production rely on natural processes, and will therefore always cause some degree of greenhouse gas emissions. The majority of the emissions in the agriculture sector come from livestock; however, it is important that all farmers and crofters, not just those with livestock, increasingly adopt low carbon technologies.</p>
8. Negative emissions technologies	<p>8.1 Our pathway to net zero is focused on reducing emissions from across Scotland's economy. However, we also need to bring forward key technologies which will compensate for residual emissions. There is substantial potential for developing Negative Emissions Technologies (NETs) in Scotland, and the potential to secure existing jobs as well as delivering new ones.</p> <p>NETs pathways with the potential to contribute to net zero in Scotland include:</p> <ul style="list-style-type: none">(a) Bioenergy with Carbon Capture and Storage (BECCS) for electricity(b) Biomass/Waste Gasification and Carbon Capture and Storage for hydrogenBECCS in industry(c) Biofuel production with Carbon Capture and Storage; and,(d) Direct Air Carbon Capture and Storage (DACCs)

The NSET Challenge: Mainstreaming the ‘Planet’ theme

Tackling the Climate and Nature crises will depend on urgent, **transformative economic and social change**.

This will mean transitioning to an economy which is:

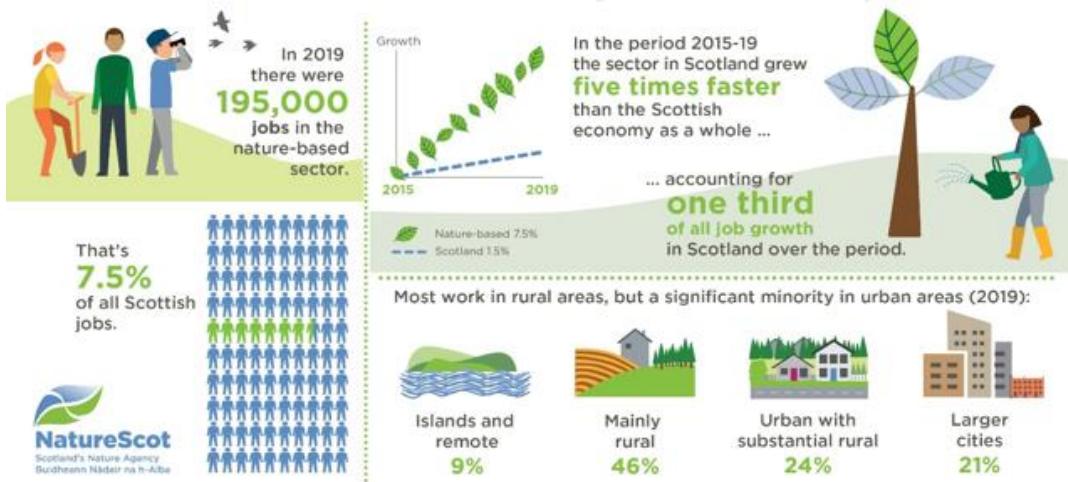
- **Nature-based** - Supporting nature’s recovery by building natural capital and driving a shift to sustainable production and consumption.
- **Net Zero** - Rapidly decarbonising across sectors to reach net-zero by 2045 and investing in nature-based solutions to climate change.
- **Circular** - Shifting from a linear ‘take, make, waste’ economy to a circular economy which is regenerative and minimises waste.

Scotland is well-positioned for this economic transition through its leadership in developing a wellbeing economy, with potential first-mover advantages in developing new industries and securing international investment.

Delivering new, good, green jobs



There are already around **23,100 jobs** in the **low carbon and renewable energy sector** in Scotland, and this will grow substantially as progress towards net zero accelerates.



- Around 8% of jobs in Scotland are linked to the **circular economy (207,427 jobs)**. The future growth in circular economy business models will increase demand for existing roles e.g. in resource management, logistics and engineering, and create new roles, such as urban miners.

- Around **7.5% of Scotland's workforce** are employed in **nature-based jobs (195,000 jobs)**.
- The sector is growing at more than 5 times the rate of all jobs in Scotland between 2015-19 and accounting for one third of all job growth in that period.



Opportunities
for job
creation in all
parts of a
Circular
Economy

The “Planet” theme - supporting NSET priorities

Delivering new, good, green jobs



Investing in education, skills and capacity building to increase the already large numbers of green jobs :

Developing skills, jobs, expertise and supply chains to deliver the scale of land use transformation required to meet net-zero targets (woodland creation, peatland restoration, bioenergy, renewables, sustainable food production).

Delivering across Scotland in a national and regional way

Supporting national and regional delivery of a wellbeing economy by integrating and funding environmental objectives in local and regional initiatives, and mission-oriented approaches to net-zero and place.

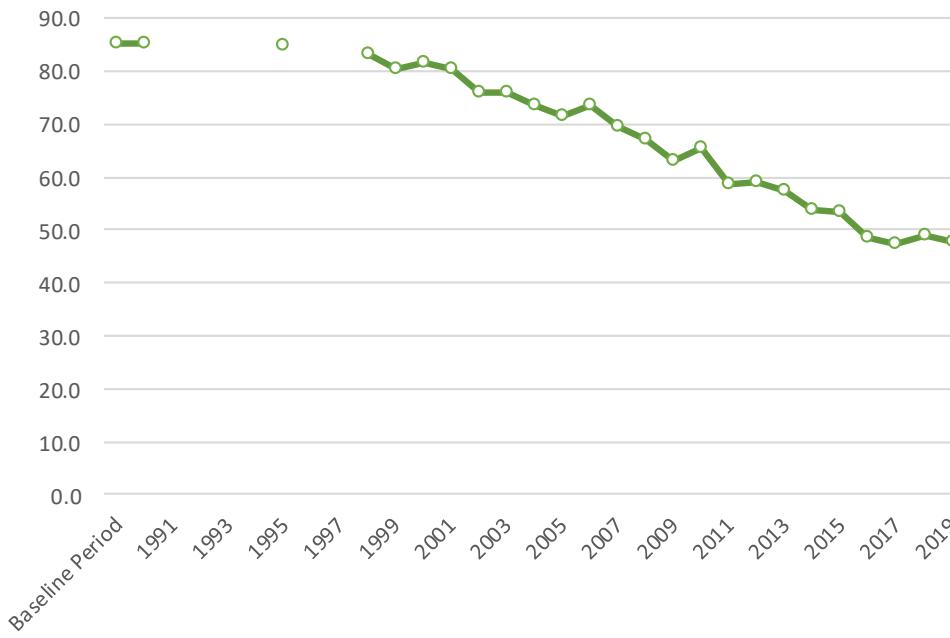
Investing in and supporting the industries of the future

Mainstreaming net-zero and circular business models and using a broader set of multi-dimensional indicators to measure success and progress towards a wellbeing economy.

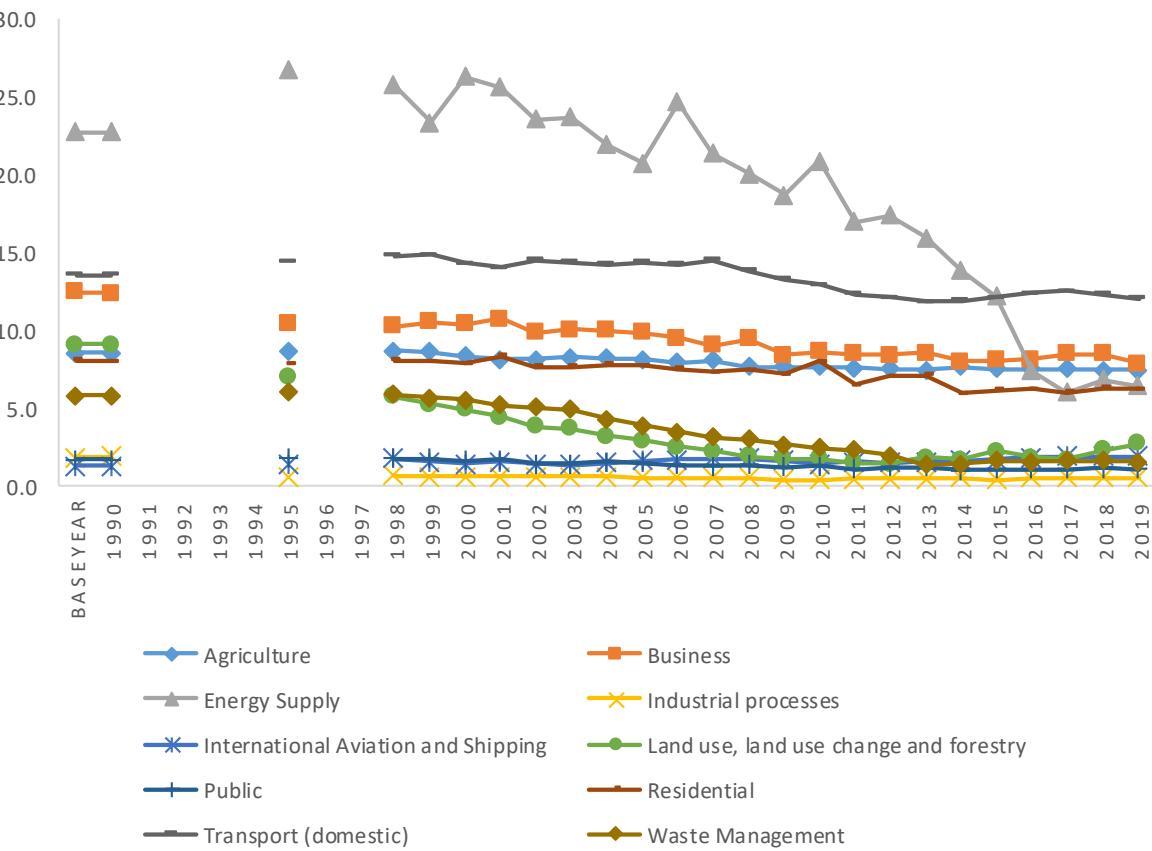
Net zero land use transformation in Scotland is estimated to require £12 billion of investment (UKCCC). There is significant interest in this large scale investment opportunity from private investors because of Scotland’s positioning on natural capital in terms of our assets and supportive policy environment.

Net Zero: Emissions Reductions: progress so far

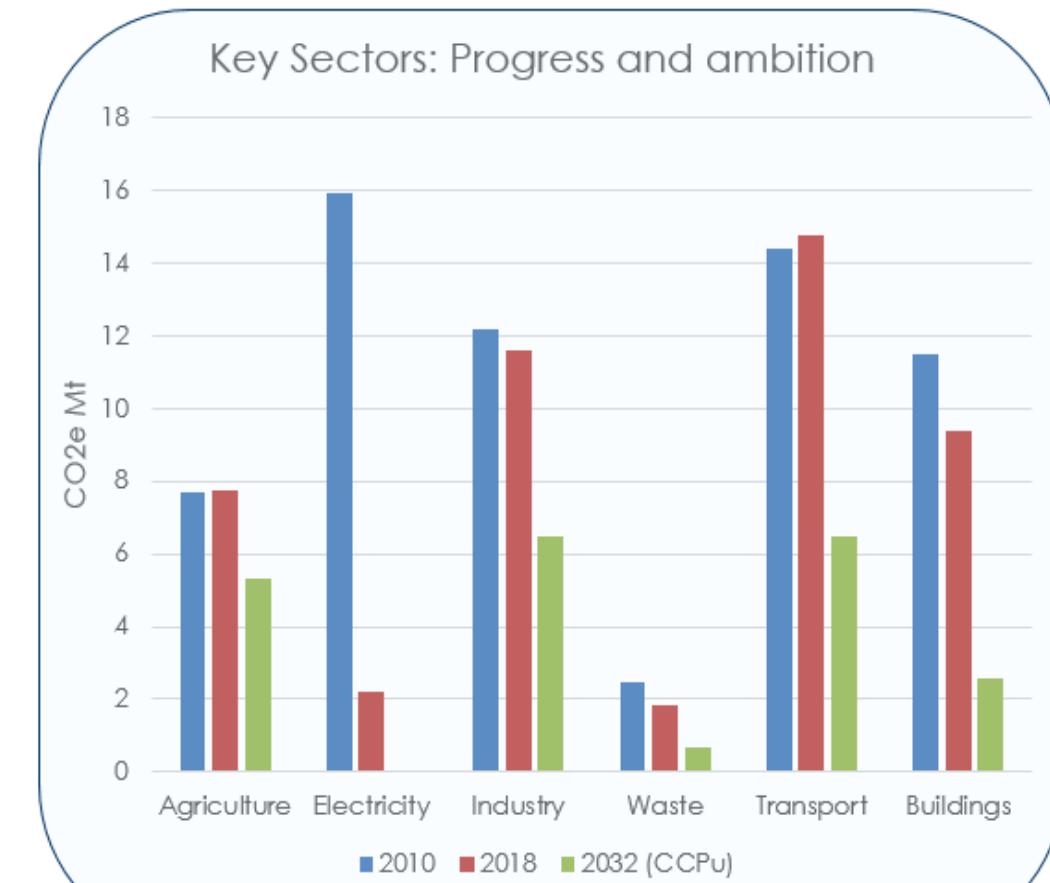
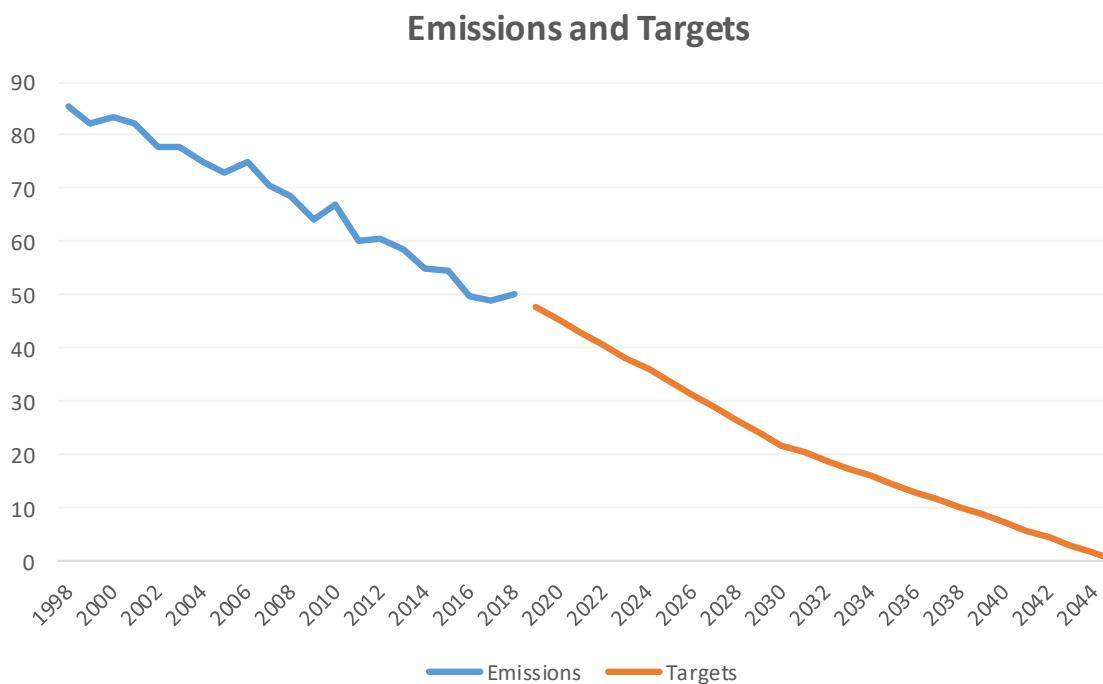
Scottish Greenhouse Gas Emissions, 1990 to 2019. Values in MtCO₂e



Main Sources of Greenhouse Gas Emissions in Scotland, 1990 to 2019. Values in MtCO₂e



Net Zero: The Climate Change Plan Update (CCPu): progress and targets



Net Zero: Sectors: Context, Challenges, Opportunities

Buildings:

- Currently, heat in buildings accounts for **20% of Scotland's greenhouse gas emissions**, **24.6% of households are fuel poor**, and **12.4% are in extreme fuel poverty**.
- As well as reaching net zero emissions by 2045, by 2040 our statutory fuel poverty targets require: that **no more than 5% of households are fuel poor**; that **no more than 1% of households are in extreme fuel poverty**; and that the **fuel poverty gap is reduced to £250**.
- We have made good progress so far, with **45% of homes now achieving Energy Performance Certificate Band C or better**. But only around 11% of households have a low carbon heating system and just over half of our non-domestic building stock has heating from low or zero carbon sources.
- To reach net zero we will need to change the heating systems of **over 2 million homes and almost 100,000 non-domestic buildings by 2045**
- Our target of a 75% emissions reduction by 2030 means we must rapidly accelerate heating system conversions, **doubling every year to at least 64,000 homes in 2025**, peaking at over **200,000 in the late-2020s**.

Electricity:

- Scotland is a world leader in renewable energy. 2020 was a record year for renewable electricity in Scotland, with the equivalent of 97.4% of gross electricity consumption generated from renewable sources.
- We need to continue our progress, and move from **a low to a zero carbon electricity system**.
- **Security of supply** - Operating a zero carbon electricity system will mean finding new ways to provide a range of technical services and qualities currently provided by fossil fuel and nuclear generation.
- Key levers—electricity policy and regulation – are reserved. Achieving our targets **critically depends on the UK government urgently taking the right actions**.
- **Importance of renewable technologies in a green recovery** eg analysis by National Grid estimated that **50,000 jobs in Scotland will be required in the net zero energy workforce**.

Transport:

- Transport continues to be Scotland's biggest emitting sector, accounting for **around 29% of emissions**. It is particularly stubborn to decarbonise. The derived nature means that where people live, work, learn and access goods and services all play a part in their need to travel. And many transport choices people make are particularly ingrained and have become habitual overtime.
- In 2019 Scotland recorded the **first fall in transport emissions since 2013**, and the CCPu includes measures that will further reduce emissions while stimulating the economy.
- The measures in the CCPu align with those in our National Transport Strategy (NTS2), published on 5 February. NTS2 sets the direction for Scotland's transport over the next two decades and embeds taking **climate action as a core priority** while also prioritising **reducing inequalities**, helping to deliver **inclusive economic growth**, and improving our **health and wellbeing**.
- Many of the technological solutions needed to achieve net zero, such as in aviation, maritime and heavy goods vehicles, are in the early stages of development, and **substantial innovation is required to bring them to market**.
- However, alongside technological advances, **managing transport demand and embedding behaviour change will also be vital**. Cars currently account for almost 40% of transport emissions, so the predominance of car use cannot be overlooked.

Net Zero: Sectors: Context, Challenges, Opportunities (2)

Industry:

- Scotland's industrial emissions **fell by over 45% (9.5 MtCO₂e) between 1990 and 2018**; however, emissions from industry continue to constitute around 20% of total Scottish emissions.
- Emissions in this sector predominantly come from manufacturing, as well as mining and construction. Combined, these sectors are fundamental to the Scottish economy, contributing **£26 billion annually and employing over 300,000 people**.
- Progress is often dependent on UK Government and/or international policy and markets, and there also remains a significant risk that decarbonising faster than the rest of the UK and Europe could lead to carbon leakage. We therefore require support for investment and a level regulatory playing field.
- There are wide-ranging opportunities in decarbonising this sector, including the development of CCS and use of hydrogen to displace fossil fuels. It's estimated **that by 2030 anywhere between 7,000 and 45,000 UK jobs** could be associated with Scotland securing 40% of the carbon storage element of a European CO₂ management market. **By 2050 this could rise to between 22,000 and 105,000 jobs**.

Waste and the circular economy:

- Scotland has made significant progress in the waste sector in the last 20 years. **We recycle over 60% of Scotland's waste**; the amount of **waste going to landfill in Scotland is at its lowest since records began**; and in 2018, waste and resources sector emissions were over **70% lower than in 1998**.
- Achieving these milestones will require meeting our ambitious waste reduction and recycling targets, including:
 - **ending landfilling of biodegradable municipal waste and significantly reducing food waste**;
 - **accelerating efforts to address legacy emissions from closed landfill sites**; and
 - **ensuring a more rapid transition to a fully circular economy in Scotland**.
- As part of a green recovery from the pandemic, we have an opportunity for **renewed impetus in building a fully circular economy** in Scotland, which will also **stimulate job creation**: research has shown that 10,000 tonnes of waste can create 1 job in incineration, 6 jobs in landfill, 36 jobs in recycling or up to **296 jobs in repair and reuse**.

Land use, land use change and forestry:

- The capacity that Scotland's land has to deliver **nature-based solutions to climate change**, including through increased tree cover and restoration of degraded peatland, is unique within the UK.
- Recent years have seen some success in these areas: for example **22,000 hectares of new woodlands** have been planted in the last two years, and, as of March 2020, over **25,000 hectares of peatland** have been put on the road to restoration.
- However, around **80% of Scotland's peatlands are degraded** and Scotland remains heavily deforested compared to many other European countries.
- Improving this situation presents both a challenge and an opportunity. Through significant increases in tree cover and widespread peatland restoration, we can **reduce emissions, increase carbon sequestration, enhance and protect our biodiversity, improve flood mitigation and climate adaptation**, and also **support new jobs** as part of a green recovery.

Net Zero: Sectors: Context, Challenges, Opportunities (3)

Agriculture:

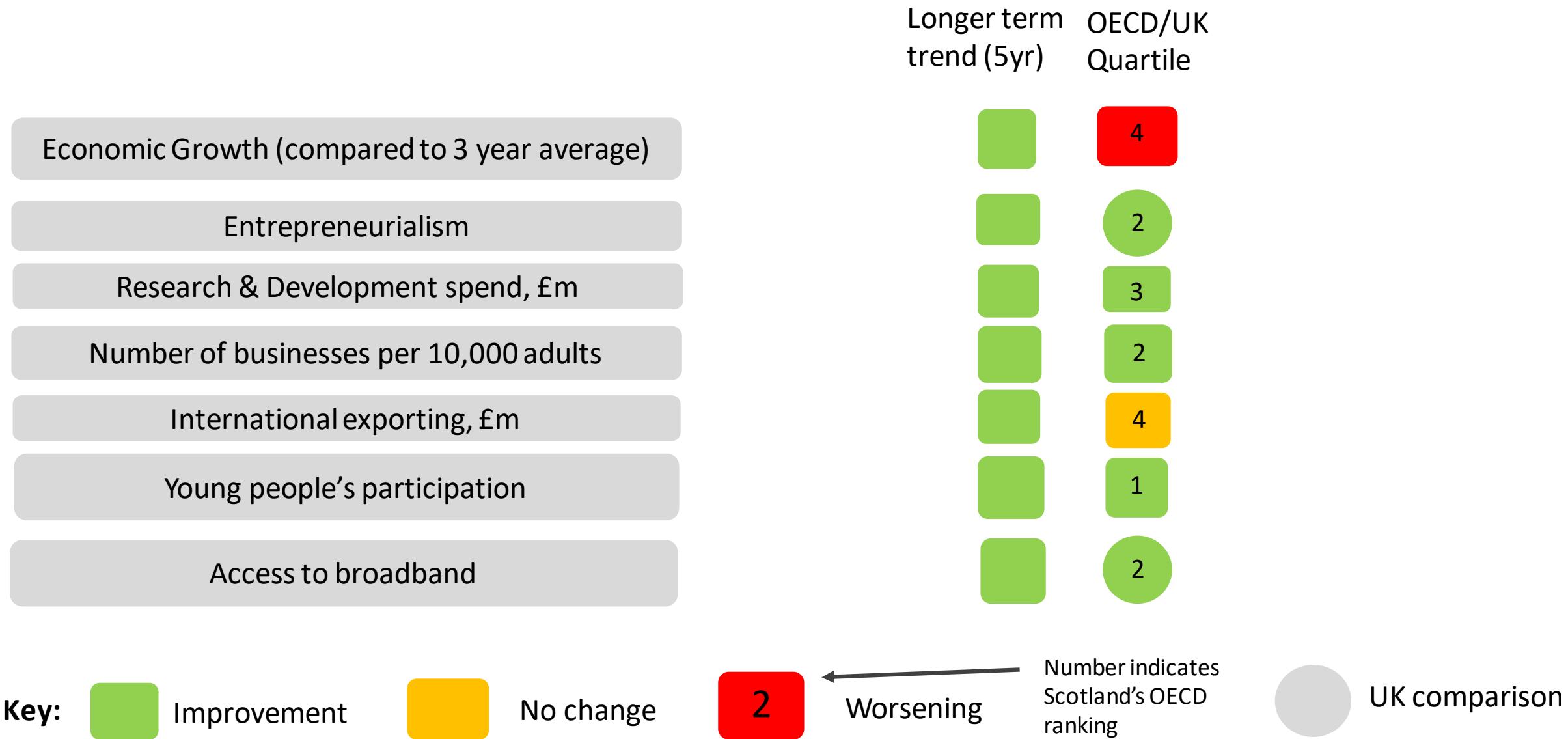
- In 2019 Scotland's agriculture industry contributed around **£1.3 billion worth of GVA** towards to the Scottish economy, **employed 67,000 people** and generated a **gross output of around £3.3 billion**. The Scottish Government supports Scotland's food and drink Ambition 2030 targets of **doubling the value of the food and drink sector by 2030 to £30 billion**.
- As we recover from COVID-19, there is an opportunity to develop new policies in the agriculture sector aimed towards **environmental outcomes and emissions reduction**. Examples include: restoring biodiversity; improving water, soils and air quality; and encouraging natural flood management and climate adaptation.
- Agriculture and food production rely on natural processes, and will therefore always cause some degree of greenhouse gas emissions. A fine balance must therefore be found to ensure **greenhouse gas reductions take place while Scotland continues to produce high quality food**.
- The majority of the emissions in the agriculture sector come from livestock; however, it is important that all farmers and crofters, not just those with livestock, increasingly **adopt low carbon technologies**.

Negative emissions technologies:

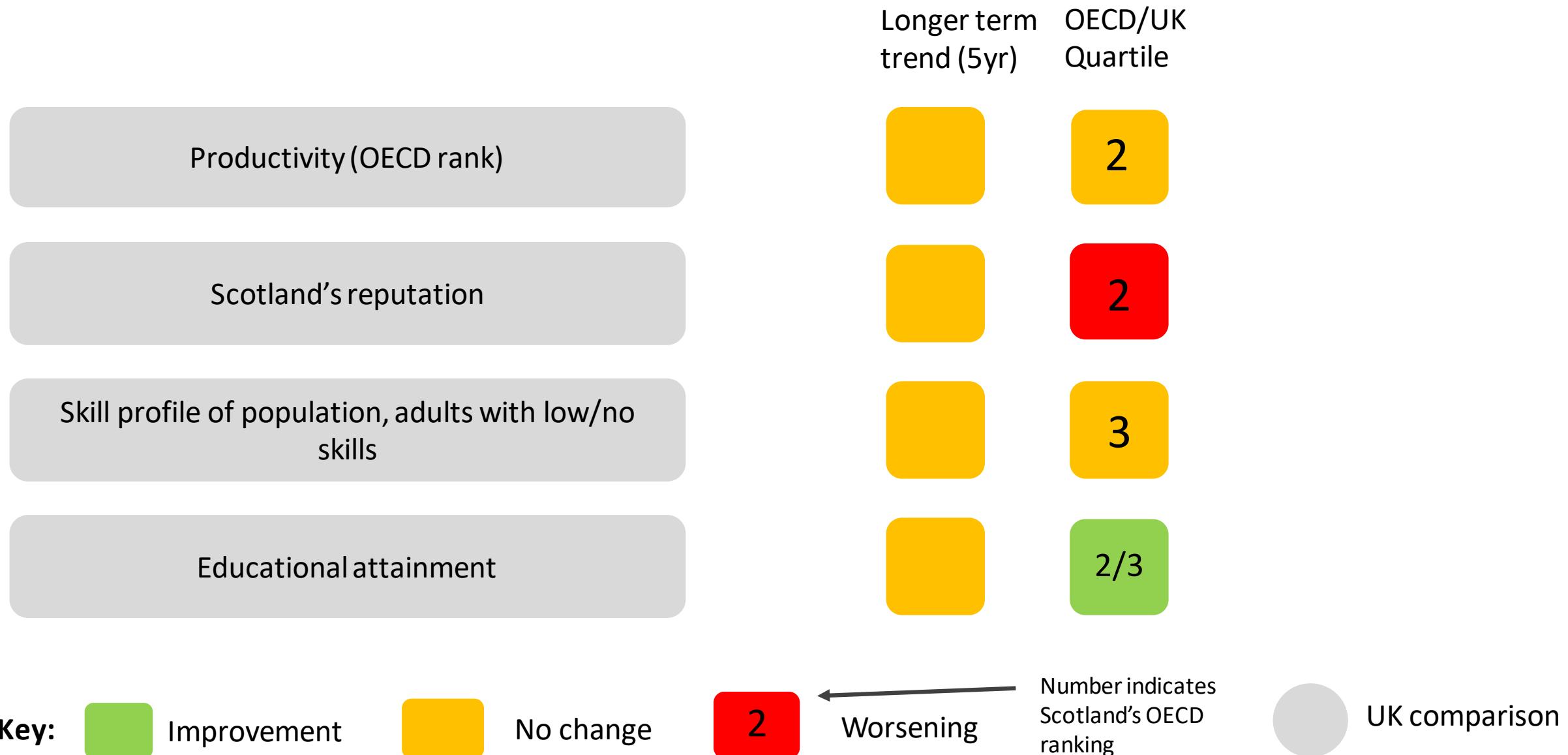
- Our pathway to net zero is focused on reducing emissions from across Scotland's economy. However, we also need to bring forward key technologies which will compensate for residual emissions.
- Through the detailed modelling and evidence building that we have undertaken to identify pathways to meet our climate change targets, we know that NETs will play a particularly important role in emissions reductions in Scotland during the 2030s and 40s.
- There is substantial potential for developing Negative Emissions Technologies (NETs) in Scotland, and the potential to secure existing jobs as well as delivering new ones.
- NETs pathways with the potential to contribute to net zero in Scotland include:
 - Bioenergy with Carbon Capture and Storage (BECCS) for electricity
 - Biomass/Waste Gasification and Carbon Capture and Storage for hydrogen
 - BECCS in industry
 - Biofuel production with Carbon Capture and Storage
 - Direct Air Carbon Capture and Storage (DACCs)

International Comparisons

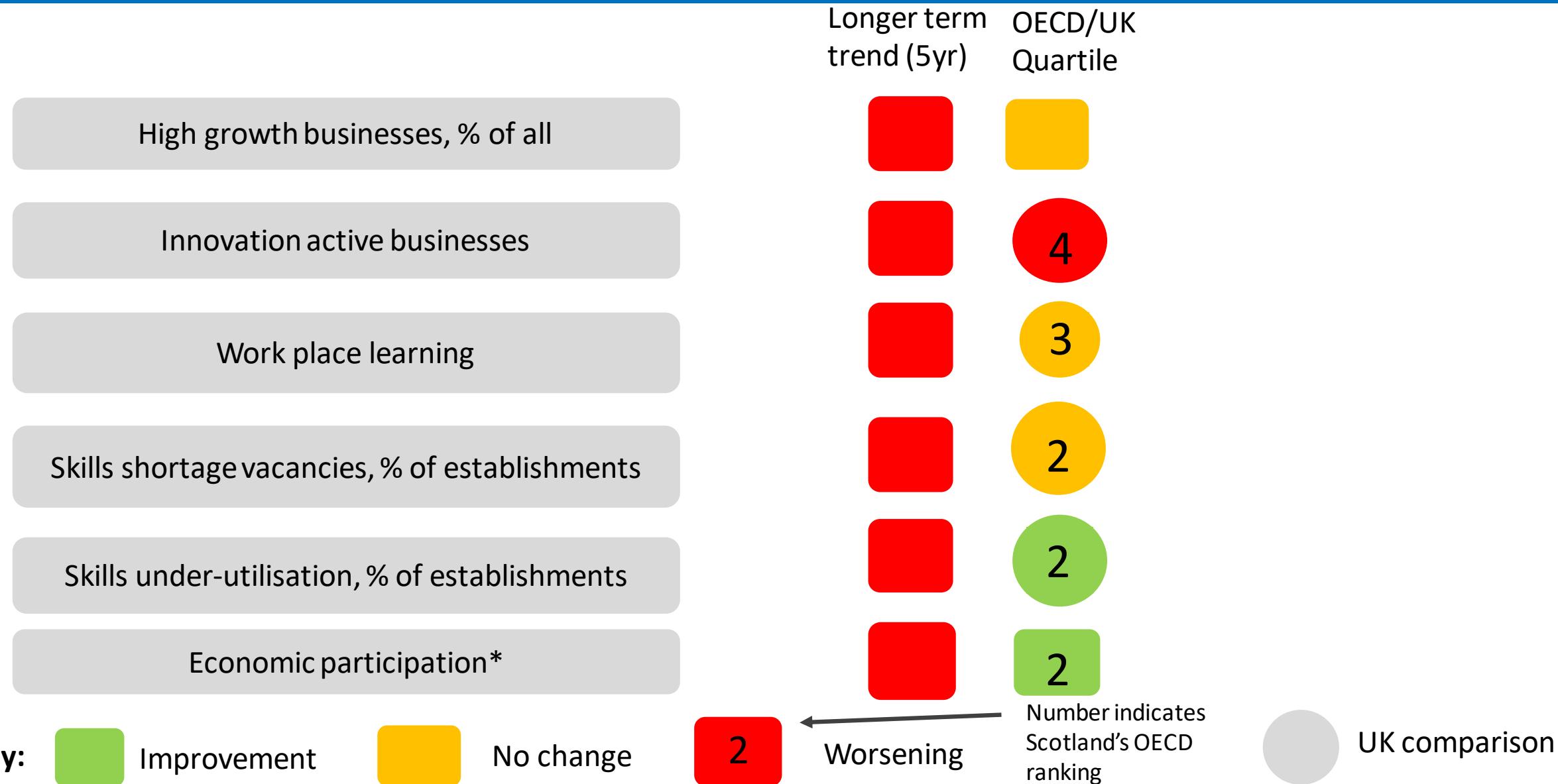
Drivers of Productivity: performance improving



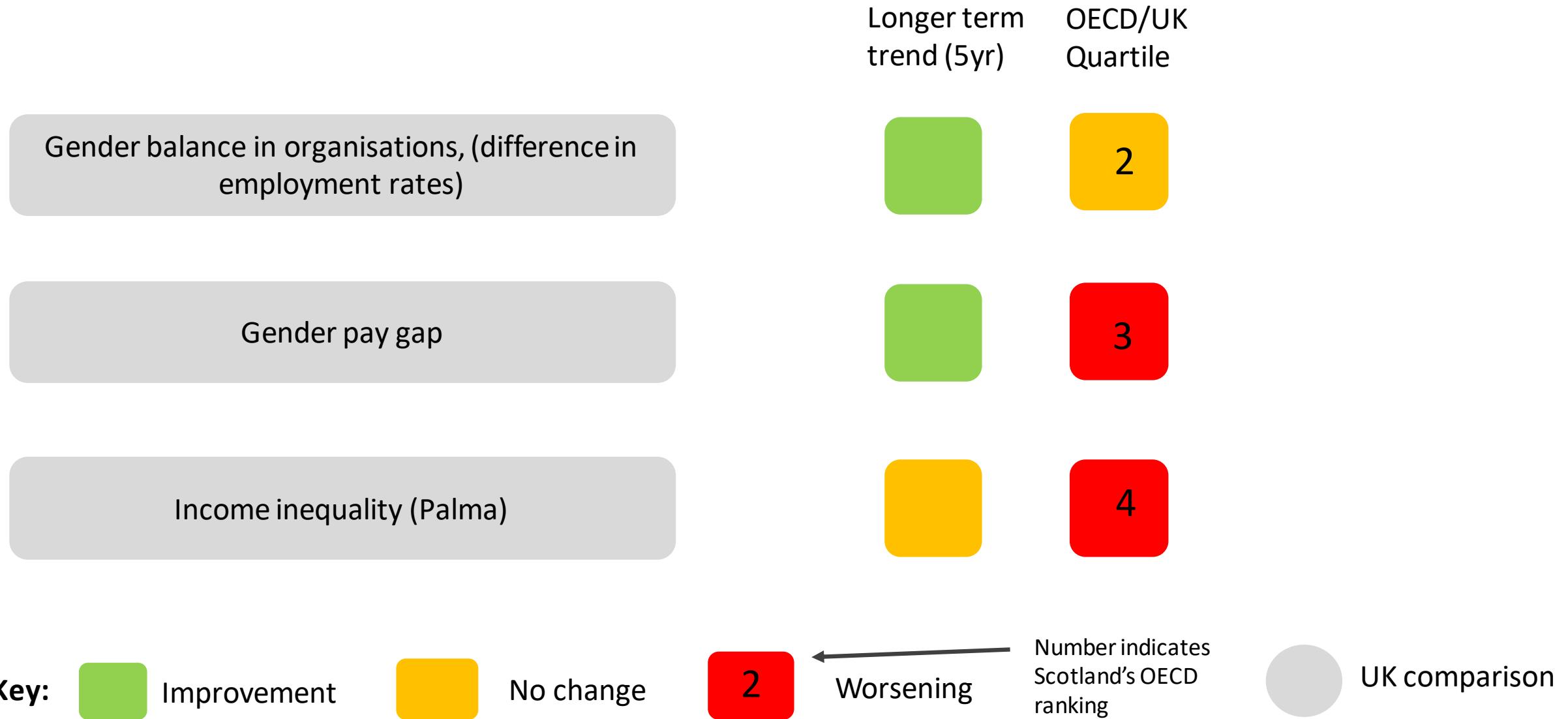
Drivers of Productivity: performance stable



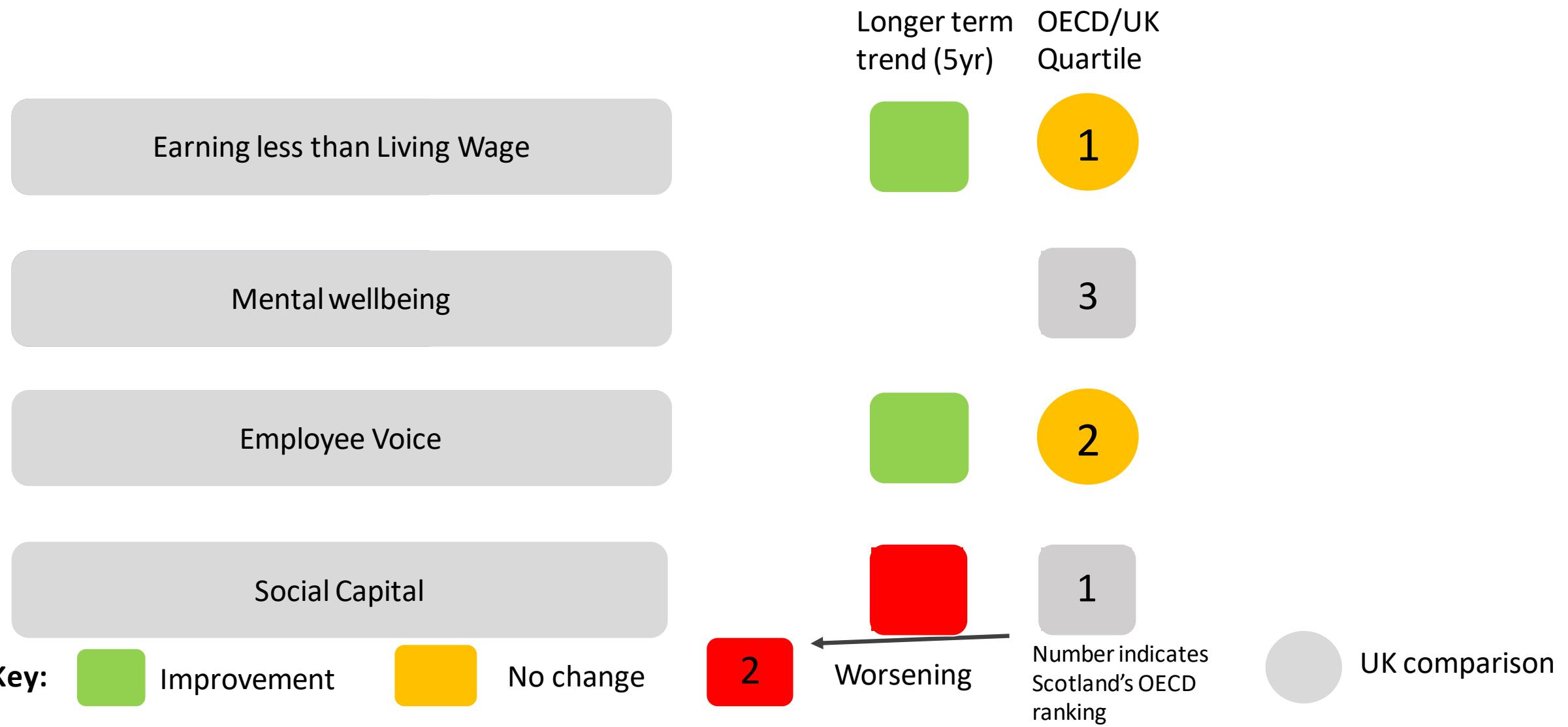
Drivers of Productivity: performance worsening



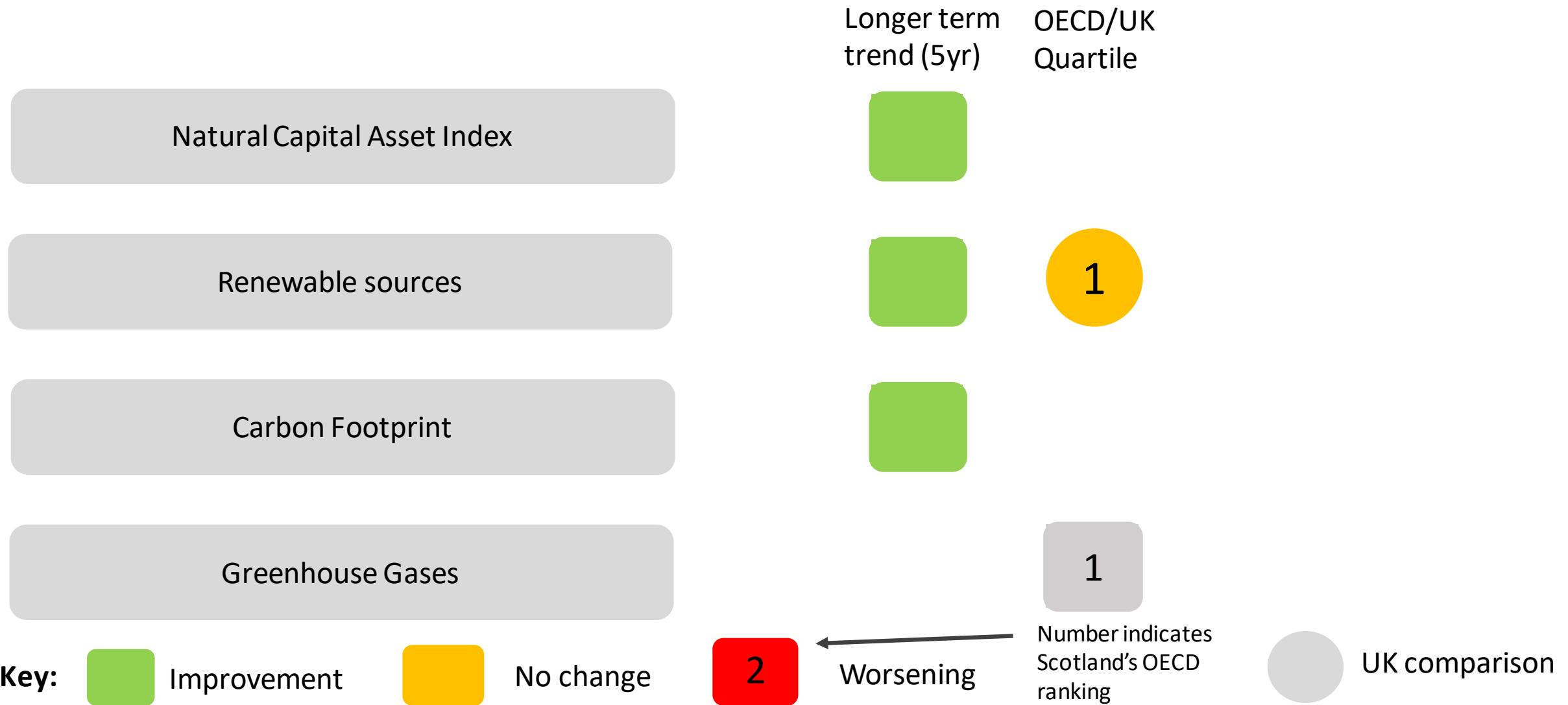
Equality



Wellbeing



Sustainability



10 Year National Strategy for Economic Transformation

Office of the Chief Economic Adviser

Labour Market and People: Overview



Scottish Government
Riaghaltas na h-Alba
gov.scot

Jobs, Fair Work, Skills and Pay: summary of key emerging challenges from the analysis

Sub-Theme	Challenge
1. Employment	<p>1.1 Unemployment close to record low and has been falling consistently follow the post 2008-09 financial crisis. Short- medium term policy needs to <u>manage transition out of COVID</u> (e.g. end of furlough).</p> <p>1.2 Key challenge is how to <u>raise the employment rates for equalities groups</u> (young people, minority ethnic populations, women and people with disability), especially mitigating the scarring effects of employment impacts of the COVID-19 pandemic and reducing levels of inactivity</p>
2. Labour Supply	<p>2.1 Scotland faces an <u>aging population</u> - between 2005 and 2020 share of 50-64 year olds in the population has increased from 24% to 30% while share of young age groups has been declining</p> <p>2.2 Brexit has reduced migration flows and labour supply for sectors most exposed to EU labour markets - agriculture, food processing, food and accommodation services. This is a significant <u>structural shock to the labour market</u> that will impact negatively of future economic performance</p>
3. Skills	<p>3.1 Pre-Brexit and the COVID-19 pandemic, Scotland already faced a <u>skills shortage challenge</u>. In 2020, about 21% of all vacancies in Scotland were classed as "skills shortage vacancies" (challenge highest in education and public administration). This is an ongoing challenge as the economy recovers from the pandemic</p> <p>3.2 As Scotland's economy transitions to a 'net zero' world, with technology change and other emerging opportunities, skills will also need to adapt - the economy will need new skills and some skills will become obsolete. This presents a challenge for <u>how we skill, reskill and overall align Scotland's skills with future demands</u>. Current evidence suggests skills are not always aligned to roles in a number of sectors</p>
4. Pay and fair work	<p>4.1 Scotland's <u>pay growth has performed poorly</u> since the 2008-09 financial crisis - with real median full-time pay almost flat since 2011 (in line with productivity trends). Potential for positive shift in trends, depending on labour market dynamics</p> <p>4.2 Significant share (~15%) of employees in Scotland are <u>earning below the real living wage</u>. Challenges concentrated in low productivity sectors - wholesale & retail, accommodation & food services, and other services.</p> <p>4.3 Relative to EU countries, Scotland seem to perform poorly on <u>income inequality</u>. Despite Scotland's average incomes being comparable to high performing EU countries, it has a relatively large share of the workforce falling into the low-wage category (earning less than two thirds of the median pay).</p>

National Performance Framework Indicators

NATIONAL OUTCOME	INDICATOR	Latest	LATEST PERFORMANCE
Education We are well educated, skilled and able to contribute to society.	Work Place Learning	2019	Improving
	Young People's Participation	2020	Maintaining
	Skills Profile of Population	2019	Maintaining
Fair Work and Business We have thriving and innovative businesses, with quality jobs and fair work for all.	Economic Participation	Q1 2021	Maintaining
	Employees on the Living Wage	2020	Improving
	Gender Balance in Organisations	2019	Improving
	Pay Gap	2020	Improving
	Employee Voice	Q1 2021	Worsening
	Contractually Secure Work	2019	Maintaining
Health We are healthy and active.	Work Related Ill Health	2018-2020	Maintaining

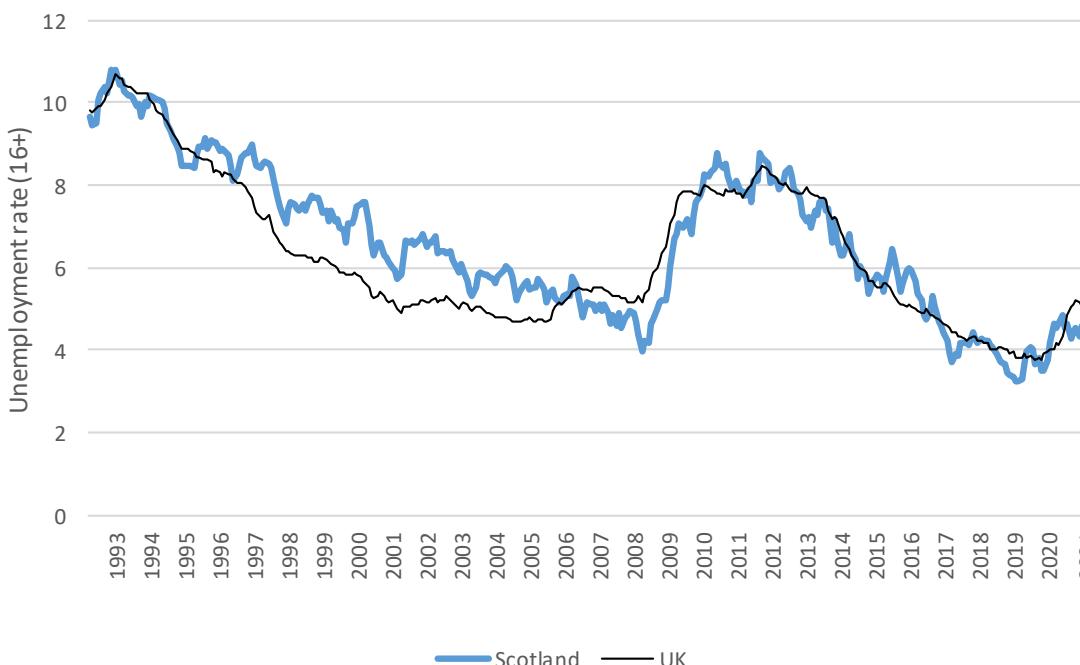
Economy We have a globally competitive, entrepreneurial, inclusive and sustainable economy.

Poverty We tackle poverty by sharing opportunities, wealth and power more equally.

Unemployment remains close to historic lows

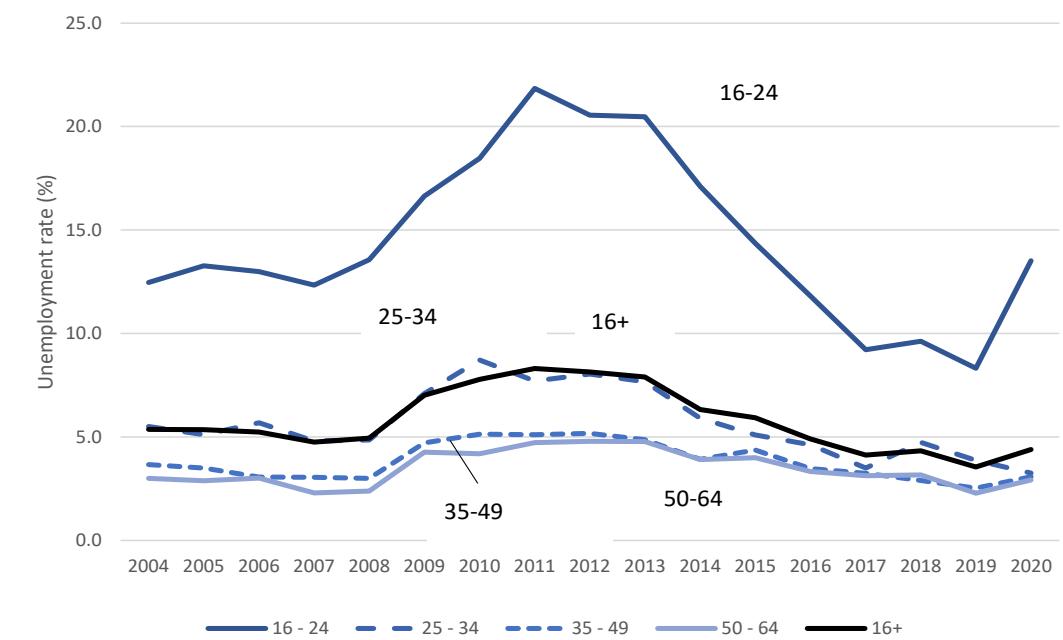
- In the short-term, unemployment is expected to rise further as furlough ends in September, with the Bank of England expecting a modest rise to around 5.5% in Q3 2021, up from the current UK rate of 4.7% (Feb-Apr 2021).
 - However, this is forecast to decline with recovery from the pandemic
- Young people have shown the highest unemployment rate and experienced the worst impact in the latest data.

Unemployment rate (16+) Scotland and UK: 1993-2021



Source: ONS, Labour Force Survey

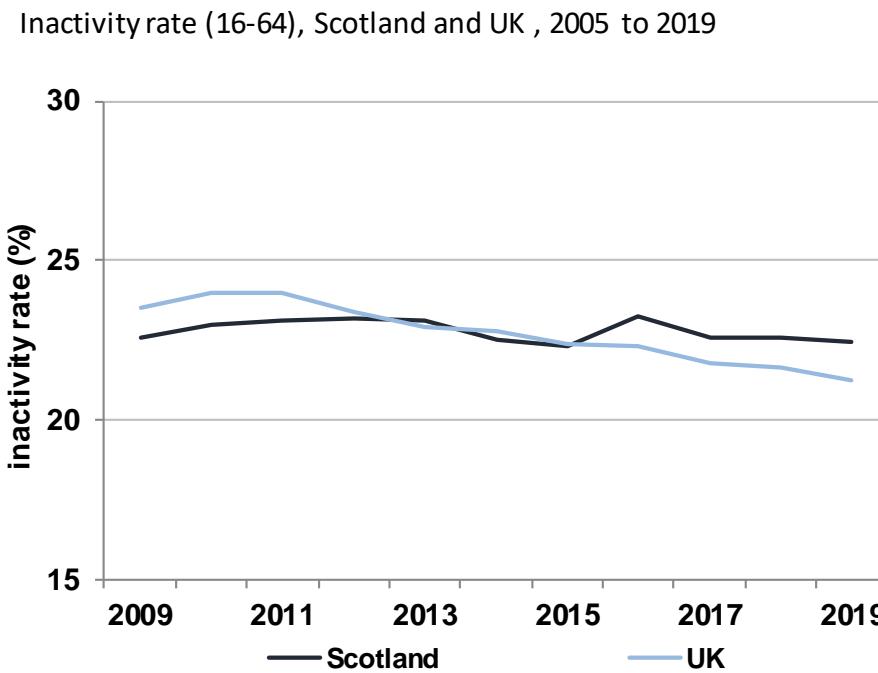
Unemployment rate (16+) by age: 2004-2020



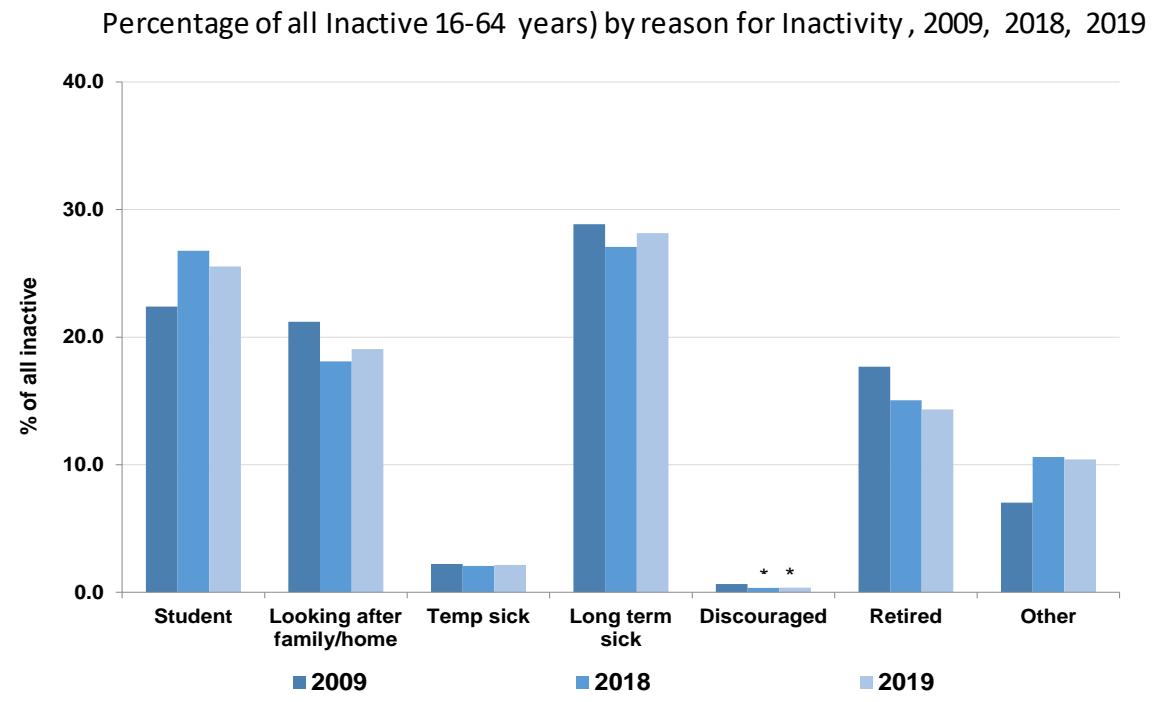
Source: ONS, Annual Population Survey

Between 2016 and 2019, the Inactivity rate was higher in Scotland than the UK

- Economically Inactive are those who are neither in employment or ILO unemployed.
- The highest proportion are Inactive in Scotland due to long term sickness, accounting for 28.1 per cent of all inactive. This compares with UK wide where the highest proportion of Inactive were students 26.7 per cent.
- A slightly greater percentage of Inactive were women and most were either 16-24 years or 50-64 years accounting for around two thirds of all economically inactive.



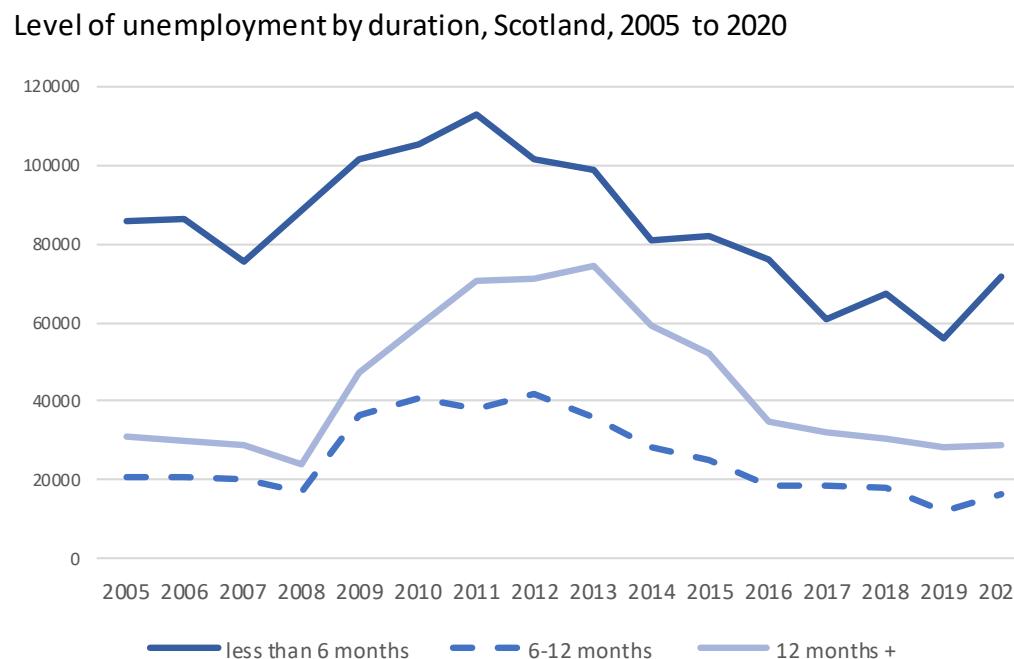
Source: ONS, Annual Population Survey, Jan-Dec in each year



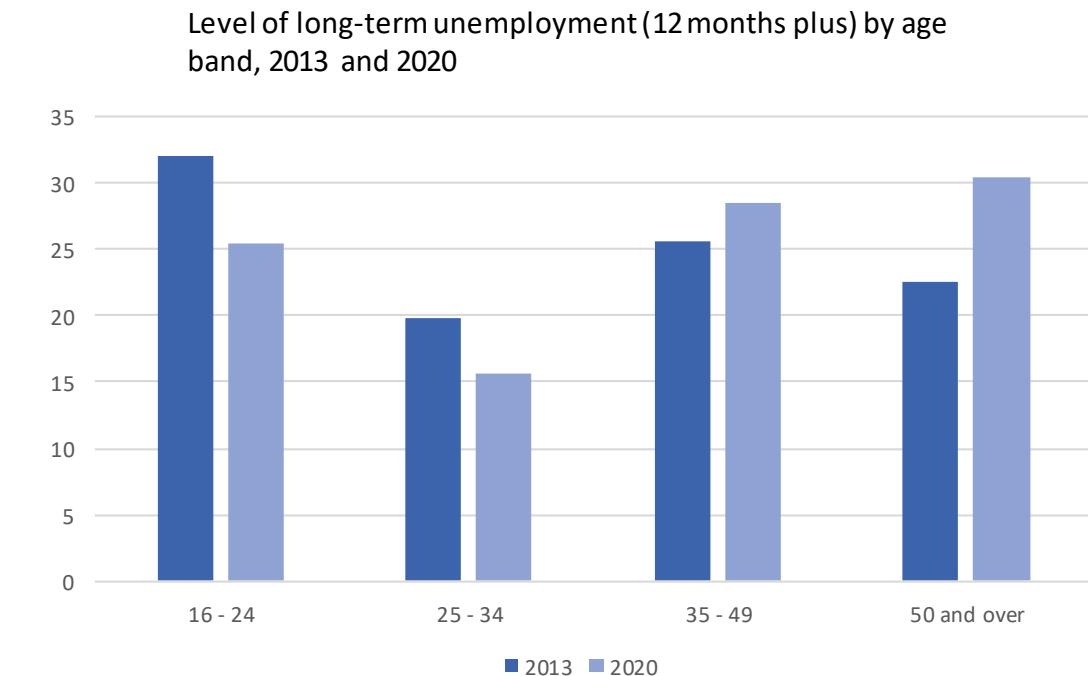
Source: ONS, Annual Population Survey, Jan-Dec in each year

Certain groups remain further from the labour market

- Certain groups and places remain further from the labour market.
- Long-term unemployed (LTU - 1 year plus) is a priority group for Scotland's employability services. LTU is expected to rise, if economic challenges arising from the pandemic continue to affect the labour market. The extent of this increase will depend on recovery and the effectiveness of government support.
- Currently, those aged 50+ accounted for the highest share of long-term unemployment in 2020.



Source: ONS, Annual Population Survey, Jan-Dec in each year

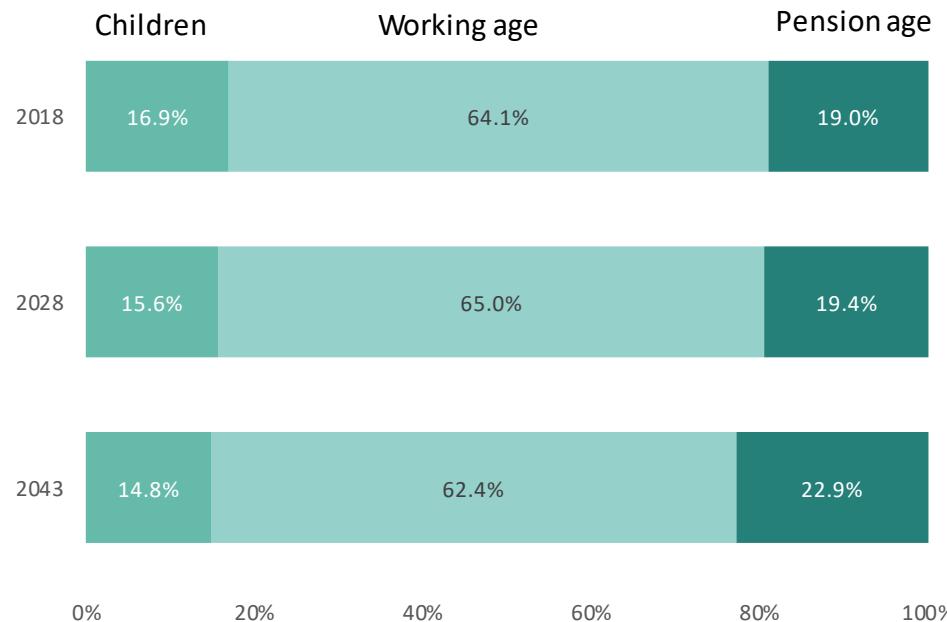


Source: ONS, Annual Population Survey, Jan-Dec in each year

Scotland's population is ageing

- The proportion of the population who are of pensionable age is projected to increase, reaching 22.9% by mid-2043. The proportion who are of working age is projected to decrease.
- While the proportion of the working age population in work or seeking employment has increased in the long –term UK wide, the economically active has been relatively flat in Scotland in the last 14 years.

Projected Population change by age group



Source: nrs

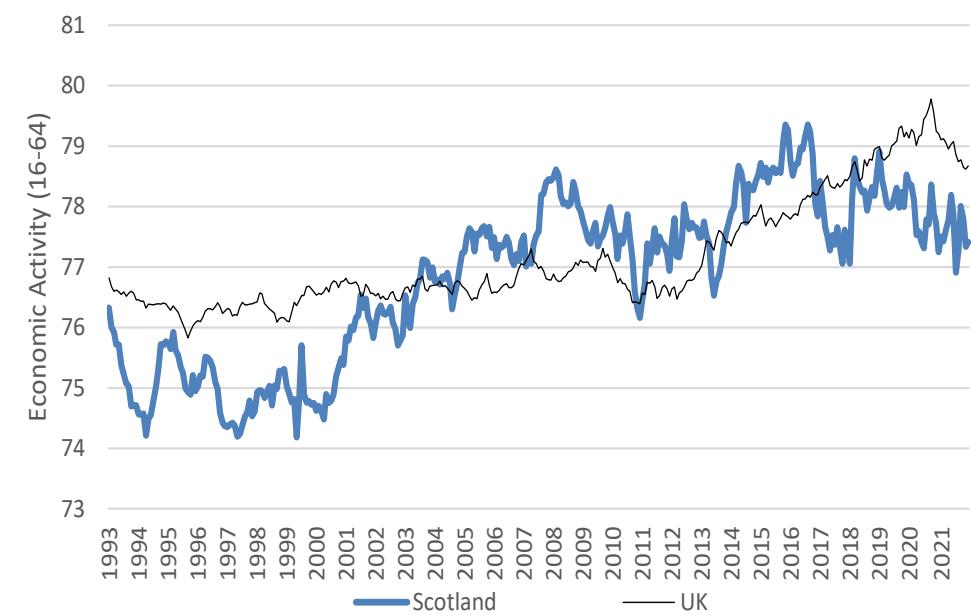
State Pension Age is scheduled to change during the projection and this has been taken into account

Current

10 year
projection

25 year
projection

Economic Activity rate (16+) by age: 1992-2021



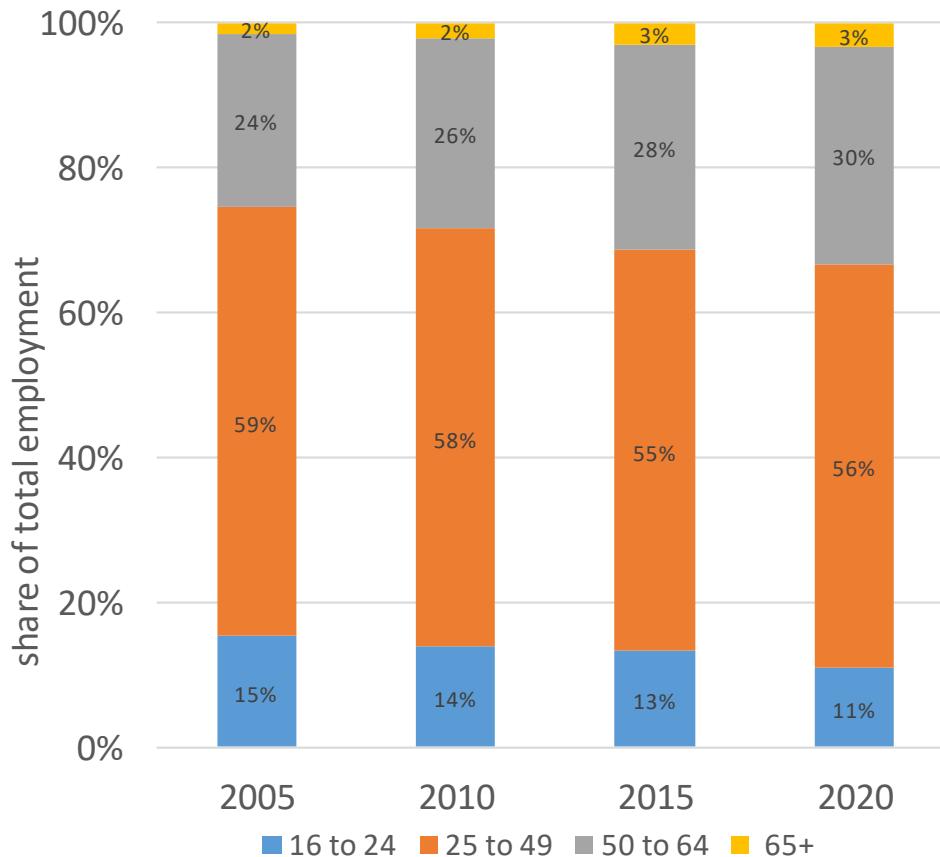
Source: ONS, Labour Force Survey



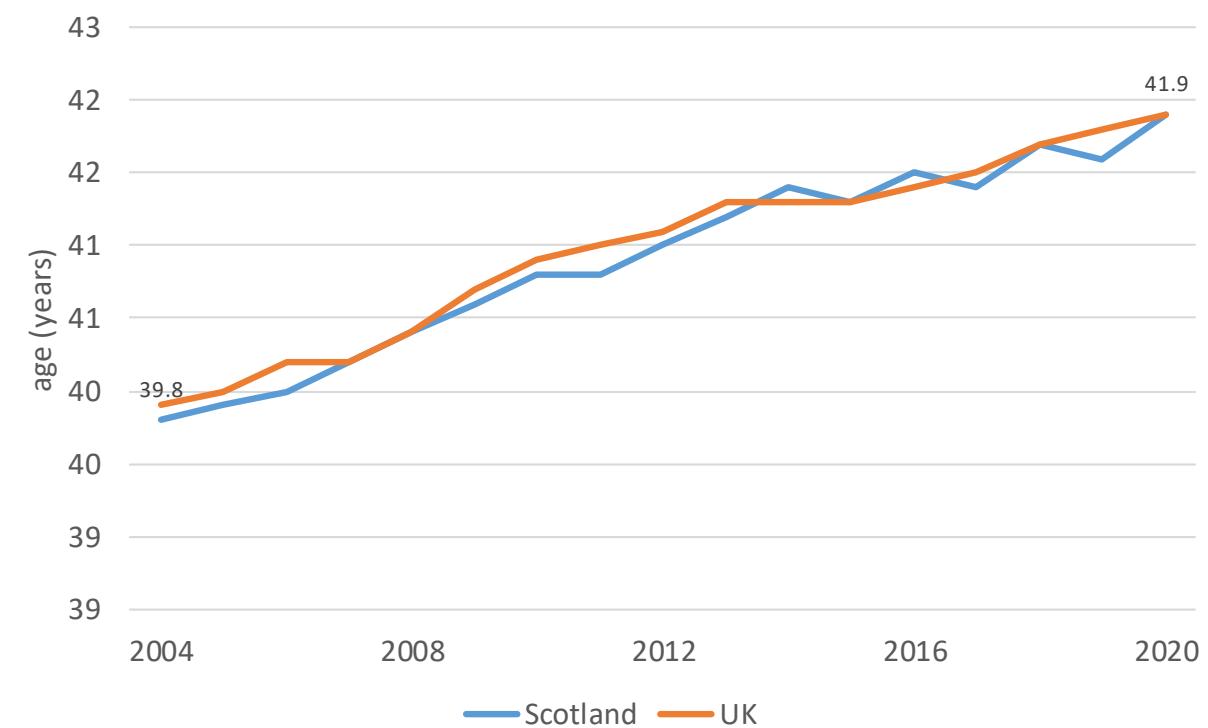
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The age profile of the workforce increasing over time

Changing structure of Scotland's workforce (aged 16+)



Mean age of people in employment (aged 16+)



Source: ONS, Annual Population Survey

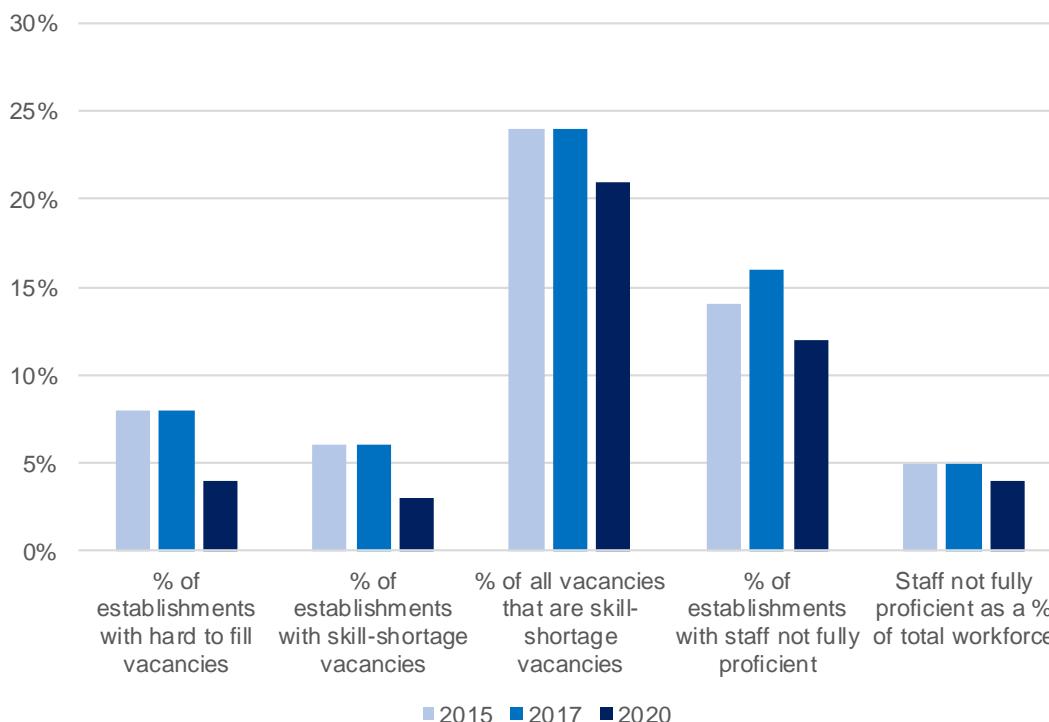


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Skills Challenges

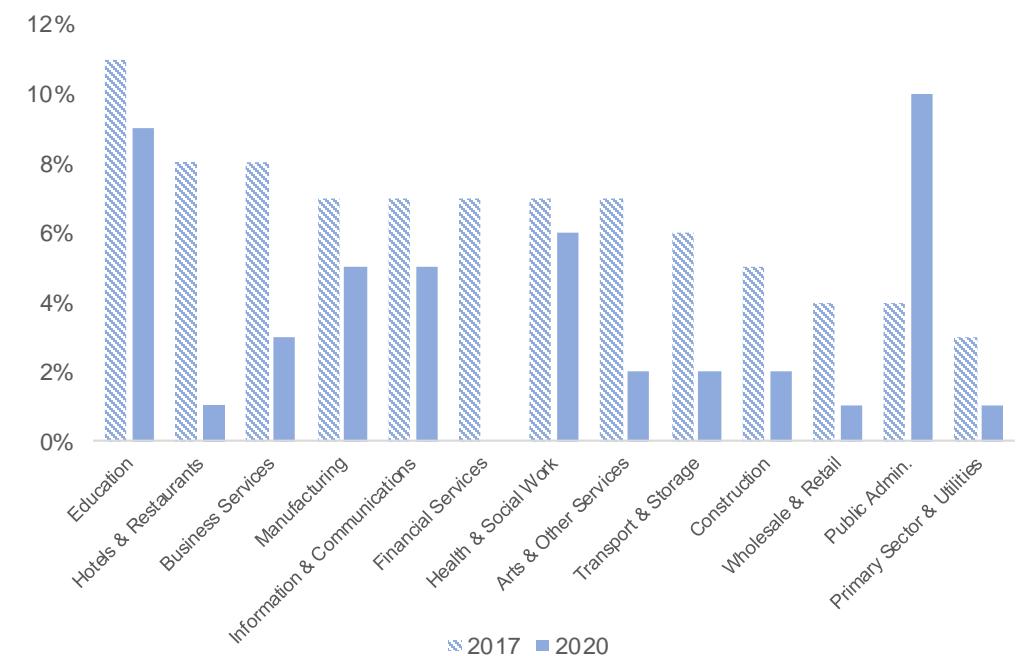
- Scotland faces a skills shortages challenge. In 2020, about 21% of all vacancies were classed as “skills shortage vacancies” although the proportion of all establishments with any skill-shortage vacancies has fallen from 6% in 2017 to 3% in 2020.
- In line with their higher incidence of vacancies generally, establishments in Public Administration (10%) and Education (9%) were the most likely to report having any skill-shortage vacancies.

Vacancy and Skills, Scotland, 2015,2017,2020



Source: ONS, Employer Skills Survey

Percentage (%) of employers reporting a skills shortage vacancy, By sector Scotland: 2017,2020

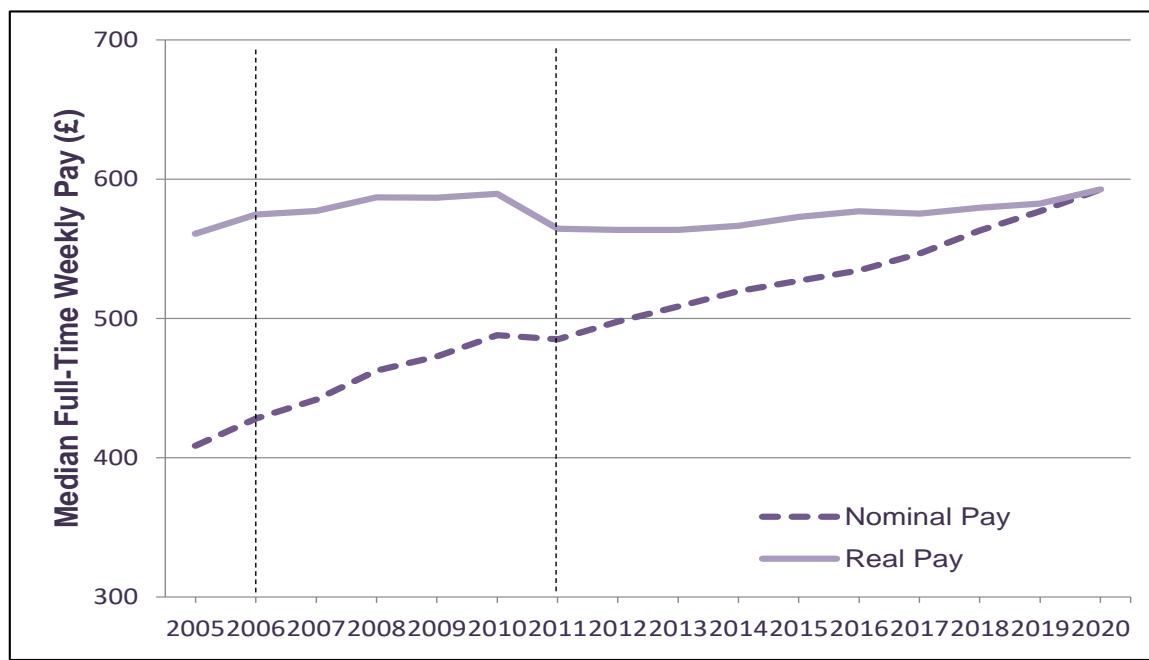


Note: Fieldwork was carried out in April 2020 so low rates of skills shortage vacancies in Hotels & Restaurants reflects restrictions on opening and little recruitment activity

Pay Growth Trends

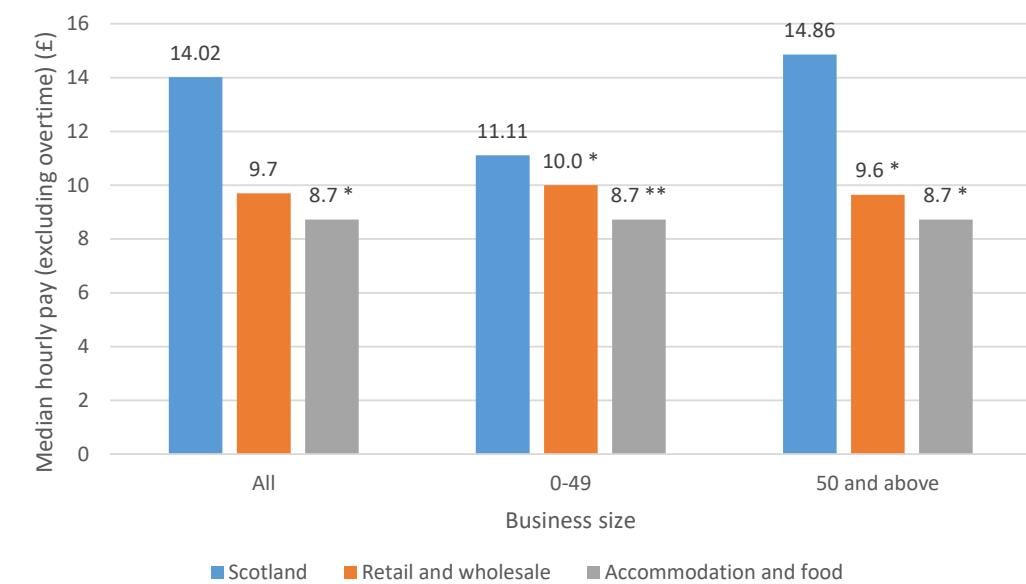
- Real Pay exceeded the peak following the 2008 recession for the first time 2020 in Scotland.
- Productivity (output per hour worked or worker) growth has slowed across all developed nations since 2008/09, and this partly explains the slow growth in real pay over the last decade
- Evidence shows that improved productivity can lead to: Increasing median pay, Improved employee job satisfaction, Better working conditions and safety, More flexible working practices, affording workers time to engage in other wellbeing enhancing activities (e.g. recreation, leisure)
- Median pay is lower in Retail and Wholesale and Accommodation and Food compared with overall. It is also lower in large business with 50 employees or more compared with smaller businesses.

Gross Median Weekly Full-time Pay ; Scotland 2005-2020



Source: Annual Survey of Hours and Earnings

Median hourly Pay (all employees) ; Scotland 2020



Source: Annual Survey of Hours and Earnings

Notes: All estimates precise except where noted below: *Reasonably precise, ** acceptable

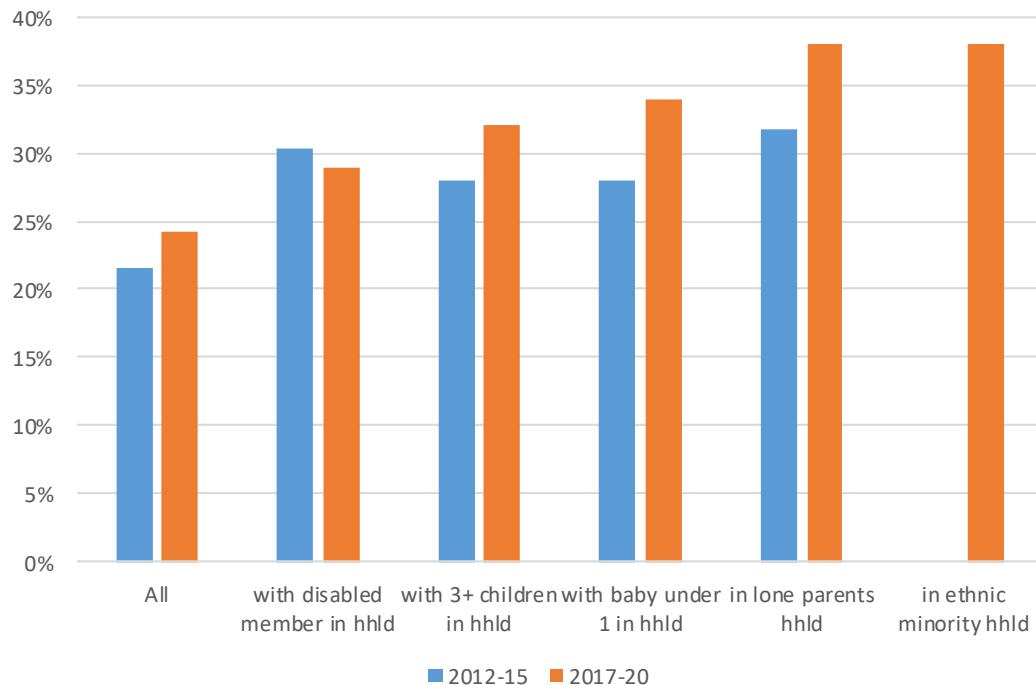
Retail and wholesale: Standard Industrial Classification (SIC) divisions 45, 46 and 47

Accommodation and food: Standard Industrial Classification (SIC) divisions 55 and 56

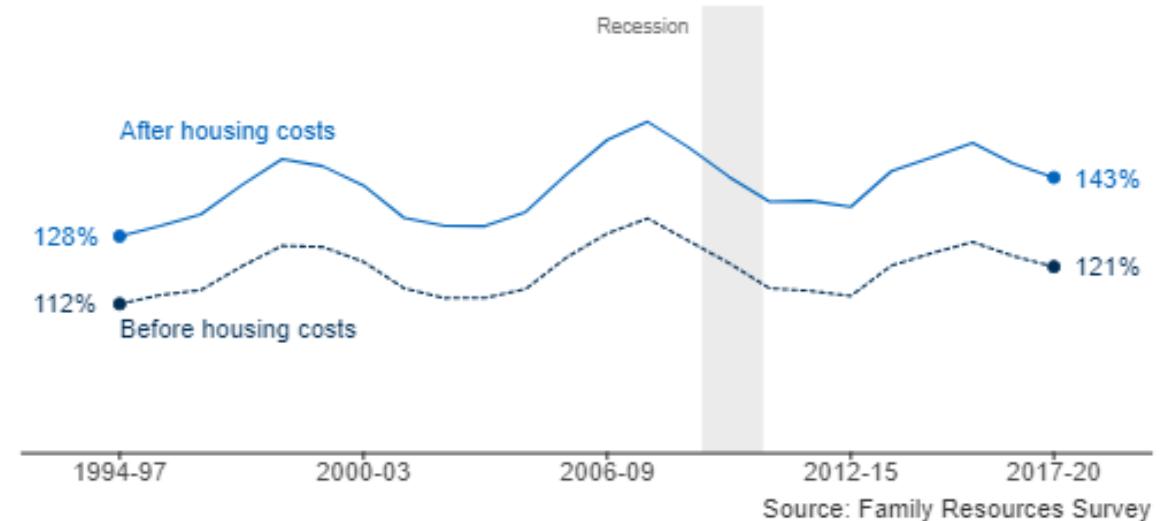
Child poverty rates and income inequality persist

- Poverty levels higher for children in priority groups, with no improvement in the last years:
- The Palma ratio (richest 10% share of gross national income divided by the poorest 40% share) continues to fluctuate:

Proportion of Children in relative poverty by risk group



Palma ratio of income inequality, Scotland



Source: Family Resources Survey

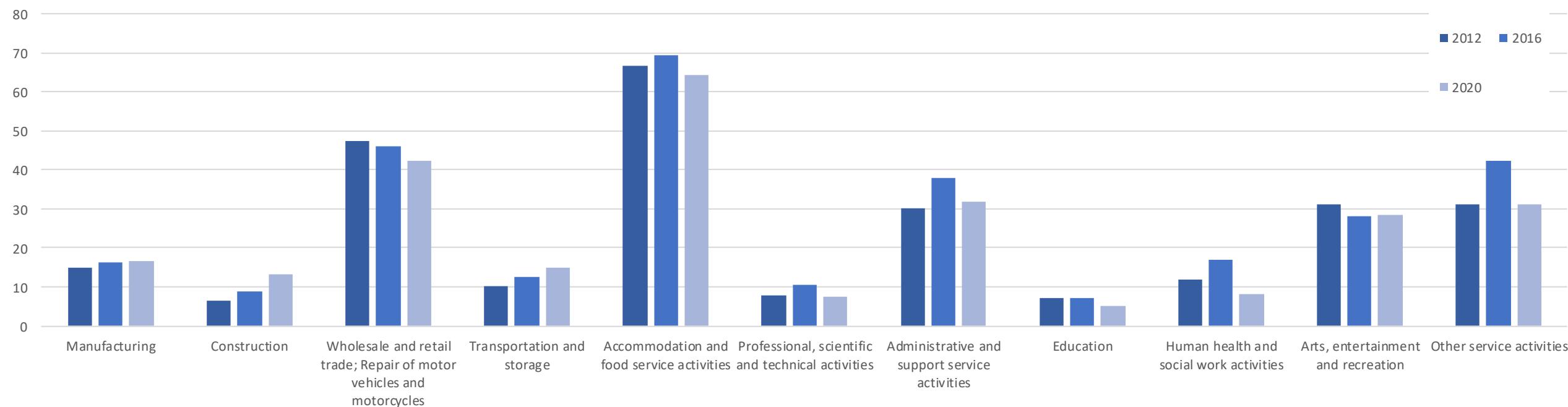


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Performance against the real Living Wage

- 15.2 % of the workforce overall earn less than the real living wage which is £9.30 in 2020.
- In Accommodation and food service activities nearly two thirds of the workforce (64.4%) earn less than the real living wage.
 - This shows a number of sectors may need to transform if we are to deliver fully on the fair work agenda

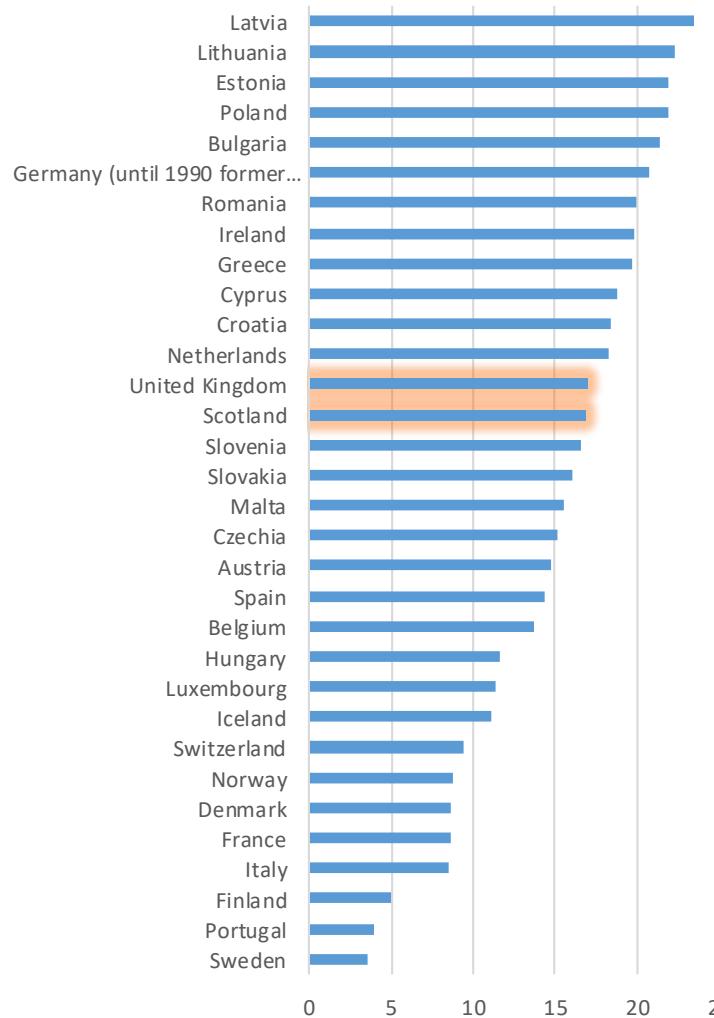
Percentage of employees earning below the real living wage (18 years and above), Scotland



Source: ONS, Annual Survey of Hour and Earnings

Percentage of employees who are low paid

Low-wage earners as a proportion of all employees (excluding apprentices) 2018



- Scotland (UK) are marginally below mid-table on ranking for “low-wage earners as a proportion of all employees”
 - This is a measure of relative earnings
- 16.8% of employees are low-wage earners (very close to those earning below real living wage – 15.2%)
- Most countries performing better than Scotland on this measure tend to rank higher on productivity performance
 - However, there are also some that rank significantly below Scotland on productivity (Slovenia, Czech Republic, Spain, Hungary, Italy, Portugal)
- It highlights role that labour market structure and policy can play in delivering better pay outcomes
- Limited scope for detailed sectoral breakdown – can only report for sector grouping
 - Industry and construction
 - Services
 - Public sector and other services

Source: Eurostat, Scotland ASHE ONS. **Low-wage earners** are defined as those employees (excluding apprentices) earning two-thirds or less of the national median gross hourly earnings in that particular country. Public Administration and defence are excluded from country estimates.

Net Zero, Natural Capital & Circular Economy: Overview

Net Zero, Natural Capital and Circular Economy: summary of key emerging challenges from the analysis (1/2)

High-Level Theme	Challenge / Opportunity
1. Buildings	1.1 Only around 11% of households have a low carbon heating system and just over half of our non-domestic building stock has heating from low or zero carbon sources. To reach net zero we will need to change the heating systems of over 2 million homes and almost 100,000 non-domestic buildings by 2045.
2. Electricity	2.1 We need to continue our progress, and move from a low to a zero carbon electricity system. Operating a zero carbon electricity system will mean finding new ways to provide a range of technical services and qualities currently provided by fossil fuel and nuclear generation.
3. Transport	3.1 In 2019 Scotland recorded the first fall in transport emissions since 2013, and the CCPu includes measures that will further reduce emissions while stimulating the economy. Many of the technological solutions needed to achieve net zero, such as in aviation, maritime and heavy goods vehicles, are in the early stages of development, and substantial innovation is required to bring them to market. However, alongside technological advances, managing transport demand and embedding behaviour change will also be vital.
4. Industry	4.1 Emissions in this sector predominantly come from manufacturing, as well as mining and construction. Combined, these sectors are fundamental to the Scottish economy, contributing £26 billion annually and employing over 300,000 people. There are wide-ranging opportunities in decarbonising this sector, including the development of CCS and use of hydrogen to displace fossil fuels.
5. Waste and circular economy	5.1 We recycle over 60% of Scotland's waste; the amount of waste going to landfill in Scotland is at its lowest since records began; and in 2018, waste and resources sector emissions were over 70% lower than in 1998. Achieving our milestones will require meeting our ambitious waste reduction and recycling targets, including: (a) ending landfilling of biodegradable municipal waste and significantly reducing food waste; (b) accelerating efforts to address legacy emissions from closed landfill sites; and (c) ensuring a more rapid transition to a fully circular economy in Scotland.
6. Land use, Land use Change and Forestry	6.1 Recent years have seen some success in these areas: for example 22,000 hectares of new woodlands have been planted in the last two years, and, as of March 2020, over 25,000 hectares of peatland have been put on the road to restoration. However, around 80% of Scotland's peatlands are degraded and Scotland remains heavily deforested compared to many other European countries.

Net Zero, Natural Capital and Circular Economy: summary of key emerging challenges from the analysis (2/2)

High-Level Theme	Challenge / Opportunity
7. Agriculture	<p>7.1 Agriculture and food production rely on natural processes, and will therefore always cause some degree of greenhouse gas emissions. The majority of the emissions in the agriculture sector come from livestock; however, it is important that all farmers and crofters, not just those with livestock, increasingly adopt low carbon technologies.</p>
8. Negative emissions technologies	<p>8.1 Our pathway to net zero is focused on reducing emissions from across Scotland's economy. However, we also need to bring forward key technologies which will compensate for residual emissions. There is substantial potential for developing Negative Emissions Technologies (NETs) in Scotland, and the potential to secure existing jobs as well as delivering new ones.</p> <p>NETs pathways with the potential to contribute to net zero in Scotland include:</p> <ul style="list-style-type: none">(a) Bioenergy with Carbon Capture and Storage (BECCS) for electricity(b) Biomass/Waste Gasification and Carbon Capture and Storage for hydrogenBECCS in industry(c) Biofuel production with Carbon Capture and Storage; and,(d) Direct Air Carbon Capture and Storage (DACCs)

The NSET Challenge: Mainstreaming the ‘Planet’ theme

Tackling the Climate and Nature crises will depend on urgent, **transformative economic and social change**.

This will mean transitioning to an economy which is:

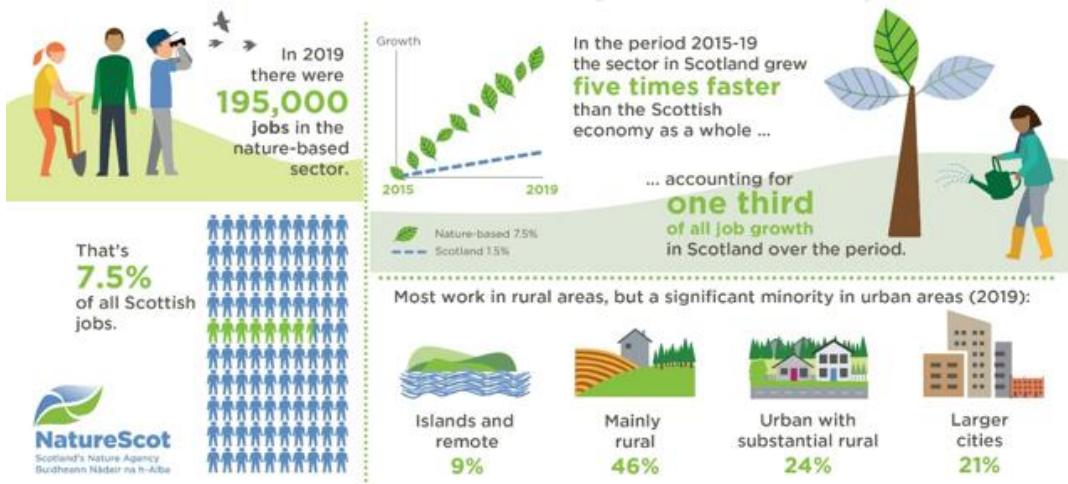
- **Nature-based** - Supporting nature’s recovery by building natural capital and driving a shift to sustainable production and consumption.
- **Net Zero** - Rapidly decarbonising across sectors to reach net-zero by 2045 and investing in nature-based solutions to climate change.
- **Circular** - Shifting from a linear ‘take, make, waste’ economy to a circular economy which is regenerative and minimises waste.

Scotland is well-positioned for this economic transition through its leadership in developing a wellbeing economy, with potential first-mover advantages in developing new industries and securing international investment.

Delivering new, good, green jobs



There are already around **23,100 jobs** in the **low carbon and renewable energy sector** in Scotland, and this will grow substantially as progress towards net zero accelerates.



- Around 8% of jobs in Scotland are linked to the **circular economy (207,427 jobs)**. The future growth in circular economy business models will increase demand for existing roles e.g. in resource management, logistics and engineering, and create new roles, such as urban miners.



Opportunities
for job
creation in all
parts of a
Circular
Economy

The “Planet” theme - supporting NSET priorities

Delivering new, good, green jobs



Investing in education, skills and capacity building to increase the already large numbers of green jobs :

Developing skills, jobs, expertise and supply chains to deliver the scale of land use transformation required to meet net-zero targets (woodland creation, peatland restoration, bioenergy, renewables, sustainable food production).

Delivering across Scotland in a national and regional way

Supporting national and regional delivery of a wellbeing economy by integrating and funding environmental objectives in local and regional initiatives, and mission-oriented approaches to net-zero and place.

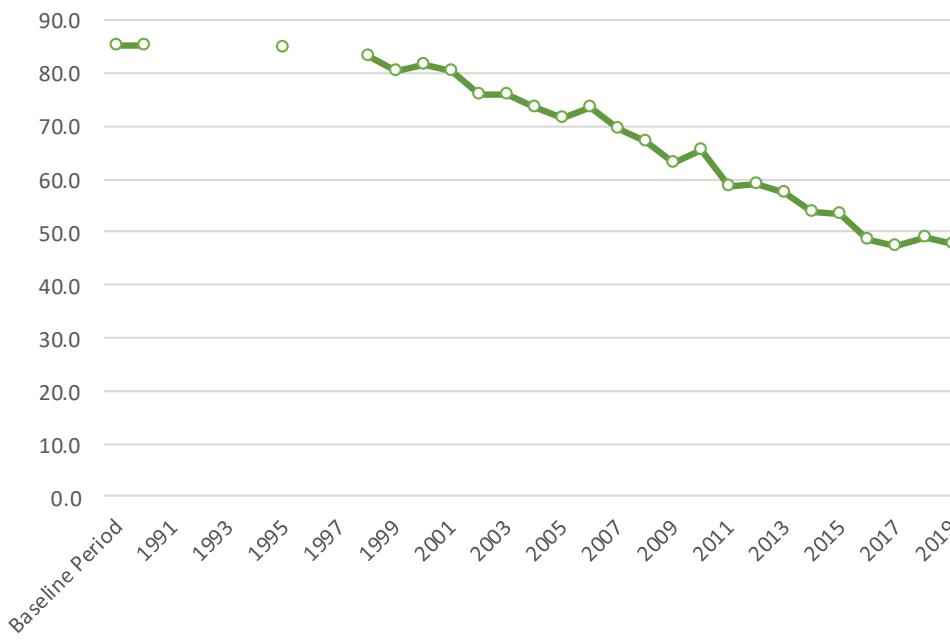
Investing in and supporting the industries of the future

Mainstreaming net-zero and circular business models and using a broader set of multi-dimensional indicators to measure success and progress towards a wellbeing economy.

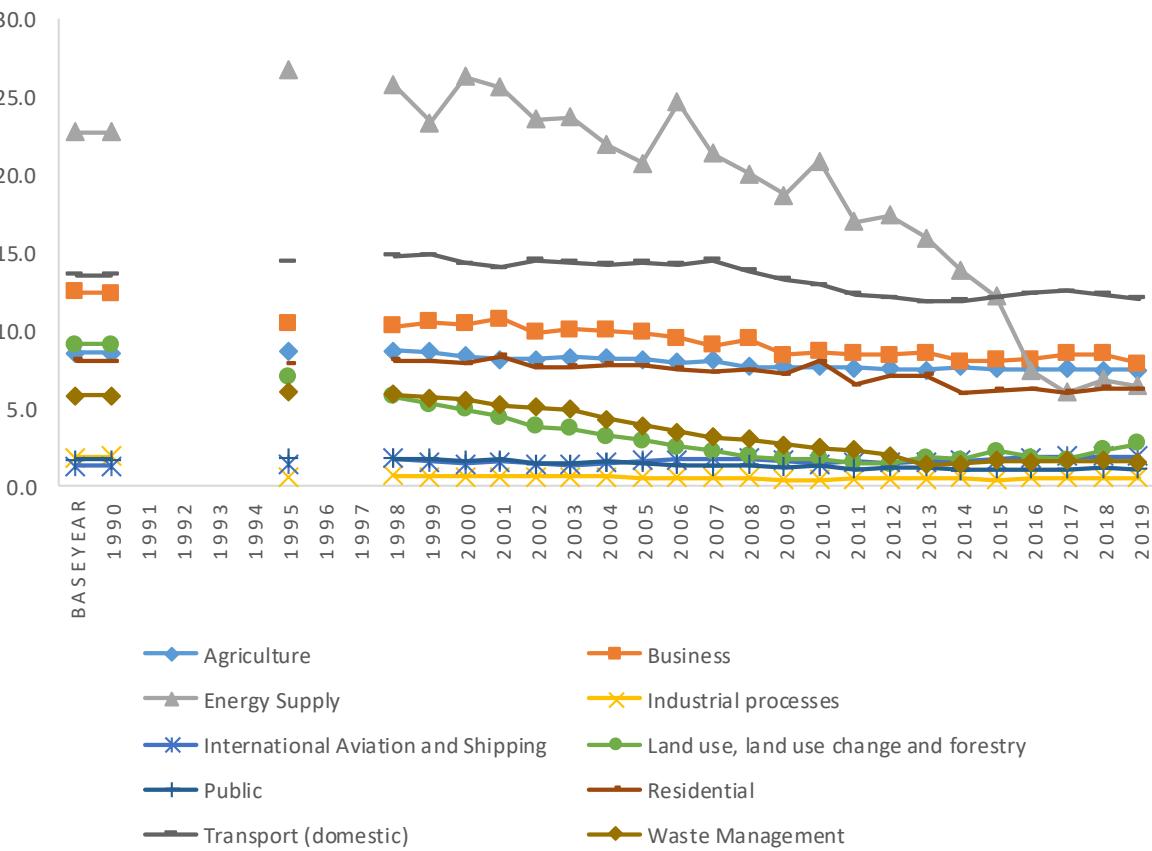
Net zero land use transformation in Scotland is estimated to require £12 billion of investment (UKCCC). There is significant interest in this large scale investment opportunity from private investors because of Scotland’s positioning on natural capital in terms of our assets and supportive policy environment.

Net Zero: Emissions Reductions: progress so far

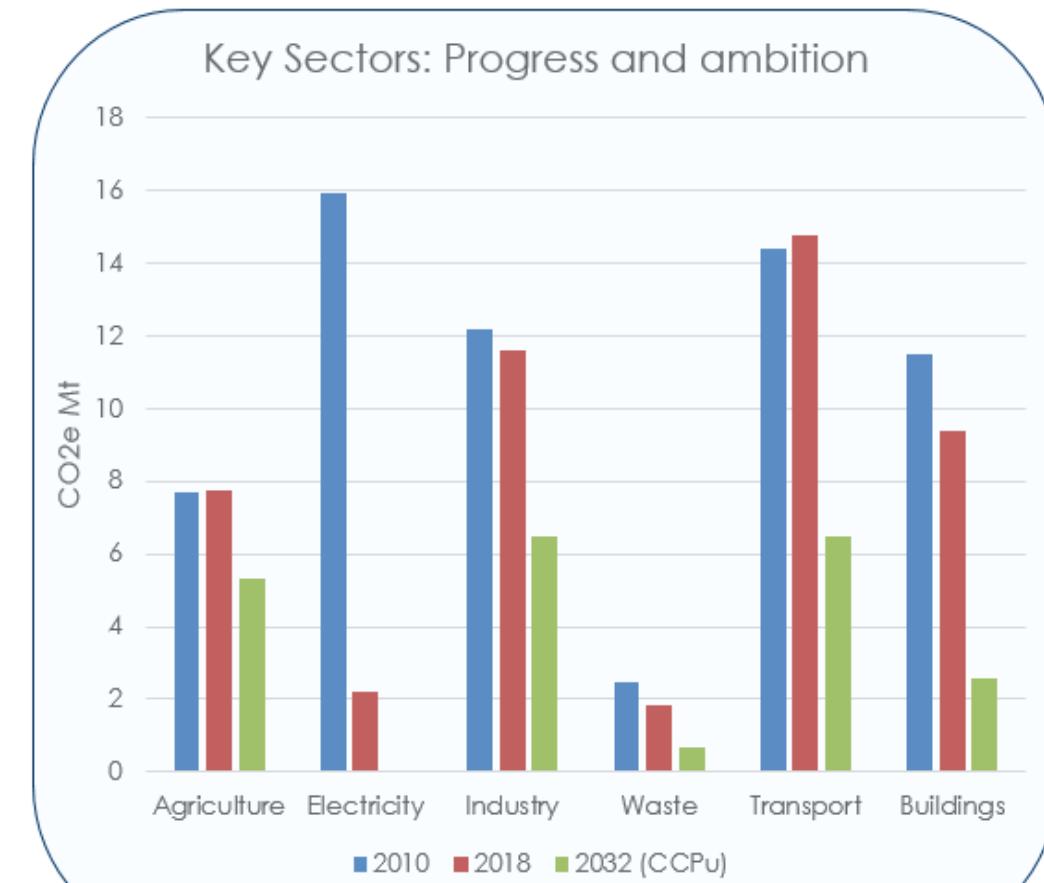
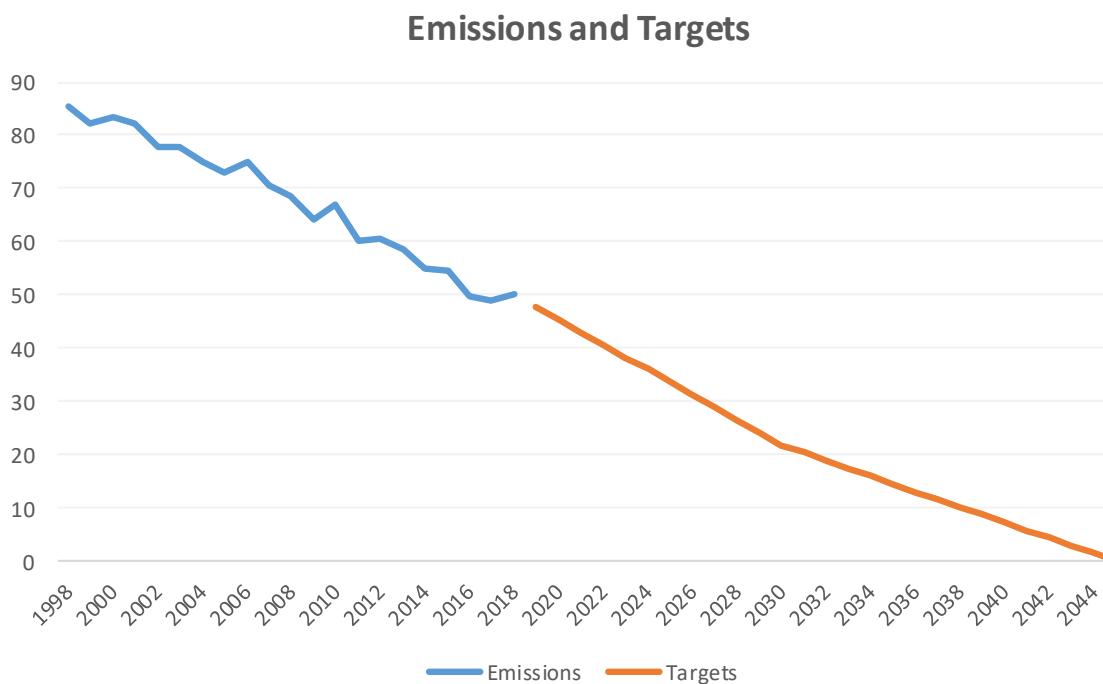
Scottish Greenhouse Gas Emissions, 1990 to 2019. Values in MtCO₂e



Main Sources of Greenhouse Gas Emissions in Scotland, 1990 to 2019. Values in MtCO₂e



Net Zero: The Climate Change Plan Update (CCPu): progress and targets



Net Zero: Sectors: Context, Challenges, Opportunities

Buildings:

- Currently, heat in buildings accounts for **20% of Scotland's greenhouse gas emissions**, **24.6% of households are fuel poor**, and **12.4% are in extreme fuel poverty**.
- As well as reaching net zero emissions by 2045, by 2040 our statutory fuel poverty targets require: that **no more than 5% of households are fuel poor**; that **no more than 1% of households are in extreme fuel poverty**; and that the **fuel poverty gap is reduced to £250**.
- We have made good progress so far, with **45% of homes now achieving Energy Performance Certificate Band C or better**. But only around 11% of households have a low carbon heating system and just over half of our non-domestic building stock has heating from low or zero carbon sources.
- To reach net zero we will need to change the heating systems of **over 2 million homes and almost 100,000 non-domestic buildings by 2045**
- Our target of a 75% emissions reduction by 2030 means we must rapidly accelerate heating system conversions, **doubling every year to at least 64,000 homes in 2025**, peaking at over **200,000 in the late-2020s**.

Electricity:

- Scotland is a world leader in renewable energy. 2020 was a record year for renewable electricity in Scotland, with the equivalent of 97.4% of gross electricity consumption generated from renewable sources.
- We need to continue our progress, and move from **a low to a zero carbon electricity system**.
- **Security of supply** - Operating a zero carbon electricity system will mean finding new ways to provide a range of technical services and qualities currently provided by fossil fuel and nuclear generation.
- Key levers—electricity policy and regulation – are reserved. Achieving our targets **critically depends on the UK government urgently taking the right actions**.
- **Importance of renewable technologies in a green recovery** eg analysis by National Grid estimated that **50,000 jobs in Scotland will be required in the net zero energy workforce**.

Transport:

- Transport continues to be Scotland's biggest emitting sector, accounting for **around 29% of emissions**. It is particularly stubborn to decarbonise. The derived nature means that where people live, work, learn and access goods and services all play a part in their need to travel. And many transport choices people make are particularly ingrained and have become habitual overtime.
- In 2019 Scotland recorded the **first fall in transport emissions since 2013**, and the CCPu includes measures that will further reduce emissions while stimulating the economy.
- The measures in the CCPu align with those in our National Transport Strategy (NTS2), published on 5 February. NTS2 sets the direction for Scotland's transport over the next two decades and embeds taking **climate action as a core priority** while also prioritising **reducing inequalities**, helping to deliver **inclusive economic growth**, and improving our **health and wellbeing**.
- Many of the technological solutions needed to achieve net zero, such as in aviation, maritime and heavy goods vehicles, are in the early stages of development, and **substantial innovation is required to bring them to market**.
- However, alongside technological advances, **managing transport demand and embedding behaviour change will also be vital**. Cars currently account for almost 40% of transport emissions, so the predominance of car use cannot be overlooked.

Net Zero: Sectors: Context, Challenges, Opportunities (2)

Industry:

- Scotland's industrial emissions **fell by over 45% (9.5 MtCO₂e) between 1990 and 2018**; however, emissions from industry continue to constitute around 20% of total Scottish emissions.
- Emissions in this sector predominantly come from manufacturing, as well as mining and construction. Combined, these sectors are fundamental to the Scottish economy, contributing **£26 billion annually and employing over 300,000 people**.
- Progress is often dependent on UK Government and/or international policy and markets, and there also remains a significant risk that decarbonising faster than the rest of the UK and Europe could lead to carbon leakage. We therefore require support for investment and a level regulatory playing field.
- There are wide-ranging opportunities in decarbonising this sector, including the development of CCS and use of hydrogen to displace fossil fuels. It's estimated **that by 2030 anywhere between 7,000 and 45,000 UK jobs** could be associated with Scotland securing 40% of the carbon storage element of a European CO₂ management market. **By 2050 this could rise to between 22,000 and 105,000 jobs**.

Waste and the circular economy:

- Scotland has made significant progress in the waste sector in the last 20 years. **We recycle over 60% of Scotland's waste**; the amount of **waste going to landfill in Scotland is at its lowest since records began**; and in 2018, waste and resources sector emissions were over **70% lower than in 1998**.
- Achieving these milestones will require meeting our ambitious waste reduction and recycling targets, including:
 - **ending landfilling of biodegradable municipal waste and significantly reducing food waste**;
 - **accelerating efforts to address legacy emissions from closed landfill sites**; and
 - **ensuring a more rapid transition to a fully circular economy in Scotland**.
- As part of a green recovery from the pandemic, we have an opportunity for **renewed impetus in building a fully circular economy** in Scotland, which will also **stimulate job creation**: research has shown that 10,000 tonnes of waste can create 1 job in incineration, 6 jobs in landfill, 36 jobs in recycling or up to **296 jobs in repair and reuse**.

Land use, land use change and forestry:

- The capacity that Scotland's land has to deliver **nature-based solutions to climate change**, including through increased tree cover and restoration of degraded peatland, is unique within the UK.
- Recent years have seen some success in these areas: for example **22,000 hectares of new woodlands** have been planted in the last two years, and, as of March 2020, over **25,000 hectares of peatland** have been put on the road to restoration.
- However, around **80% of Scotland's peatlands are degraded** and Scotland remains heavily deforested compared to many other European countries.
- Improving this situation presents both a challenge and an opportunity. Through significant increases in tree cover and widespread peatland restoration, we can **reduce emissions, increase carbon sequestration, enhance and protect our biodiversity, improve flood mitigation and climate adaptation**, and also **support new jobs** as part of a green recovery.

Net Zero: Sectors: Context, Challenges, Opportunities (3)

Agriculture:

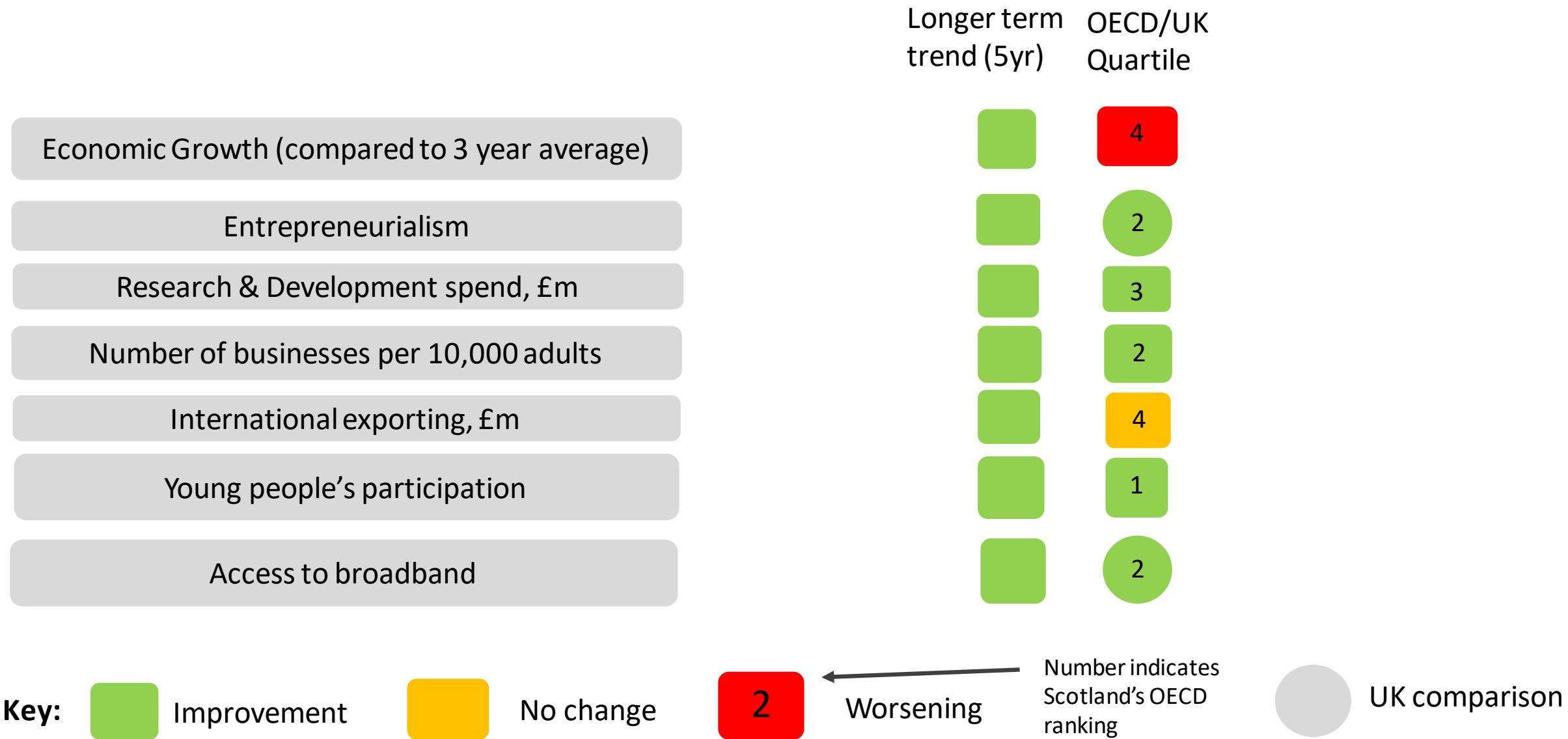
- In 2019 Scotland's agriculture industry contributed around **£1.3 billion worth of GVA** towards to the Scottish economy, **employed 67,000 people** and generated a **gross output of around £3.3 billion**. The Scottish Government supports Scotland's food and drink Ambition 2030 targets of **doubling the value of the food and drink sector by 2030 to £30 billion**.
- As we recover from COVID-19, there is an opportunity to develop new policies in the agriculture sector aimed towards **environmental outcomes and emissions reduction**. Examples include: restoring biodiversity; improving water, soils and air quality; and encouraging natural flood management and climate adaptation.
- Agriculture and food production rely on natural processes, and will therefore always cause some degree of greenhouse gas emissions. A fine balance must therefore be found to ensure **greenhouse gas reductions take place while Scotland continues to produce high quality food**.
- The majority of the emissions in the agriculture sector come from livestock; however, it is important that all farmers and crofters, not just those with livestock, increasingly **adopt low carbon technologies**.

Negative emissions technologies:

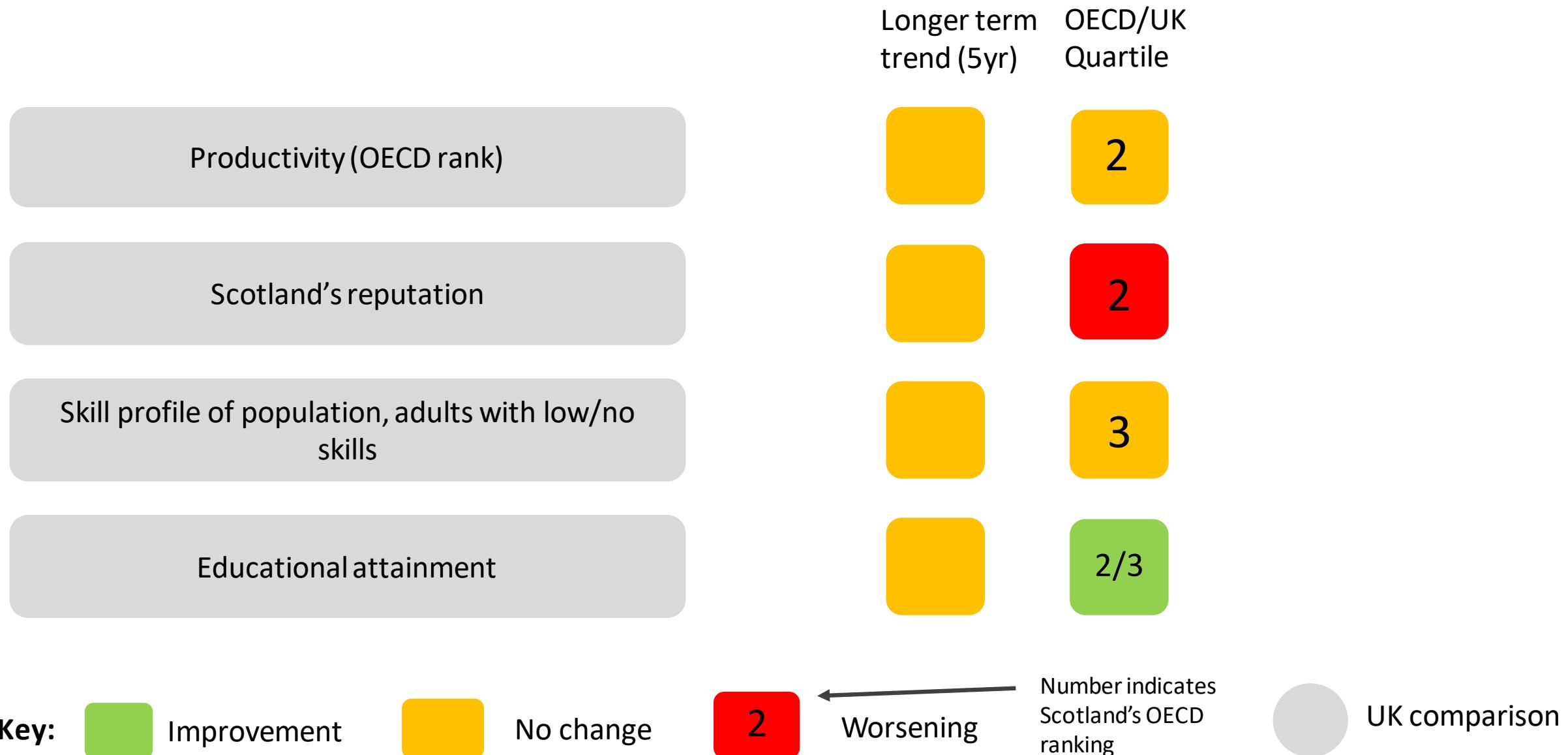
- Our pathway to net zero is focused on reducing emissions from across Scotland's economy. However, we also need to bring forward key technologies which will compensate for residual emissions.
- Through the detailed modelling and evidence building that we have undertaken to identify pathways to meet our climate change targets, we know that NETs will play a particularly important role in emissions reductions in Scotland during the 2030s and 40s.
- There is substantial potential for developing Negative Emissions Technologies (NETs) in Scotland, and the potential to secure existing jobs as well as delivering new ones.
- NETs pathways with the potential to contribute to net zero in Scotland include:
 - Bioenergy with Carbon Capture and Storage (BECCS) for electricity
 - Biomass/Waste Gasification and Carbon Capture and Storage for hydrogen
 - BECCS in industry
 - Biofuel production with Carbon Capture and Storage
 - Direct Air Carbon Capture and Storage (DACCs)

International Comparisons

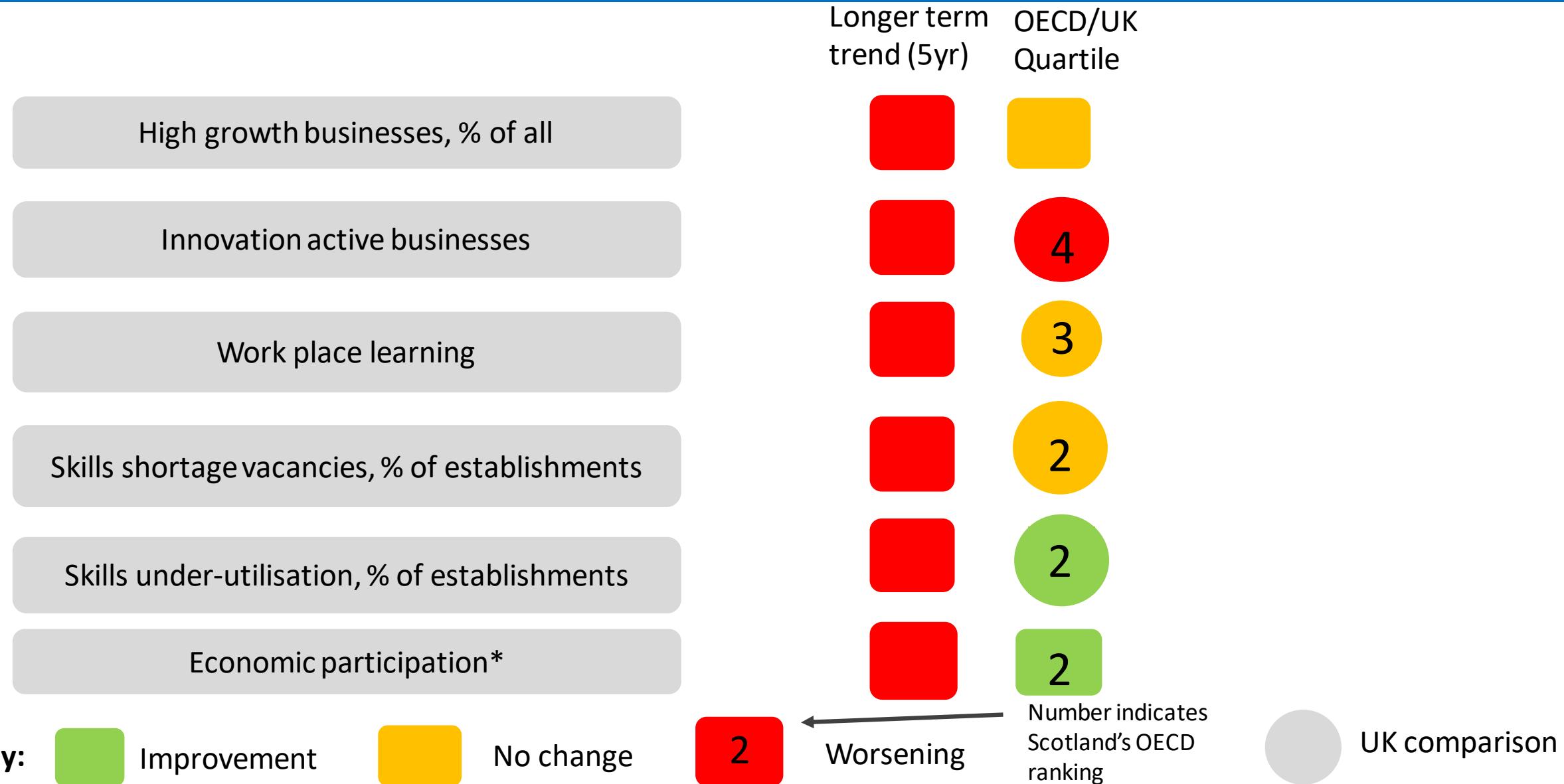
Drivers of Productivity: performance improving



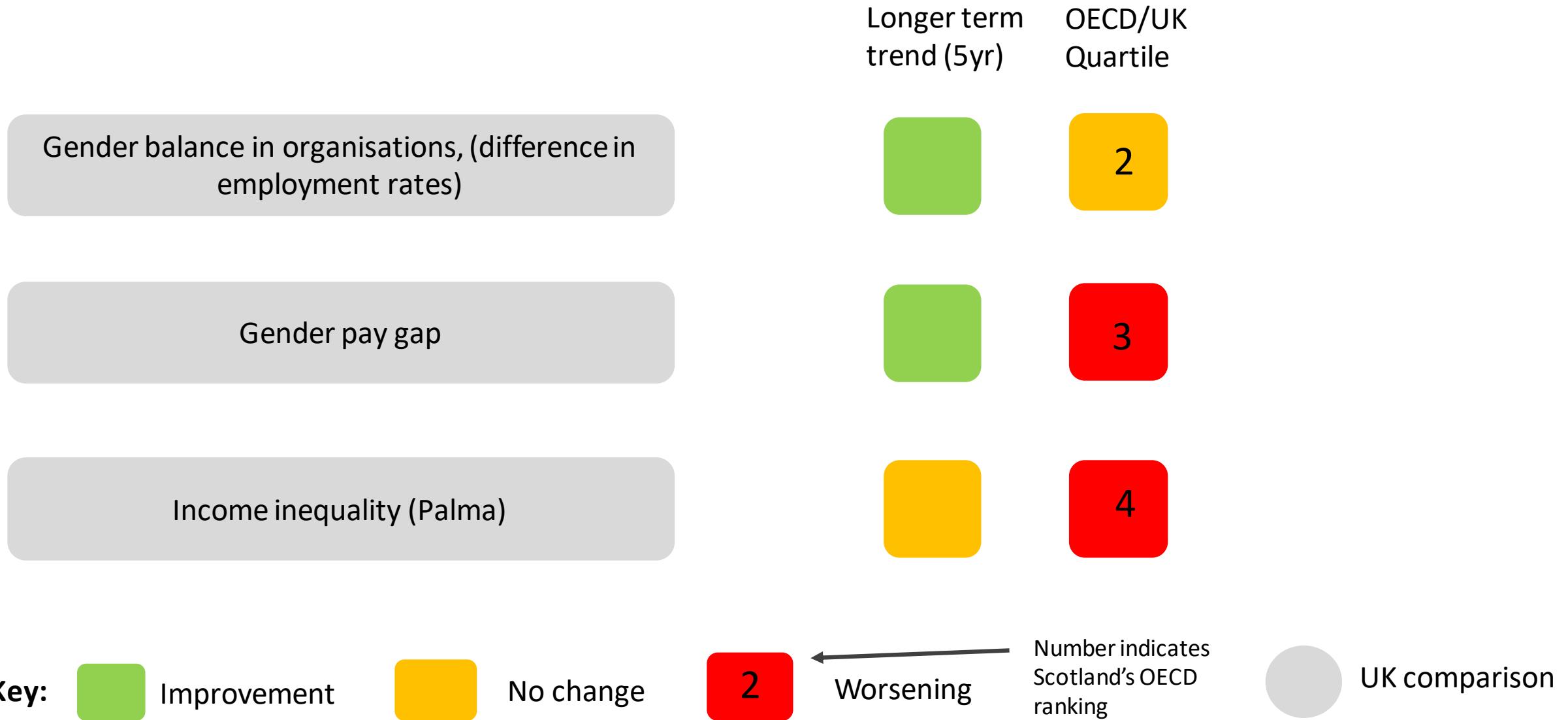
Drivers of Productivity: performance stable



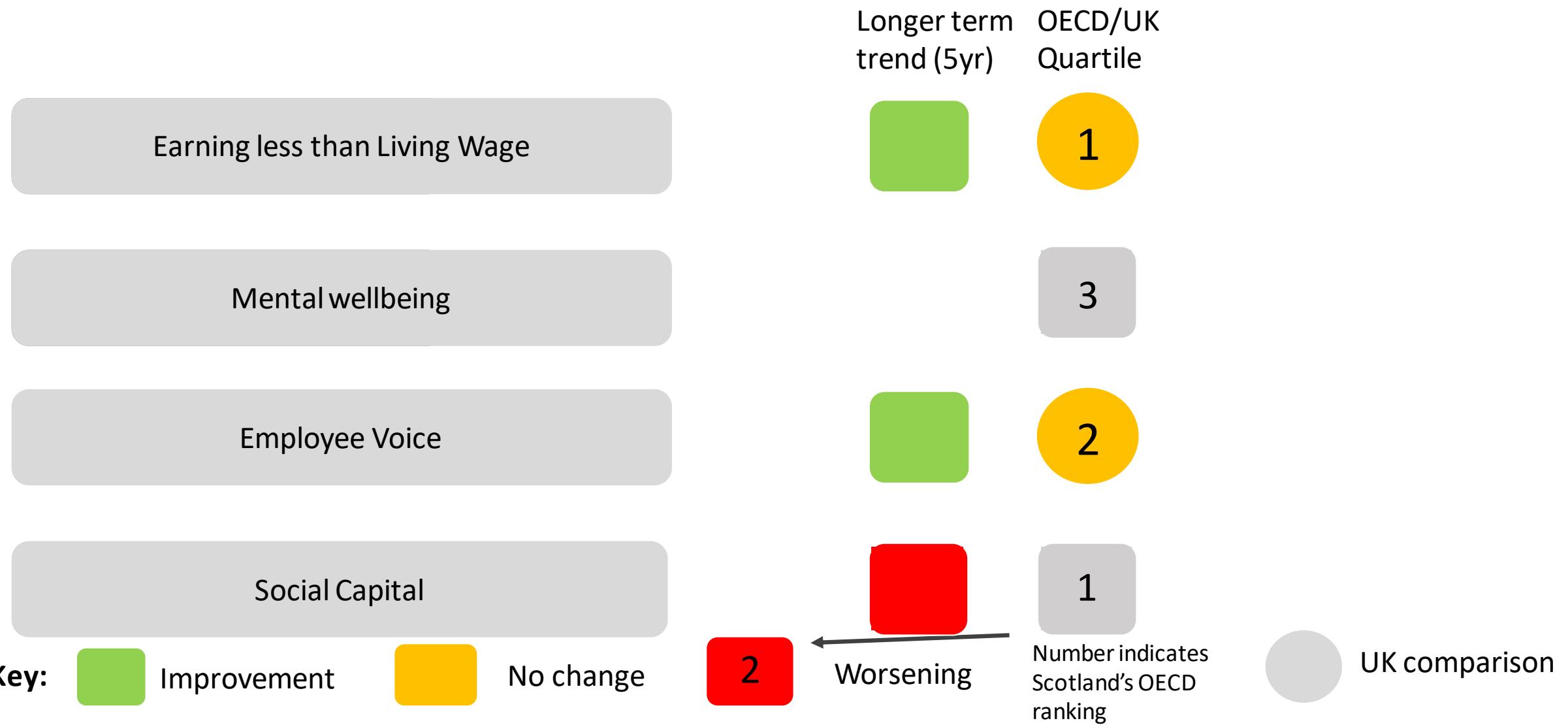
Drivers of Productivity: performance worsening



Equality



Wellbeing



Sustainability

