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HOW PRODUCTIVITY COULD DELIVER INCLUSIVE GROWTH IN SCOTLAND

Rachel Statham and
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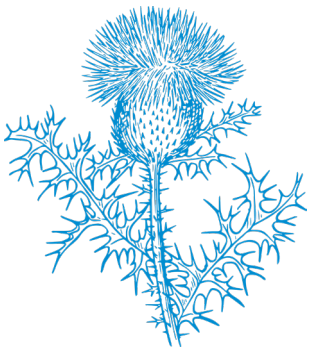

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SUMMARY

Across the UK, productivity rates have been close to flat since the financial crash in 2008, with a resultant stagnation in living standards and economic growth. How to restart productivity growth, and how to solve the 'productivity puzzle', has been foremost in policymakers' minds at the UK level, and with devolution of new tax powers, a crucial policy objective in Scotland too.

In 2015, the Scottish government refreshed its economic strategy, placing inclusive growth as a key aim at the centre of its strategy. Inclusive growth is the idea of delivering stronger economic growth that in and of itself narrows inequalities, rather than relying solely on government intervention to redistribute the proceeds of growth. Rather than being blind to the shape and direction of economic growth, inclusive growth is an attempt to shape growth to deliver the social outcomes we wish to see. Given the importance of productivity to the strength of the economy, it will be important to consider how productivity growth in Scotland could maximise our ability to reduce inequalities, boost tax take, drive out low pay and ultimately deliver inclusive growth in Scotland.

INCLUSIVE GROWTH AND PRODUCTIVITY – WHAT DID WE FIND?

We found evidence of a 'long tail' of low productivity firms in Scotland with a small number of frontier firms with very high productivity levels. Equally, Scotland sees significant variation in productivity by sector and region. This points to the need to spread productivity and innovation within sectors and across regions, as much as the need to drive new innovations in the economy.

In recent years average pay growth has been lower in Scotland than in the rest of the UK. With the devolution of a range of taxes to Scotland, wage growth differentials are important in affecting Scotland's budget. In future years, if projections are accurate, we will see significant amounts of tax revenue 'lost' in Scotland due to weaker growth in income tax per head in Scotland compared to the rest of the UK. In 2019/20, this will see Scotland lose all of the additional tax revenue raised by income tax rises, and just under £1.8 billion lost in lost in cumulative terms between 2019/20 and 2023/24. This means that despite welcome and necessary income tax rises in Scotland in recent years, much of this additional revenue from income tax rises is being counteracted by weak income tax revenue growth in Scotland.

Equally, boosting pay rates could be more effective at raising revenue over the long term than increasing tax rates. Boosting wage growth in Scotland by one per cent above forecast in each of the next three years could see around £750 million additional income tax revenue by 2022/23 rather than around £400 million through a 1p income tax increase on all bands. Similarly, boosting pay by one per cent above forecast for the bottom half of taxpayers could raise £150 million per year by 2022/23. Increasing pay for the lowest earners could be a crucial way to deliver more inclusive growth. Boosting productivity growth in the right way therefore has potential to boost pay and to boost tax revenues in Scotland.

DELIVERING INCLUSIVE GROWTH THROUGH PRODUCTIVITY GROWTH

Through its 2015 refreshed economic strategy, the Scottish government continued its focus on six growth sectors. However, these do not include many of the everyday parts of the economy where most people work and where low pay is concentrated. We would need to see unprecedented employment growth in Scotland's growth sectors if the aim is to deliver inclusive growth by reducing the size of lower pay sectors and increasing the size of growth sectors. To absorb 20 per cent of retail jobs, we would need to see growth sector employment as a whole increase by 6.5 per cent. This is more than the employment growth seen in Scotland's growth sectors since 2009.

It seems clear that relying on job creation in Scotland's 'growth sectors' to boost pay and prospects for the vast majority of Scotland's labour force is not a realistic or sustainable strategy for realising inclusive growth. Instead, Scotland's productivity strategy needs a dedicated focus on high-employment, low-wage sectors in order to drive up productivity and pay across the breadth of the Scottish economy.

Through the macro-modelling we undertook with the Fraser of Allander Institute, we found that a one-off productivity shock to lower-pay sectors in Scotland as a whole could deliver an increase in Scotland's gross domestic product (GDP) of £1.5 billion and an increase in Scottish government spending of £161 million per year. It would also deliver progressive outcomes benefiting the poorest households the most. This may point to the need to focus on lower-pay sectors to drive productivity growth and with it inclusive growth. A productivity shock to the wholesale and retail sector, a lower-pay and high employment sector, could see an increase in Scotland's GDP of £600 million over the long run and a £55 million increase in Scottish government spending over the long run, again benefiting the poorest households the most.

HOW CAN INCLUSIVE GROWTH BE DELIVERED THROUGH PRODUCTIVITY POLICY?

It is clear that to shape economic growth to deliver a more inclusive economy, we need to shape productivity growth to that aim. To do so we have outlined a number of recommendations:

- Encourage the Scottish government to focus economic strategy on the 'everyday economy'.
- Implement a new Committee on the Future Inclusive Economy (CoFIE) for Scotland.
- Establish new sector-based social partnership bodies.
- Ensure Scotland's national and local tax policy promotes increased productivity growth.
- Pilot tax revenue assignation within Scotland to boost productivity and inclusive growth.
- Increase investment in in-work learning for lower-paid workers in Scotland.
- Include an explicit focus on driving productivity in the everyday economy in the Scottish National Investment Bank (SNIB)'s 'mission' in order to drive inclusive growth in Scotland.

1. SETTING THE SCENE – PRODUCTIVITY AND INCLUSIVE GROWTH

1.1 INTRODUCTION

The UK economy has struggled to maintain productivity growth since the financial crash in 2008. Despite catching up with UK pay and productivity levels in the first decade or so of devolution, more recently Scotland's economy has struggled to maintain consistent growth in productivity rates too. The Scottish Fiscal Commission's latest forecasts for the next few years anticipate gradual increases but still low productivity growth in Scotland from 2018 through to 2023 (Scottish Fiscal Commission 2018), feeding into lower economic growth. Scotland's productivity challenge therefore remains urgent.

As the key means of driving up a country's average living standards over the long term, productivity growth is incredibly important to social and economic outcomes. Poor productivity can hold back growth and hold down wages. Equally, even strong productivity growth may not tackle Scotland's long-standing inequalities, depending on who benefits from increasing productivity. Choices made by policymakers will determine the extent to which productivity growth delivers greater economic wellbeing, and for whom, which will hinge in part on how any productivity gains are distributed across society (Lazonick 2016).

This report aims to shed light on the challenges and opportunities of delivering productivity growth in Scotland that can deliver an economy that narrows inequalities, delivering a more inclusive economy that can drive greater prosperity alongside greater economic justice.

1.2 WHAT IS PRODUCTIVITY AND WHY DOES IT MATTER?

Productivity is a measure of how efficiently an economy uses its human and physical capital to produce economic output. For the most part, productivity measures simply reflect a ratio of inputs to outputs; for example, the ratio of hours worked to the value of things made within a given economy. We measure productivity rates across economies in order to understand how much output – in goods or services – is generated per hour worked, or per worker. If we were to take a clock-maker, for example, we would measure that firm's productivity in terms of the number of clocks made per hour, or per worker in a given year. Productivity rates matter because as firms increase their productivity and can produce more output in the same time, or with the same number of workers, they add greater value to the economy which can then be shared in increased pay or kept in increased profits, without increasing prices.

The shape of productivity gains, and how they are shared, is critical to determining who benefits from the increased prosperity a more efficient economy promises. Raising productivity rates – or productivity *growth* – matters for three key reasons:

1. To ensure economic competitiveness, by making sure our economy can keep up with the output generated by trade competitors.

2. To drive economic growth: as we experience near record employment levels in Scotland, productivity plays an even greater role in growing our economy. In order to generate more output, productivity rates will have to rise.
3. To push up wages and living standards: productivity is key to boosting wages and living standards, as GDP per capita – or measured output per head of population – is linked to productivity rates, and productivity and wage growth have historically risen in step.

Sustained rises in productivity rates are key to economic growth that delivers for workers and owners of capital across an economy – and a top priority of economic policymakers. As economist Paul Krugman put it: 'Productivity isn't everything, but in the long run it is almost everything' (Krugman 1992).

Strong productivity growth is therefore incredibly important to both economic growth and living standards. Poor productivity can have a negative bearing on both prosperity and justice, holding back growth and holding down wages.

1.3 MEASUREMENT CHALLENGES: IS PRODUCTIVITY GROWTH ALWAYS A GOOD THING?

When considering productivity growth, policymakers are often seeking to understand how goods or services can be produced more efficiently. Productivity as it is commonly measured, however, does not always reflect innovation-driven efficiencies. Productivity rates are purely an indicator of the measure of inputs to outputs in the process of production – and increasing productivity rates are not always an indicator of economic progress. If output is maintained, for example, while a firm makes cuts to employment, their ratio of inputs to outputs would adjust in such a way as to increase their rate of production per worker, or per hour worked. If a firm were to produce less in a given month but work even fewer hours to do it, that would be classified as productivity growth.

Equally, even innovation-led productivity increases can lead to short-term falls in employment in parts of the economy, as firms may respond to improvements in efficiency by reducing their number of workers, given fewer workers are required to produce the same goods. How workers are protected in the longer term, as new demand generates new employment opportunities, will play an important role in shaping who shares in greater prosperity generated from greater economic efficiency. The quality of jobs created through new demand, and the wages workers are paid to do them, will be critical determinants of how broadly the gains of growth are shared over the longer term.

Productivity measures also often suffer from a lack of consideration of quality. In social care, for example, less time spent making the same number of home visits could ordinarily be measured as increasing productivity. In the real world, however, this might see lower quality care, and therefore not be seen as a productivity improvement at all. Quality adjustments, therefore, are an important piece of the productivity puzzle. In responding to these challenges, the Office for National Statistics (ONS) measures productivity in the adult social care sector in terms of growth in the quantity of inputs in relation to growth in the quantity of outputs, adjusted for the quality of those outputs (ONS 2019a).

There are also considerable issues concerning how value is captured by widely used economic indicators. Recent research has considered the distinction between value and price in capitalist economies, with particular insights for how innovation is measured (Mazzucato 2018). There is a growing argument that value extraction is increasingly mistaken for value creation, which skews the extent to

which we reward non-productive activity, and leaves productive sectors ignored. In innovation sectors particularly, there is evidence that activities such as patent-hoarding mean that rather than rewarding innovation, the economic model the UK has adopted can harm the diffusion of new knowledge.

1.4 THE LINK BETWEEN PAY AND PRODUCTIVITY

While the relationship between productivity growth and rising living standards (in aggregate) is long established, the exact mechanism that links productivity growth to wages has been the focus of particular scrutiny over the last decade. Innovation – whether through sector-wide adoption of new technologies, state investment in the development of new skills, or firm-level reforms to management practices – has long been understood as a driver of growth, delivering greater prosperity and pushing up earnings for workers across the economy. Recent evidence suggests that this relationship is changing, with working people feeling less of the benefit of economic growth through their pay cheque. Economists studying this phenomenon have pointed to growing inequality in the labour market, as the wealthy experience a disproportionate share of the gains of growth (IPPR 2018; Dube 2019).

How far the fruits of productivity growth are shared by workers is to a large extent determined by collective bargaining power. Workers' bargaining power can determine how far increased prosperity is cycled into rising wages, just as lack of bargaining power can drive *exclusive* growth, with the gains of greater economic efficiency held in shareholder profits.

COLLECTIVE BARGAINING AND SCOTLAND'S NATIONAL PERFORMANCE FRAMEWORK

In 2007, the Scottish government established Scotland's National Performance Framework (NPF) to attempt to set a clear vision and values for Scotland, outcomes that would help to deliver against this vision and these values, and indicators to measure progress in doing so. It was one of the first attempts to develop an outcomes-based approach to government. It was refreshed in 2011 and 2016, and most recently in 2018. The NPF includes indicators and outcomes across a vast range of activity in Scotland, including explicitly on productivity, fair work and inequalities, with promoting wellbeing as one its unifying principles. For the first time, the NPF includes an explicit target to increase the proportion of employees in Scotland covered by a collective bargaining agreement between employer and trade union. Currently just over one-third of employees in Scotland (34.8 per cent) agree they are covered by a collective bargaining agreement.[1]

The relationship between productivity and pay in a globalised economy is complex. On the global stage, US commentators have pointed to a declining share of national income going to wages and salaries – the 'labour share'. Recent evidence suggests a similar trend in the UK economy too (IPPR 2018). From the high point of UK trade union membership to the current decade, research attributes a 4.4 percentage point decline in labour share of GDP to falling union density (Onaran et al 2015). As productivity gains – and GDP growth more broadly – are not cycled into rising wages, some suggest the gains of growth are increasingly concentrated in the wealth and incomes of the wealthiest 10 per cent, skewing the economy further.

1 Source: https://nationalperformance.gov.scot/measuring-progress/national-indicator-performance

Among efforts to shed light on the effect of productivity growth on pay, recent research has explored the relationship between productivity and wage-setting within low-pay firms across the UK. Researchers found limited evidence of a strong relationship between productivity growth and rising wages over the period 2011–15 (Ciarli et al 2018) – though given the economic anomalies of the UK's post-crisis recovery, further study will be needed to assess this relationship over the longer term. Outside the UK, studies have found a stronger relationship between productivity and wages at least at the sector level, with sector productivity appearing to have a larger effect than productivity at the firm level (see Pessoa and Van Reenen 2013; Carlsson et al 2016).

In terms of firm-level productivity growth, there is evidence to suggest that UK firms have only a partial understanding of what productivity means, and have considerable difficulty measuring it (Green et al 2018). Having surveyed low-wage employers across the UK, Green and colleagues found that while there was evidence that productivity had an influence on wage-setting, few employers could describe how productivity affected their decisions regarding wages. There were, however, particular economic levers that were reported to focus firms' attention on boosting productivity – with the introduction and raising of the National Living Wage identified as one such policy. This supports other evidence which suggests that raising the wage floor has been an effective way to increase both wages and productivity (Riley and Bondibene 2015) – with important implications for sectors dominated by low-pay employment. Following the UK government's appointment of Professor Arindrajit Dube to review international evidence of the impacts of a minimum wage, this will be a key area for action – particularly if findings point towards wage-setting at the sub-state level.

There is also likely to be multi-directional forces affecting productivity and pay. Low pay has been identified as a drag on productivity growth in a number of studies. The TUC has argued that weak productivity performance has been driven not by supply-side factors, but by weak demand caused by austerity policy. As demand has been weakened across the UK economy, it's weakened growth and innovation, and constrained pay. It is weakness across these drivers, it is argued, that is dampening productivity growth across the UK economy (Tily 2015). Research from the Bank of England, meanwhile, finds that the relationship between pay and productivity growth is multi-directional, with relative pay growth tending to lead relative productivity growth at industry level (Tuckett 2017).

Equally, an over-flexible labour market may be holding back productivity growth, with incentives for employers to invest in their workers and to use them effectively reduced by increasing adoption of insecure work business models. Within this picture, recent increases in insecure work – particularly in the form of zero-hours and temporary contracts, part-time work and self-employment – have been identified as potential drivers of this weakness (Bivand and Melville 2017). This challenge is compounded by a backdrop of longer-term decline in mid-skill, mid-pay employment vulnerable to outsourcing or automation – both of which are closely linked to productivity.

When labour is cheap, firms have less incentive to invest in workplace innovations aimed at boosting productivity, because it is more straightforward to meet additional demand by hiring new workers for little extra expenditure. While employment has recovered since the financial crash and the Scottish economy is enjoying record low unemployment, rates of underemployment – where workers are seeking more hours than they're working – have not bounced back from the Great Recession. High employment figures may be obscuring hidden slack in the UK and US labour markets – in the form of underemployment – which is an identified key force holding down wages in the period since (Bell and Blanchflower 2018; Scottish Government 2019a).

Low wages are therefore likely both a cause and a consequence of our productivity problem. Addressing economic inequality will require a focused effort through every available mechanism of Scotland's economic strategy.

1.5 A FAIRER ECONOMY IS A STRONGER ECONOMY

For much of the 20th century, it was widely held that inequality was the inevitable consequence of economic growth. In order to incentivise entrepreneurs and innovators to take risks, and owners of capital to invest, it was assumed rewards for innovation and investment would need to be sufficient. The wealth created by those entrepreneurs and owners of capital would eventually 'trickle down' through income distribution, and the rising tide of prosperity would eventually lift all boats.

Over the last decade, a new body of evidence has disproved this logic. Research from the International Monetary Fund (IMF) and the Organisation for Economic Co-operation and Development (OECD) has demonstrated that high levels of inequality tend to lead to weaker economic performance – and that narrowing inequality is good for growth. Economies with a more equal distribution of wealth and narrower income inequalities have stronger and more sustained economic growth than those with greater inequality (Ostry et al 2014). Furthermore, the notion that the redistribution of wealth and income is the enemy of growth has been disputed. Evidence finds, to the contrary, that redistribution either helps growth, or has little effect on it (Berg and Ostry 2011; Ostry et al 2014).

How we can drive productivity growth that narrows inequalities, and that delivers more inclusive growth, is therefore likely to have a crucial bearing on the future of Scotland's economy.

1.6 WHAT IS INCLUSIVE GROWTH?

Since 2015, the Scottish government has adopted inclusive growth as a key priority for Scotland's economic strategy (Scottish Government 2015). At its core, inclusive growth is about delivering an economy that narrows inequalities prior to redistribution through tax and benefits. This is based on the premise that fairer economy is a stronger economy, and vice versa. The Scottish government defines the term as 'growth that combines increases in prosperity with greater equity, creates opportunities for all and distributes the dividends of increased prosperity fairly'.

Inclusive growth is about narrowing inequalities through the process of economic growth. There are many policy interventions that narrow inequalities through other means, but inclusive growth is focused on narrowing inequalities through economic means. This is a different logic. Inclusive growth therefore marks a distinction from previous models of economic growth, such as 'trickle-down' growth, popular through the 1980s and early 1990s, and 'third-way' economics, popular through the 1990s and early 2000s. Trickle-down models of growth hinge on the assumption that the effects of growth will be experienced in sequence, with the benefits of growth first felt by the already wealthier parts of a society, meaning the rich will get richer first before the benefits of that economic growth trickle down to the poor. 'Third-way' economics is characterised by its ambivalence to the shape of growth, but commitment to redistribution of the gains of growth through tax and social security.

Inclusive growth is set apart through a clear aim to reduce inequalities *prior* to redistributive interventions, such as tax and benefits. The promise of inclusive growth lies in the shaping – or re-shaping – of policy in such a way that necessarily delivers distributional outcomes (Green et al 2017).

To realise inclusive growth, therefore, you need to see both growth and greater inclusion – not one or the other, and not one after another – but both in step. Equally, inclusive growth is about narrowing inequalities through the process of economic growth. There are many policy interventions that narrow inequalities through other means, but inclusive growth is focused on narrowing inequalities through economic means. Inclusive growth approaches must also be multi-dimensional. Recognising the various dimensions and drivers of economic inequality, inclusive growth – in theory at least – seeks to combine place- and people-based strategies to tackle barriers to economic participation. Finally, inclusive growth is concerned not just with the shape and direction of growth, but with the *pace* of growth. In this respect, inclusive growth aims to deliver sustainable and broad-based growth.

Inclusive growth is now a stated objective for a wide range of Scotland's economic agendas, including fair work, skills and enterprise policy, City Deals and national economic strategy. If economic growth in Scotland is to be inclusive, and productivity growth is a key driver of sustained growth, it is critical that we better understand how productivity growth can be shaped to be inclusive.

2. SCOTLAND'S RECENT ECONOMIC PERFORMANCE

2.1 SCOTLAND'S PAST ECONOMIC RECORD

Across the UK, productivity performance has been flatlining. Economic commentators have warned in the strongest terms of the scale of the shadow cast by the UK's 'productivity crisis', as living standards stagnate and the squeeze on real incomes has shown little sign of letting up (though there are recent signs of improvement) (Financial Times 2018).[2] In November 2017, the Office for Budget Responsibility (OBR) revised down forecasts for trend productivity growth, following downgrades in a number of previous years, on a re-evaluation of prospects for long-term weak productivity growth (OBR 2018).

UK productivity rates are 22.9 percentage points below pre-crisis projections, leading economic commentators to contemplate the possibility of a low-productivity-growth status quo marking a new era of stagnation (ONS 2019b; Haldane 2017). Compared to its international competitors, the UK's productivity performance lags behind. In terms of GDP per hour worked, UK performance trails the US, Germany, Italy, France and the G7 average (ONS 2018a). Evidence suggests that across the UK productivity weakness is not to do with how hard people work, but rather is a consequence of much lower levels of investment in physical and human capital, management and production systems, and the creation and diffusion of new technologies as compared with other leading economies (IPPR 2018).

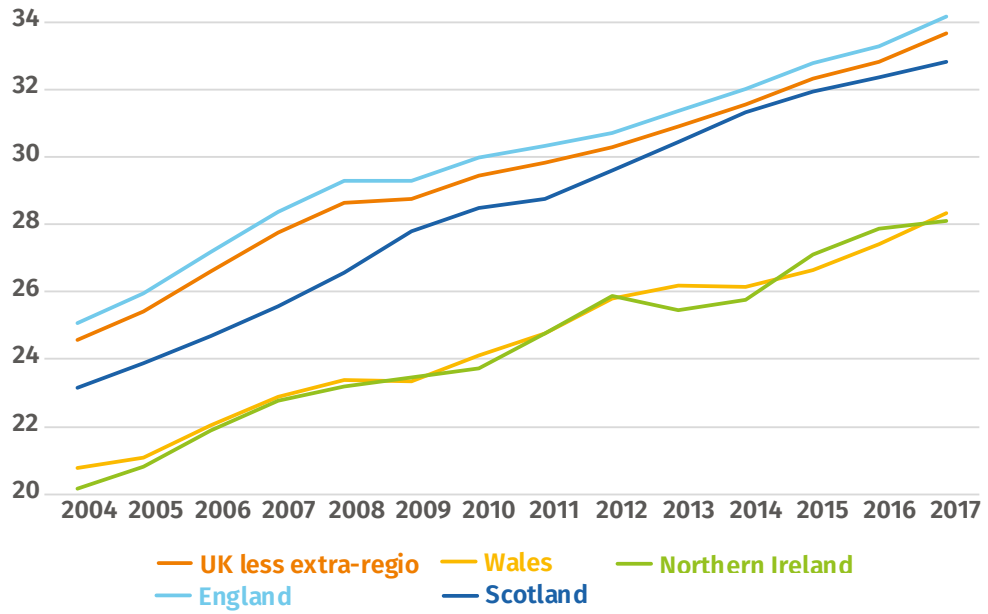
Meanwhile in Scotland the picture is not much brighter. Scotland's productivity challenge has gathered urgency in recent years. The Scottish Fiscal Commission has warned that one of the main factors underlying faltering GDP growth in Scotland is slow growth in productivity, as they too have revised down recent expectations for productivity growth.

As figure 2.1 shows, through the early 2000s, productivity growth in Scotland was outpacing that of the UK, narrowing the gap between the Scottish economy and UK-wide performance. In the wake of the financial crash, however, Scotland's productivity growth has slowed.

2 The latest pay data published by ONS shows stronger pay growth across Great Britain, suggesting this picture may be changing (ONS 2019e).

FIGURE 2.1

GVA per hour worked, UK nations and regions

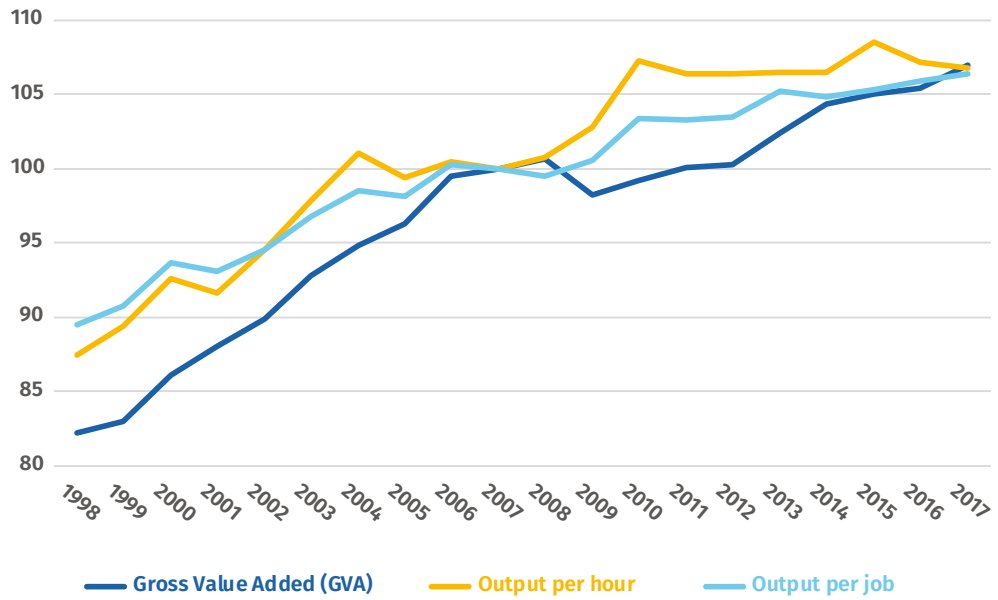


Source: ONS (2019c)
Note: Data are unsmoothed and expressed in nominal terms

As figure 2.2 shows, Scotland's productivity growth has stalled in recent years, across all three measures – GVA, productivity per job and productivity per hour. The stalling of productivity per hour has been particularly pronounced with little to no increase since the financial crash and Great Recession.

FIGURE 2.2

Scotland's productivity trends

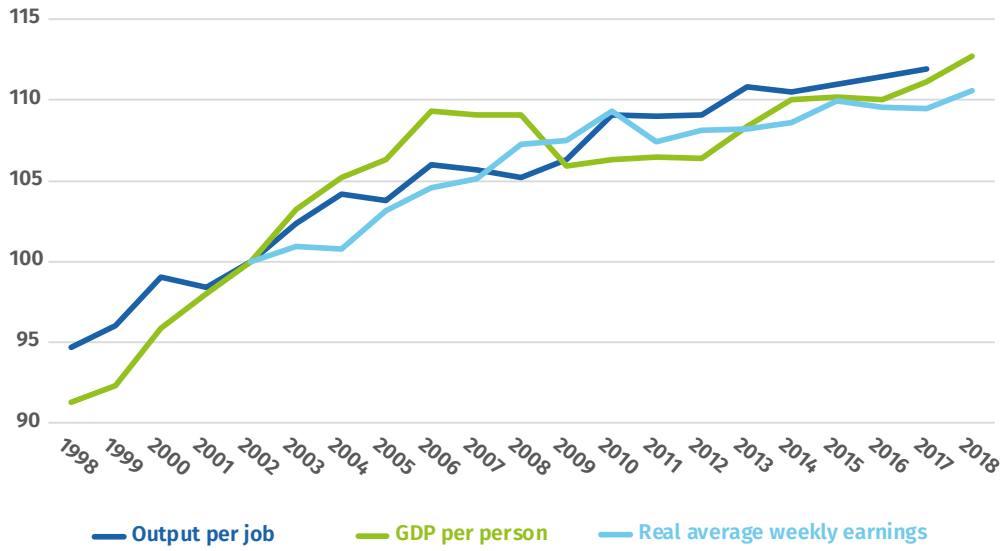


Source: Scottish Government (2019b)

As shown by figure 2.3, when we look at trends across productivity, GDP and pay growth in Scotland, we can see that pay and productivity performance have been well linked in Scotland over time. However, GDP outperformed both pay and productivity in the few years leading up to the financial crash, and slightly underperformed pay and productivity growth immediately following. As commentators in the US and UK warn of the 'decoupling' of pay and productivity growth (OECD 2018), further research will be needed to determine whether a similar trend can be observed in Scotland.

FIGURE 2.3

Are pay and productivity decoupling in Scotland?



Source: Scottish Government (2019b, 2019c); NOMIS (2019)

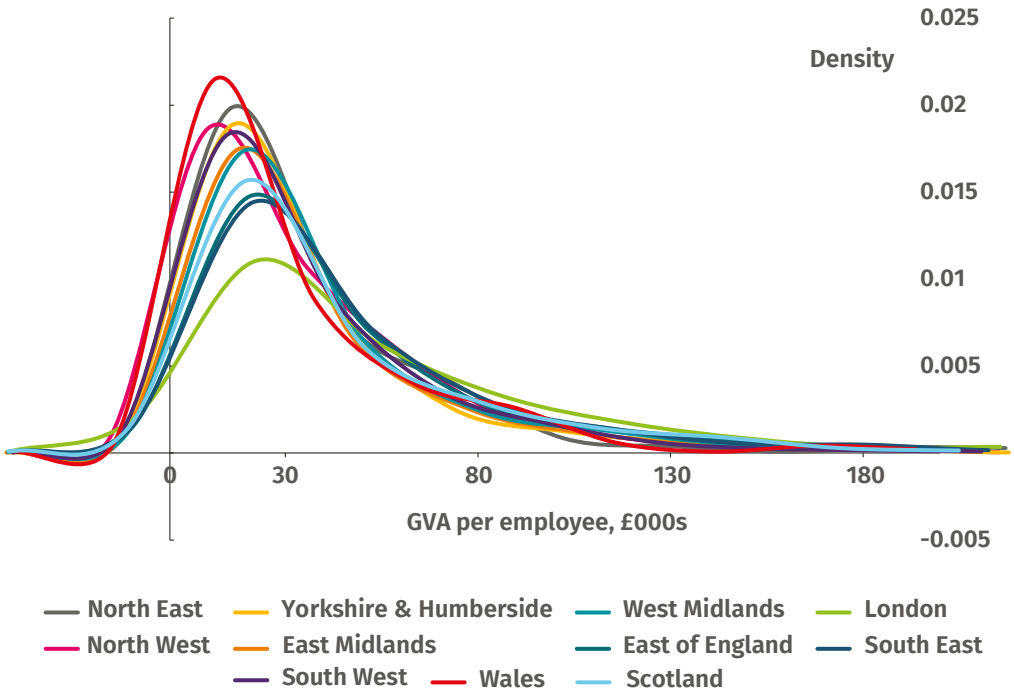
Scotland does, however, appear to have entered a sustained state of high employment and slow wage growth, with working people not feeling the benefits of economic recovery. This is despite near record employment levels, under which long-standing economic theory would suggest that greater worker bargaining power would drive up wages.

In order to sustain public finances and realise inclusive economic growth in Scotland, we need to move from an employment-led growth model to earnings-led growth, supported by improvements in productivity.

As shown in figure 2.4, Scotland's economy is characterised by a small number of high-productivity 'frontier' firms, and a long tail of low-productivity firms, mirroring the UK as a whole. This points to poor take-up of new business practices, innovations and technologies, as high productivity levels are confined to a small pool of 'frontier' firms, both across the whole economy.

FIGURE 2.4

Scotland's 'long tail' of low productivity firms



Source: Haldane (2017)

Outside London, the South East and the east of England, however, Scotland demonstrates a better distribution of productivity at firm level than the rest of the UK. With Brexit on the UK's economic horizon and a new wave of economic protectionism observed across the globe, there may be new barriers to technological diffusion that will require proactive solutions (World Economic Forum 2019). Bank of England analysis suggests that the 'long tail' phenomenon is particularly concentrated in everyday economy industries such as the wholesale and retail trade and transportation and storage (Haldane 2017).

Part of the answer to addressing the long tail or productivity in Scotland will likely be increasing the adoption of digital technologies across firms and sectors. Only 26 per cent of Scottish businesses report that their employees are fully equipped with the skills to meet the business's digital technology needs, but just 34 per cent of businesses are developing their existing employees' digital skills (Scottish Government 2017a). Uptake of digital technologies across the Scottish economy is therefore likely a necessary step towards higher levels of innovation diffusion, but this alone will not be sufficient action.

Another major cause of productivity weakness in the Scottish economy is likely to be poor utilisation of workers' skills. Employers in Scotland with two to four employees report skills underutilisation among 17.7 per cent of their workforce, with large employers (having over 250 employees) underutilising the skills of only 6.5 per cent of their workforce (Callander et al 2018). High levels of skills underutilisation weakens firm- and economy-wide productivity, as previous skills investment is wasted, and individual workers are prevented from realising their potential.

There are a number of factors likely to influence productivity growth in Scotland more generally too. Business investment in Scotland is particularly low, and a downward trend in response to uncertainty surrounding Brexit has compounded this weakness. Meanwhile, Scotland's spending on research and development (R&D) is low compared to UK nations and regions. England, and particularly the South East and East of England, dominate R&D spending, while expenditure in Scotland accounted for just seven per cent of total UK R&D in 2016 (at £29.4 billion) (ONS 2018b). Within this picture, 40 per cent of R&D spend is attributable to just five companies (Fraser of Allander 2019).

SMALL BUSINESS BONUS

One of the few business taxes in Scotland to be devolved is business rates (non-domestic rates). Business rates are a tax based on the size of a business's property. It is set by Scottish government, with a number of national reliefs and allowances, and the ability for local authorities to set their own. Revenue is currently just over £2.7 billion, with funds going to local authority spending. Business rates were reviewed as part of the Barclay Review, which made 30 recommendations for change, almost all of which were adopted by the Scottish government (Scottish Government 2017b).

One of the national tax allowances in relation to business rates is the Small Business Bonus (SBB). This provides tax relief of up to 100 per cent for businesses with small properties and is worth over £254 million per year. The purpose and impact of the SBB is unclear. One of the recommendations of the Barclay Review was to review the Small Business Bonus. A clear priority for this review could be to understand the SBB's current impact in relation to productivity and inclusive growth and to develop clear changes to maximise its impact in driving productivity improvements and sustainable inclusive growth over the long term.

It is also well acknowledged that Scotland's export base is narrow, both in terms of the overseas markets that companies in Scotland export to and the number of Scottish firms exporting; more than half of Scotland's exports are accounted for by just 70 companies across the country (David Hume Institute 2019).

Poor management practices have been identified as an important explanatory factor in the UK's productivity weakness. UK firms fare poorly by international comparison (Bloom and Van Reenen 2010) and research points to poor management practice leading to particular productivity weakness in low-wage sectors such as retail (Askenazy and Forth 2016).

Productivity projections

Looking ahead, the picture for productivity growth does not look much brighter. Forecast productivity growth for Scotland in 2019 stands at a very low 0.7 per cent, with annual growth not set to even reach one per cent until 2021 (See Table 2.1). Meanwhile, real earnings growth follows a similar trajectory, rising slowly from 2019 through to 2023. While neither trend paints a particularly encouraging picture, wage growth is particularly weak, only forecast to reach 1+ per cent year-on-year growth in 2022/23. There may, however, be signs of a turnaround, as initial pay data for 2018 appears to show higher-than-forecast growth in Scotland (Aiton 2019).

TABLE 2.1

Scottish Fiscal Commission forecasts (annual percentage changes)

	Forecast	2017	2018	2019	2020	2021	2022	2023
Trend productivity	May 2018	0.0	0.2	0.5	0.8	0.9	1.0	1.1
	December 2018	0.2	0.3	0.7	0.9	1.0	1.1	1.2
Average nominal earnings	May 2018	1.1	1.6	1.9	2.2	2.6	2.9	3.2
	December 2018	1.5	2.0	2.3	2.5	2.8	3.0	3.1
Average real earnings	May 2018	-1.0	-0.5	0.0	0.3	0.6	0.9	1.1
	December 2018	-0.6	-0.3	0.3	0.5	0.6	0.9	1.1

Source: Scottish Fiscal Commission (2018)

Looking further ahead, there are likely to be key opportunities and challenges in relation to productivity. Most notably, automation – new technologies including artificial intelligence, big data, analytics and others – will reshape the world of work and our wider economy. Some economists have heralded this as the 'fourth industrial revolution' (Brynjolfsson and McAfee 2014).

Previous IPPR Scotland analysis has found that up to 46 per cent of jobs in Scotland could be at high potential of automation. This will unlikely mean nearly half of jobs will be replaced by machines and new technologies, but it does mean nearly half of jobs are likely to see significant change in the coming years. Indeed, a recent study in the US found that only around five per cent of existing roles are currently fully automatable. However, over 60 per cent of roles have more than a third of tasks that could be automated.

We can also anticipate that different population groups will be more or less exposed to the direct effects of automation, as it reshapes the labour market and the types of work we do. Recent ONS analysis has found that women, young people and people working in part-time jobs are more exposed to automation (ONS 2019d).

The speed and scale of automation is disputed and its effects as yet unclear. However, either way, there are likely to be significant opportunities for increasing productivity levels through the new technologies coming on stream. Equally, it is clear the effects of automation must be anticipated and shaped by decision-makers. There are clearly routes whereby automation could further exacerbate pay differentials and increase levels of insecure work. But at the same time, automation could be a route to delivering higher standards and more fulfilling work, with new technologies augmenting humans, taking on less rewarding tasks and leaving higher-quality work.

Finding ways to embrace new technologies in a way that delivers the social and economic outcomes we aim to see should be of the highest priority for decision-makers in Scotland.

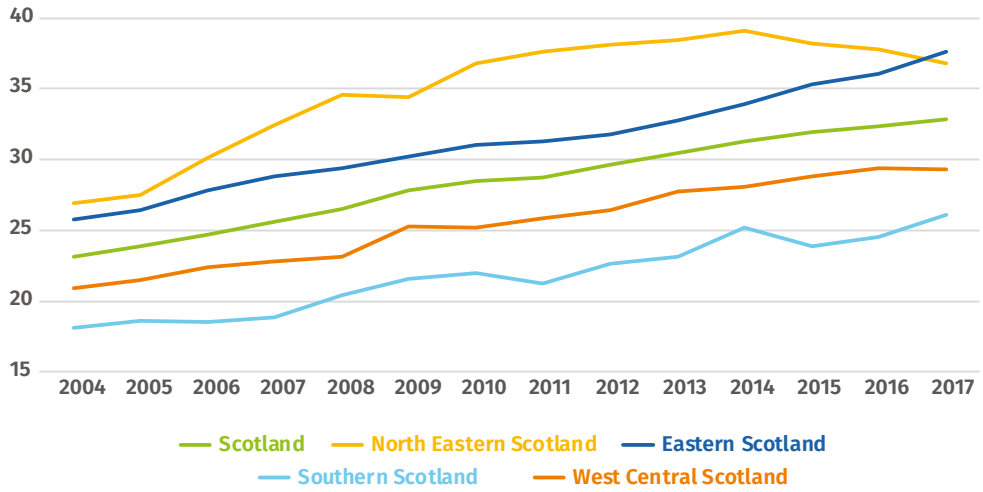
2.2 PLACE AND SCOTLAND'S PRODUCTIVITY CHALLENGE

Scotland's productivity challenge also has a distinct place-based dimension. Across Scotland's regions, productivity growth has varied substantially over the last 15 years (see figure 2.5). The North East of Scotland economy's dependence on the oil and gas industry exposes it to greater volatility, reflected in a more volatile

productivity trend, and falling productivity between 2014–17 in the wake of the oil price crash. Productivity performance in Eastern Scotland, meanwhile, shows a more consistent growth trend – though this is likely driven largely by the City of Edinburgh (see figure 2.6).

FIGURE 2.5

Productivity growth across Scottish regions



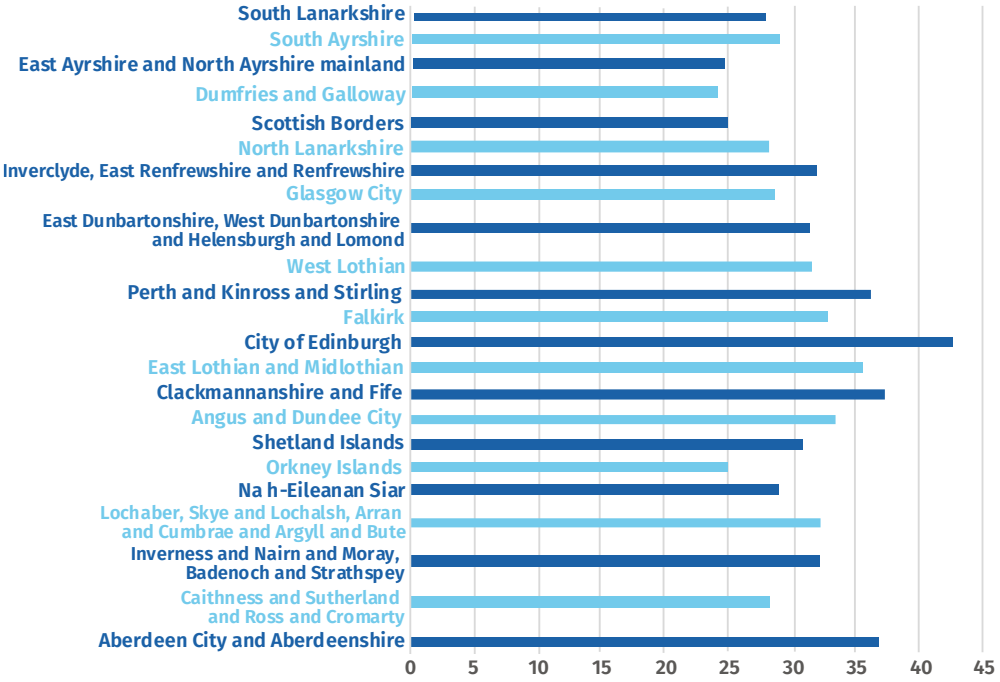
Source: ONS (2019b)

Since 2015, Eastern Scotland appears to show a slight upturn in productivity growth, breaking ahead of the Scotland-wide growth trend. While Southern Scotland continues to lag behind, recent trends show a healthier growth trend outside the period 2014–16.

Figure 2.6 shows sub-regional productivity levels in Scotland, and shows the considerable variance across the country. While the cities of Edinburgh and Aberdeen lead on productivity performance, they are set far apart from the local economies in which Scotland's productivity weakness is concentrated. GVA for every hour worked in Edinburgh is 77.5 per cent higher than in Dumfries and Galloway – a clear example of how far productivity weakness explains the uneven spread of prosperity across Scotland.

FIGURE 2.6

Local-level productivity performance across Scotland



Source: ONS (2019b)

If we are to raise the bar on Scotland's productivity performance, then addressing regional and local challenges will be a key part of ensuring that boosting innovation in Scotland narrows, rather than widens, economic inequality.

2.3 EARNINGS, EMPLOYMENT, INEQUALITIES

As stated above, real-terms earnings in Scotland have flatlined since 2010, with the modest pay recovery seen from 2014 to 2016 barely making up for the real-term losses of the Great Recession. Real wage growth is forecast to be weak for many years, struggling to reach one per cent per annum until 2023.

At the same time as weak productivity and pay growth, we have seen very strong employment growth in Scotland and across the UK. Record employment levels in Scotland were seen in 2017, with 74.3 per cent of Scotland's population in work. However, much of these employment gains have been driven primarily by part-time, temporary and self-employed work (Skills Development Scotland 2017; D'Arcy and Kelly 2016), and have skewed towards lower-skilled sectors (Gunson et al 2016). Women's employment levels have also increased faster than men's, suggesting that existing labour market disadvantage is reflected in the concentration of women in new and less secure employment (ONS 2018c).

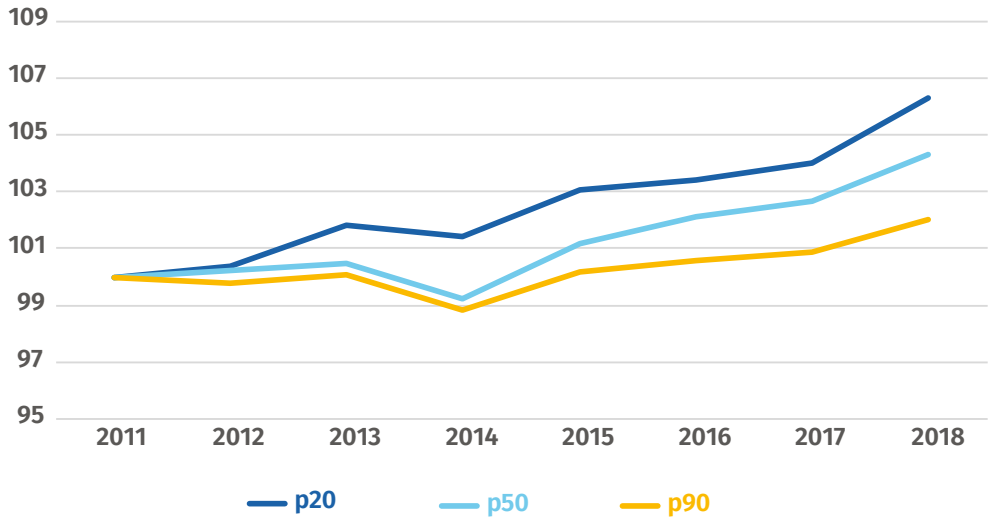
At the same time, inequality is rising in Scotland. While median household incomes rose slowly over 2015–18, both poverty and income inequality have continued to rise in recent years (Scottish Government 2019d). Economic inactivity rates in Scotland have risen slightly, while UK-wide rates have fallen (ONS 2018c).

Figures 2.7 and 2.8 show real income growth by the 20th, 50th and 90th percentiles. They show that in recent years, real incomes among lower earners – at the 20th

percentile – rose faster in Scotland than across the UK. Growth at the lower end of the income distribution was stronger than for the average earner (at the median) or the highest 10 per cent of earners (at the 90th percentile) across Scotland and the UK. Earners at the 20th percentile in Scotland saw real-terms pay growth of 6.29 per cent between 2011–18, compared to 4.3 per cent across the UK. Average earners in Scotland saw their weekly pay rise from £487 to £562, while the average earner across the UK saw their weekly wages rise from £479 to £548 – a real-terms difference of 1.33 per cent.

FIGURE 2.7

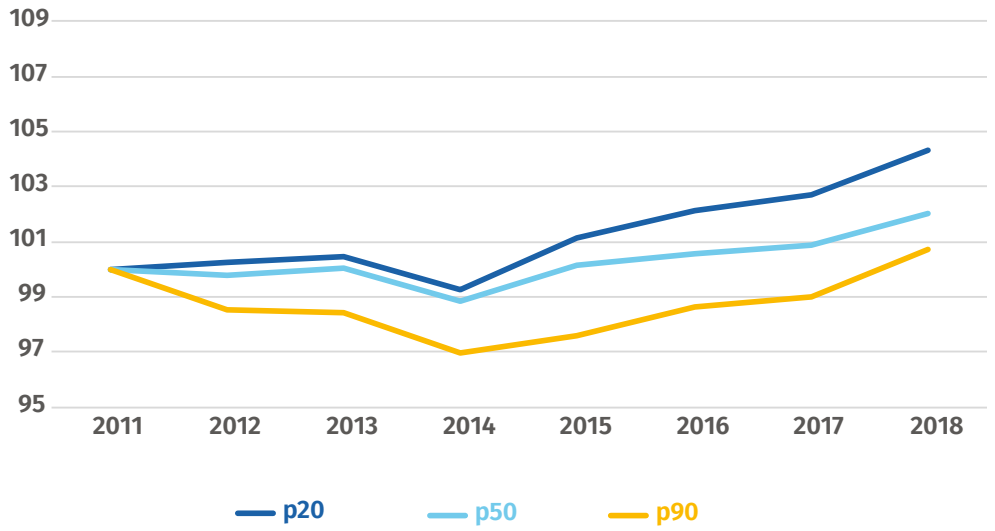
Real income growth in Scotland at the 20th, 50th and 90th percentiles (2011=100)



Source: NOMIS (2019)
Notes: Growth in average (median) weekly pay for all full-time workers. Data expressed in real terms, current prices

FIGURE 2.8

Real income growth across UK at the 20th, 50th and 90th percentiles (2011=100)



Source: NOMIS (2019)
Notes: Growth in average (median) weekly pay for all full-time workers
Data expressed in real terms, current prices

2.4. TAX CHANGES, TAX TAKE AND TAX BASE

Since the devolution of further tax powers to the Scottish Parliament since 2015, more of Scotland's budget is now directly affected by tax revenue performance in Scotland. Since 2017/18, this has seen the devolution of non-savings non-dividends income tax (for example, income tax on earnings) alongside the devolution of a range of smaller taxes. In 2019/20, the Scottish Parliament is projected to receive over £15 billion of tax revenue, or 44.4 per cent of its budget, direct from devolved tax revenue. The remainder of the Scottish Parliament's budget is made up of a block grant, determined by UK government spending decisions in the rest of the UK (RUK) in policy areas devolved to Scotland, adjusted to take account of tax and benefit devolution. In the near future, the Scottish Parliament will also see partial assignation of VAT revenues raised in Scotland.

This means that tax performance for devolved taxes in Scotland has become very important to how much funding Scottish Parliament has to spend. In particular, under the current Fiscal Framework[3] agreed between the Scottish and UK governments, the differential between growth in tax revenue per head raised through devolved taxes in Scotland and growth in tax revenue per head for equivalent taxes in the rest of the UK becomes all important to the Scottish Parliament budget (Scottish and UK Governments 2016). Therefore, given the link between productivity and pay described above, productivity growth will be integral to growing Scotland's budget.

Over the last few years the Scottish government has made a number of changes to the devolved income tax system, which have contributed to a growing divergence

3 The Fiscal Framework is an agreement between the Scottish and UK governments that sets out how Scotland's finances will be calculated following the devolution of further tax and spending powers following the 2014 independence referendum. The framework lasts up until 2022. The framework sets out the calculations that will be used to agree Scotland's block grant, and any block grant adjustments to take account of new revenues and new spending responsibilities.

between income tax policy in Scotland and the rest of the UK (RUK). This has seen the introduction of new income tax bands in Scotland, including a new 19 per cent Starter Rate (set lower than the equivalent rate in RUK), a one per cent increase in tax rates for higher earners and a reduction in real terms of the higher-rate tax threshold, bringing greater proportions of taxpayers into the higher rate of tax. Overall, this means that lower earners pay slightly less tax in Scotland than they would in the rest of the UK, with higher earners paying more.

In terms of tax revenues, this has meant that the Scottish government has been able to make tax rises in Scotland that increase tax revenues from the level they would otherwise be. Table 2.2 below shows the projected revenue raised by income tax changes in Scotland over the coming years (total income tax changes), together with the amount left over once adjusted for any differential in devolved income tax performance between RUK and Scotland (net budget adjustment for income tax). It also shows the difference between the two figures; the amount lost or gained through differing devolved income tax performance in Scotland and RUK.

TABLE 2.2

Projected additional revenue from income tax changes in Scotland and additional funding for Scottish Parliament budget

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Income tax changes pre-2019/20	52	260	292	298	316	340	364
Income tax changes 2019/20			69	72	76	81	86
Total income tax changes	**52**	**260**	**361**	**370**	**392**	**421**	**450**
Net resource budget adjustment for income tax			**-5**	**-48**	**6**	**74**	**180**
'Lost' income tax revenue			366	418	386	347	270
'Lost' % additional income tax revenue			101.4%	113.0%	98.5%	82.4%	60.0%

Source: IPPR Scotland calculations from Scottish Fiscal Commission (2019) and Scottish Government (2019f)

Notes: Given the 2019/20 Scottish Parliament budget has already been passed, changes to the net BGA for this year will not have an immediate effect on Scottish government's budget. Instead, adjustments will be made through a reconciliation in a later year.

These figures are forecasts which are subject to change, particularly as the Scottish budget is exposed to forecasting errors from both the OBR and SFC. As Block Grant Adjustments reflect Scotland's economic performance relative to the UK, it is also important to note that comparatively weaker tax growth in Scotland is not necessarily reflective of poor economic performance.

Table 2.2 shows that the Scottish Parliament will not see the full benefit of its tax changes in terms of the money it has to spend. Due to lower growth in tax revenue per head for devolved taxes in Scotland compared to RUK, the Scottish Parliament's budget in 2019/20 is projected to be £5 million worse off, despite the Scottish government making income tax changes worth £361 million. Over time, the situation is projected to marginally improve. However, even by 2023/24, the Scottish government's budget will only be £180 million per year better off, despite

income tax policy projected to raise £450 million in additional revenues. This will mean £270 million (60 per cent) of the revenue expected from tax increases in Scotland will be 'lost' in 2023/24 due to poorer tax revenue performance in Scotland compared to RUK. Over the course of 2019/20 to 2023/24 Scotland will lose over £1.8 billion in cumulative terms due to poorer income tax performance compared to the rest of the UK.

Why are we seeing lost income tax revenue in Scotland?

As stated above, the reason for this lost revenue is due to poorer performance in growth in devolved income tax revenue per head in Scotland compared to RUK. This is likely to be impacted upon by a number of factors. Firstly, over time, lower or higher employment rate growth in Scotland compared to RUK could translate into lower or higher growth in income tax revenue per head in Scotland. Secondly, in the future, if Scotland sees fewer higher earners (whether due to moving residence or through being paid in dividends rather than earnings), this could reduce growth in devolved income tax revenue per head in Scotland. However, it is far too early to see any evidence of unexpected behaviour change of this type within these figures, and indeed behavioural effects of this type have already been factored in to these projections.

Most importantly, the differential between growth in income tax revenue per head in Scotland and RUK is likely to be dictated to a large extent by wage growth in Scotland compared to RUK. Therefore, productivity growth in Scotland, given its links to pay growth across the economy, will be incredibly important to the budget available to the Scottish Parliament in the future.

Pay rises are likely more important than tax rises to Scotland's budget

Pay rises are likely to be just as important, if not more so, than tax rises to protecting and growing public spending in Scotland in the future. Table 2.3 below shows the potential increases in devolved income tax revenue in Scotland brought by improved wage growth. It shows an estimate of increased tax revenue brought by wage growth at one per cent above the Scottish Fiscal Commission projections for each year.

TABLE 2.3

Estimated additional revenue from one per cent above forecast wage growth in Scotland

	2020/21	2021/22	2022/23
All	£200m	£450m	£750m
Median + under only	£50m	£100m	£150m

Source: IPPR Scotland calculations using Scottish Fiscal Commission (2018) and Survey of Personal Incomes, 2015–16: Public Use Tape

Note: Above-forecast one per cent wage growth is applied to each tax year, rather than projected forwards from a single shock.

Table 2.3 shows that if Scotland can improve wage growth beyond current forecasts, this could be worth hundreds of millions of pounds to Scotland's budget. An increase in wage growth of one per cent above current forecasts for all taxpayers in Scotland could see over £700 million per year additional tax revenue in 2022/23. A one per cent above-forecast wage for the bottom half of taxpayers could bring additional revenue of £150 million per year by 2022/23. This compares to around £400 million per year revenue raised by a one per cent tax rise across all bands in Scotland.

If we can drive pay increases in Scotland, whether among lower earners or all earners, we could see vital additional tax revenue that ensures we can protect, if not grow, public spending in Scotland. This shows that productivity growth, that drives pay growth and potentially inclusive economic growth, could be crucial to the Scotland exchequer.

AGEING

Although the productivity challenge is not exclusive to Scotland, there are challenges ahead that are more specific to Scotland. Scotland is ageing faster than the rest of the UK. Over time alongside many benefits, this is likely to bring significant financial challenges, through shrinking tax revenues and growing demand on public services in the future. In Scotland, even taking account of planned increases in the pension age, the number of pensioners per 100 people of working age is expected to increase from 29 now to 35 per 100 working-age adults by 2040 (Callander et al 2018). Productivity growth is likely to be one of the crucial ways that Scotland, and the UK as a whole, can protect tax revenues, and therefore public spending levels, over the coming years, getting more out of the remaining working-age population.

2.5 SCOTTISH GOVERNMENT ECONOMY AND PRODUCTIVITY STRATEGY

Productivity growth has become a clear priority for policymakers in Scotland.

Scotland's refreshed economic strategy

In its 2007 economic strategy, the Scottish government identified a productivity purpose target, with the objective of improving Scotland's productivity ranking among OECD member countries, and to rank in the top quartile for productivity by 2017. Since the baseline position of 2006, Scotland's productivity rank has worsened. Between 2007 and 2009 it fell to 19th, before rising to 18th between 2010 and 2011. Since 2012 Scotland's productivity rank has remained at 19th. It's clear that Scotland's productivity challenge has yet to be met.

As part of the 2015 refreshed economic strategy, the Scottish government identified six 'growth sectors' in which innovation is expected to fuel productivity gains in the coming years. Scotland's growth sectors – food and drink, financial and business services, life sciences, energy, sustainable tourism and creative industries – are dominated by high-skill, higher-pay sectors – with sustainable tourism's inclusion an exception given its low median levels.

The economic strategy also placed inclusive growth at the heart of the Scottish government's economic agenda, as one of four 'I's (alongside Investment, Internationalisation and Innovation) (Scottish Government 2015). Since the refresh of the economic strategy we have seen a number of initiatives in Scotland. We look at seven here.

Fair Work Convention

The Fair Work Convention, created in 2016, brings together key social partners in Scotland – trade unions, employers and government – to develop action to promote fairer work in Scotland. This social partnership approach sets out a vision for fair work in Scotland, with an explicit remit to develop 'Progressive workplace policies which improve productivity and innovation' (Scottish Government 2016).

The Convention has developed a Fair Work Framework which presents job quality and fair pay as drivers of prosperity for people, workplaces and Scotland's whole economy. The Framework cites increased productivity as an explicit outcome of

adopting fair work practices alongside workplace innovation practices and high performance and involvement work practices – each of which is positioned to make the most of workforce skills and capabilities, driving innovation that cycles into inclusive growth (Fair Work Convention 2016).

The convention makes explicit arguments that driving up low pay through adoption of the (real) Living Wage is good for employers and good for staff, boosting productivity, reducing turnover and spelling good news for local economies as well as the state. It also makes the point that fulfilment in the workplace drives productivity at the firm level, and that performance and competitiveness can be driven up by improvements in job design (Scottish Government 2016).

Since the publication of the Fair Work Framework, the government has created a Fair Work Action Plan, and the priority of fair work has been adopted across government policy areas. Most recently, the Scottish government announced a 'fair work first' principle whereby employers would only gain access to public funds and support if they could show they were a fair work employer.

Business Pledge

The Business Pledge is a voluntary pledge for employers, bringing together initiatives to support employers to pay the living wage, engage and balance their workforce, invest in young people and local communities, focus on innovation and internationalisation, pay suppliers promptly and reject zero-hours contracts. By May 2019, 601 businesses in Scotland had so far committed to the pledge.

SINGAPORE'S COMMITTEE ON THE FUTURE ECONOMY

In 2016, the Singapore government convened the Committee on the Future Economy and tasked it with developing economic strategies for the next decade in the face of automation, technological change and other global trends. The Committee outlined its vision for the future Singapore economy, and outlined plans to get Singapore ready to take advantage of the global changes beginning to change economies across the world. The Committee stated that 'in the future economy, our people should have deep skills and be inspired to learn throughout their lives'. It will aim to achieve this vision through the seven mutually reinforcing strategies outlined in the report, including: 'Acquiring and utilising deep skills', 'Strengthening enterprise capabilities to innovate and scale up' and 'Building strong digital capabilities'.

While Scotland has the new Enterprise and Skills Strategic Board, alongside bodies such as the Scottish government's Council of Economic Advisors, and non-government reports such as the Sustainable Growth Commission, there has been little done to explicitly bring together a Scottish government vision for Scotland's future economy, to unite plans to get Scotland ahead when it comes to responding to automation and, more broadly, significant economic trends (such as ageing and the changing nature of globalisation), and to provide clear political direction as to how Scotland will respond to the challenges faced through automation and ageing (Scottish Government 2018).

Source: www.data.gov.sg

Enterprise and Skills Strategic Board

In 2017, the Scottish government created the new Enterprise and Skills Strategic Board to provide strategic overview to Scotland's four (and soon to be five) enterprise and skills agencies.

In 2018, the Enterprise and Skills Strategic Board published a strategic plan outlining its goals for closer collaboration to improve Scotland's skills and enterprise system. This set out two core ambitions: to increase productivity and to drive 'inclusive and sustainable' economic growth (Enterprise and Skills Strategic Board 2018). The approach outlined emphasises 'place-centric, industry-focused' support to drive up productivity, with fair work initiatives positioned as key drivers. The plan sets out four 'missions' to boost productivity performance and realise inclusive growth, aiming to harness: Business Creation and Growth; Exporting; Business Models and Workplace Innovation, and Future Skills Needs.

Innovation Centres

In 2012, the Scottish Funding Council, in partnership with Scotland's two enterprise agencies, launched a number of Innovation Centres to attempt to foster collaboration between business and universities. The Centres' stated aim is to enhance innovation and entrepreneurship across Scotland's key economic sectors, creating new jobs and growing Scotland's economy. So far eight Innovation Centres have been created in Scotland, with public funding worth £120 million between 2013–18 including: Centre for Sensing and Imaging Systems; Construction Scotland Innovation Centre; The Data Lab; Digital Health and Care Institute; Industrial Biotechnology; Oil and Gas Innovation Centre; Scottish Aquaculture Innovation Centre, and Stratified Medicine Scotland. In 2018, the Scottish Government also established a £500,000 College Innovation Fund to support innovation in Scotland's economy.

City Deals and Growth Deals

Glasgow City Region received Scotland's first City Region Deal funding in 2014, which linked eight local authorities to work as partners across the region. City Region Deals in Scotland are funded jointly by the UK and Scottish governments, so far involving 16 councils and various partners including the private sector, universities and Transport Scotland. City Region Deals have been agreed in Aberdeen, Inverness and Highland, Edinburgh and South East Scotland, with further deals in Stirling and Clackmannanshire and Tay in development. Alternative investment vehicles known as Growth Deals are being worked on by the remaining 11 councils across Scotland, with the UK government announcing £100 million for the Ayrshire growth deal in January 2019 and a further 'Borderlands' Deal for the areas each side of the Scotland/England border. The Scottish government has committed to match UK government funding, following the precedent set by the City Deals.

The deals are governed by explicit aims from the dual funders at the Scottish and UK governments. From the Scottish government, the deals are focused on delivering inclusive economic growth, with the UK government seeking to orientate the deals towards driving up GDP growth. Productivity growth will be an important component of realising success on both fronts.

Scottish National Investment Bank

Plans to establish a Scottish National Investment Bank (SNIB) were announced in the Programme for Government 2017–18, with an implementation plan published in early 2018. Legislation to set up the Bank was published in February 2019 with the stated aim of having the Bank up and running by 2020, and included plans for the SNIB to have social 'missions', which will be selected and developed at a later stage. As of yet there has been no dispensation agreement with HM Treasury

that would be required to establish a fully-functioning publicly-owned bank, as opposed to a government investment fund.

The SNIB – if it is realised in accordance with the Scottish government's plans – should be an important source of 'patient' capital to growing Scottish businesses. The small- and medium-sized companies that make up the backbone of the Scottish economy lack long-term, patient finance that can fuel innovation and business 'scale-up', particularly in smaller firms. Public banks can play a particular role in providing long-term, or patient capital, whereby greater willingness to forgo an immediate return on investment will enable businesses to develop specialist expertise and take on investment risk, leading to eventual 'crowding in' of private finance (Griffith-Jones and Cozzi 2015). This could be a powerful lever for driving innovation across Scotland.

Infrastructure pledge

The Scottish government's 2018 Economic Action Plan pledged to invest in infrastructure and improve digital connectivity across Scotland, followed by the appointment of an Infrastructure Commission in February 2019. The pledge will see infrastructure spending in Scotland increase by 1 per cent of GDP (circa £1.5 billion per year) by 2026. The Commission will look at a 30-year strategy for Scotland's infrastructure needs, with aims of boosting inclusive economic growth, improving services and supporting the delivery of the Scottish government's low-carbon objectives.

3. BOOSTING PRODUCTIVITY IN SCOTLAND

3.1 HOW DO YOU BOOST PRODUCTIVITY IN THEORY?

Productivity growth can be broken down by three types of productivity growth. These reflect economists' understanding that raising productivity can be driven by improvements to a) capital efficiency, b) labour efficiency or c) total factor productivity.

Increases to capital efficiency or productivity are typically associated with investment in machines or equipment to support more efficient production. As automating technologies and artificial intelligence look to transform the tasks that humans do, the role of technological capital in raising productivity levels across the global economy is the source of keen interest from business and workers alike. New technologies have the potential to transform how whole sectors of the economy operate. In the agriculture sector, for example, artificial technologies offer new depth of insight into farming yields and soil conditions, and new machines are automating the process of planting and monitoring crop production.

Increases to labour efficiency or productivity are investments in *human capital* through education and training – whether inside or outside the workplace. When government, businesses or individuals invest in skills, they contribute to developing greater human capital. When firms invest in up-skilling their workforce to use a new piece of equipment, they are often increasing the efficiency with which their labour force can produce outputs.

Raising total factor productivity (TFP) promises to compound the impacts of delivering capital and labour efficiencies. As a technical measure, TFP describes all productivity growth that cannot be attributed directly to capital or labour efficiencies. This might mean improvements in management practices, or higher uptake of ICT. Recent UK-wide research exploring firm-level productivity weakness suggests that productivity is dampened by poor management practices (Bloom and Van Reenen 2007; ONS 2018d) and weak corporate governance (Haldane 2015) – factors that would contribute towards TFP.

Those countries where productivity performance outstrips the UK economy in low-wage sectors had a higher proportion of workers in training, more extensive use of management practices such as performance-related pay or continuous improvement, a higher share of employees using ICT and a lower share of employees on temporary contracts (Forth and Rincon-Aznar 2018).

3.2 THE IMPORTANCE OF BOOSTING PRODUCTIVITY ACROSS THE 'EVERYDAY ECONOMY'

Scotland's growth sectors

As stated above, the Scottish government chose six growth sectors to focus on in its economic strategy:

- food and drink
- financial and business services
- life sciences
- energy (including renewables)
- sustainable tourism (tourism-related industries)
- creative industries (including digital).

These are the sectors where the Scottish government believes Scotland has a distinct competitive advantage and will seek to grow in the economy. Currently the growth sectors in Scotland employ an estimated 718,000 people; around a quarter of all employees in Scotland. Between 2009 to 2015 Scotland's growth sectors added around 25,000 jobs. Since 2015 employment in the growth sectors has remained broadly static.

If Scotland's growth sectors are to deliver the inclusive growth the Scottish government wishes to see, we would need to see significant movement of workers from low-paid work or low-paid sectors to these (usually) higher-paid growth sectors. However, this is likely to be difficult for a number of reasons. Firstly, there would need to be clear skills routes to train workers in the everyday economy to be able to take advantage of any new opportunities in the growth sectors. Secondly, there are likely to be a number of geographical and structural barriers to population groups moving from the everyday economy sectors to growth sectors. Growth sector opportunities may not be equally distributed across the country, and there may be structural barriers by gender, disability and other protected characteristic groups to workers being able to access them.

However, thirdly, the size of the everyday economy as compared to the growth sectors is likely to be a huge barrier to delivering inclusive growth solely through growth in growth sectors. As an example, in 2017, there were just over 234,600 workers employed in the retail sector in Scotland (ONS 2018e). To absorb 20 per cent of retail jobs we would need to see growth sector employment as a whole increase by 6.5 per cent. This is more than the average employment growth seen since 2009. For 'financial services and business services', within which Scotland's burgeoning FinTech sector sits as a small part, we would need to see an increase of around a fifth, despite employment growth being flat in this sector since 2009.

Furthermore, not all of the growth sectors identified by the Scottish government are high-pay sectors. The sustainable tourism growth sector performed among the best for employment growth between 2009 and 2015, adding over 27,000 new jobs (when the growth sectors as a whole added around a net 25,000 new jobs (as stated above)). However, the average median full-time wage in sustainable tourism in 2017 was just over £18,500 per year, only marginally above the 2017 real living wage of just over £17,500.

Scotland's everyday economy

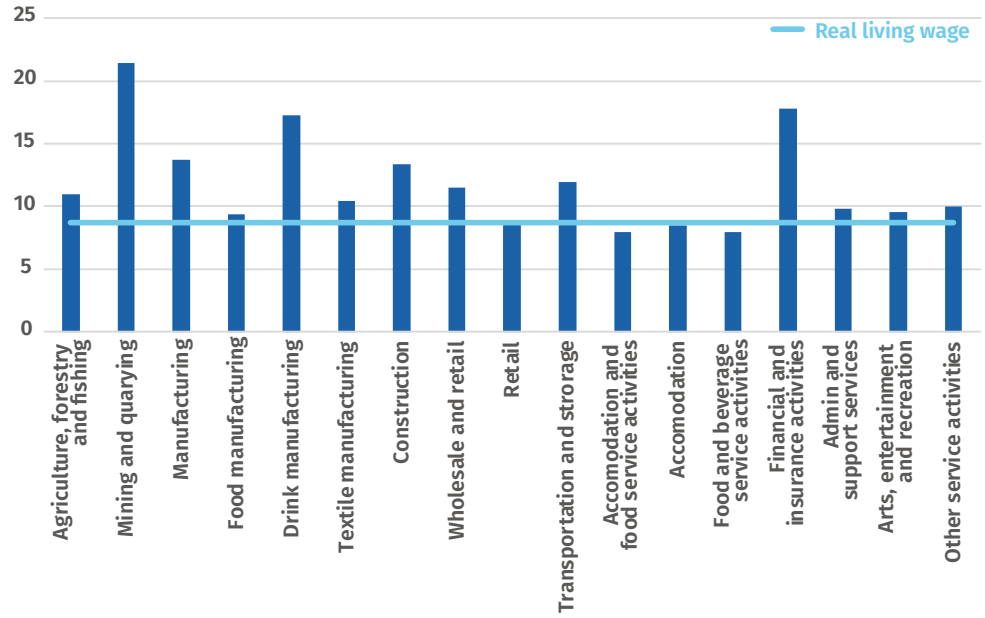
We define the 'everyday economy' as the parts of the economy made up of ordinary companies, where most people work. This includes high-employment, lower-pay sectors such as retail, care, tourism and hospitality, often overlooked by industrial strategy and economic policymakers. An important feature of the

everyday economy lies in its distinction from the high-wage, high-productivity frontier sectors that have been the traditional focus of industrial strategy.

Figure 3.1 shows average pay across broad sectors of the Scottish economy, as compared to the real living wage. Everyday economy sectors such as wholesale and retail, accommodation and food services, administrative and support services, arts, entertainment and recreation, and other services all see average pay rates close to the real living wage, or in the case of accommodation and food services, an average below living wage.

FIGURE 3.1

Median hourly pay excluding overtime, full-time workers in selected Scottish industries, 2018



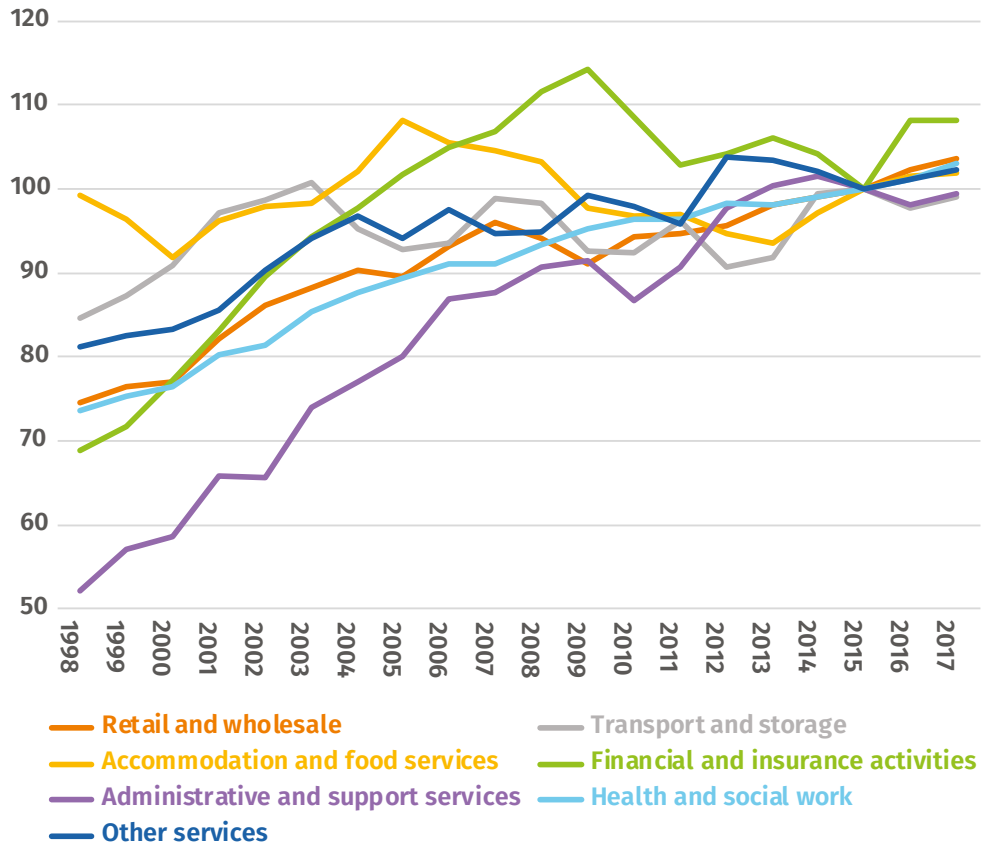
Source: ONS, ASHE region and industry data (2019e)

Figure 3.2 shows long-term productivity trends by broad sectors of Scotland's economy, measured in output per hour worked. While the retail and administrative support services industries have shown fairly strong and sustained productivity growth (outside the 2008 crash), other lower-pay, everyday economy sectors such as accommodation and food services and transport and storage show a mixed performance on productivity.

It is clear, however, that there is potential to make sizeable productivity gains within the everyday economy. Productivity growth in administrative and support services, for example, kept up with financial services through the early 2000s – in the absence of the focus of policymakers. Given the broad employment base of the sectors that make up Scotland's everyday economy, a dedicated focus on growing these sectors alongside Scotland's growth sectors might promise to deliver a more inclusive model for growth in Scotland.

FIGURE 3.2

GVA growth in selected industries, Scotland (2015=100)



Source: GDP National Quarterly Accounts, Scottish Government (2019c)

The case for raising productivity in Scotland's everyday economy

Across the UK, lower-wage sectors are less productive than their equivalents in western Europe. If we were able to raise (UK) productivity levels among low-wage firms to the levels seen elsewhere, the UK could close a third of its average productivity gap with Belgium, France, Germany and the Netherlands (Thompson et al 2016).

Contrary to understanding the everyday economy as outside the realm of industrial strategy, a growing evidence base suggests that if productivity levels in low-wage sectors were to rise, we can expect that it would go some way to closing the overall productivity gap between Scotland and its competitors (Forth and Rincon-Aznar 2018).

In the everyday economy, where a low-pay, low-productivity equilibrium is holding back growth, driving innovation and driving up pay could unlock greater prosperity and more inclusive growth across Scotland. We know that low pay is concentrated in particular sectors, regardless of workers' skills or demographic factors. Recent research demonstrates that workers in agriculture, wholesale and retail, accommodation and food, administrative and support services, education, health and social care, arts, entertainment and recreation, residential care and social work industries are more likely to be low paid, even when controlling for other factors that can affect wages, such as gender, ethnicity, disability, qualifications and migration status (Lee et al 2018).

Raising wages in these sectors could also have an important gender dimension to Scotland's low-pay challenge, with disproportionate numbers of women working in low-wage jobs (Hamilton and Richmond 2017). The prize of boosting productivity and pay in low-wage sectors holds even greater promise for women in Scotland's labour market: 38.5 per cent of women in employment work in low-pay occupations, compared to 20.6 per cent of men (Scottish Government 2019e).

A growing body of research argues that policymakers ought to focus efforts on improving productivity in low-wage sectors – alongside traditional innovation sectors – in order to drive up living standards and economic performance across the UK economy (IPPR 2018; Lee et al 2018). In order to unlock *inclusive* productivity growth, policymakers will need to focus on designing productivity strategies that also benefit workers – in turn narrowing inequalities, and fuelling stronger and more sustainable future growth. Driving innovation and driving up pay in the everyday economy, where a low-pay, low-productivity equilibrium is holding back growth, could therefore unlock greater prosperity and more inclusive growth across Scotland.

If lower pay is more likely to be prevalent in the everyday economy sectors than in most of the growth sectors chosen by the Scottish government, and if reducing income inequalities (prior to tax and benefits) is one of the key aims of inclusive growth, then to be successful Scotland's productivity policy will need to focus as much, if not more so, on the sectors in the everyday economy.

3.3 SHAPING PRODUCTIVITY GROWTH TO DELIVER MORE INCLUSIVE GROWTH

Like economic growth as a whole, productivity growth will not in and of itself narrow rising levels of inequality in Scotland. However, inclusive productivity growth could help to deliver more inclusive economic growth. How and where productivity growth is realised across Scotland's economy will determine the people and places that benefit, and the social and economic outcomes delivered.

In order to explore what different types of productivity growth might mean for Scotland's economy, and for economic justice, we worked with the Fraser of Allander Institute to undertake macro-economic analysis of the Scottish economy. Using the Scottish Policy Foundation's Computable General Equilibrium (CGE) model, we were able to assess the impact of different shapes of productivity growth. The CGE model is a macro-simulation model, which can trace the impact of improvements in labour and capital efficiency and TFP on the Scottish economy. The model identifies the effects on individual sectors as well as on the Scottish economy as a whole.

Labour and capital productivity can be directly boosted within the model (figure A1 – see appendix – illustrates the production structure of each sector in the model). TFP increases stimulate labour and capital efficiency equally. Accordingly, a given percentage improvement in TFP necessarily delivers larger impacts than the same percentage improvement in either capital or labour efficiency alone.

The impact of each of these productivity shocks is measured over both the short and long run (and over all of the intervening periods). The short run refers to the period immediately following an improvement in productivity, during which capital stocks are fixed in each sector. This reflects the fact that it takes time for firms to adjust their productive capacity; firms only gradually adjust their capital stocks to their new desired levels following the stimulus to productivity. The long run refers to the period over which capital stocks are again equal to their desired levels.

The model also makes a number of key assumptions, with considerable bearing on the shape of results. Three assumptions are of particular interest to our research.

- The first assumption is in relation to wage determination. Under the CGE model, wages are determined by a regional bargaining model, which generates a regional 'wage curve' for each skill group (in this instance, skilled and non-skilled workers). The underlying assumption here, supported by long-standing evidence from across European economies, is that as the unemployment rate rises, union bargaining power declines, and hence so does the bargained real wage.
- The second assumption is in relation to the fiscal regime: the CGE model assumes a 'Smith' fiscal regime is in place, reflecting the implementation of the new fiscal framework in Scotland. Under this regime income tax revenues vary directly with economic activity, and any increases in income tax revenue raised are used to increase current government expenditure.
- The third assumption is in relation to employment. The model also assumes that any new jobs created in the Scottish economy through productivity increases are shared between households across the income distribution in proportion with the distribution of unemployment across the household income spectrum. This has important implications for how lower- and higher-income households in Scotland share in the jobs and prosperity created by productivity-driven growth.

The sensitivity of results to the process of wage determination and the distribution of employment gains are discussed in the results below. See annex for further detail.

The impact of productivity shocks across the whole economy

In order to explore the impact of different kinds of productivity growth, we first traced the effects that a three per cent shock to labour productivity, capital productivity and total factor productivity would each bring to bear on the Scottish economy as a whole.

Economic activity always increases significantly in response to improvements in the productivity of any (or all) factors (to a degree that reflects the importance of the relevant factor in production). This is a consequence of the fact that boosts to productivity improve Scotland's competitiveness and stimulate its exports.

This suggests that improving total factor productivity – which improves both labour and capital efficiency – has the most positive employment effects, with over 26,000 new full-time-equivalent jobs created over the long run, with skilled and unskilled employment growth over the short and long run. TFP growth also delivers the second largest long-run wage growth for skilled and unskilled workers.

Meanwhile, capital productivity growth – which is delivered when firms become more productive through more efficient machinery and equipment – delivers moderate employment gains and the strongest wage growth of each of the productivity shocks.

TABLE 3.1

The short- and long-run impact of various productivity increases

	Unskilled labour efficiency		Skilled labour efficiency		Labour efficiency		Capital efficiency		TFP	
	Short-run	Long-run	Short-run	Long-run	Short-run	Long-run	Short-run	Long-run	Short-run	Long-run
GDP	0.40%	0.88%	1.00%	2.19%	1.38%	3.08%	1.77%	1.50%	3.24%	4.59%
Skilled employment	-0.19%	0.07%	-0.30%	0.33%	-0.50%	0.40%	0.93%	0.77%	0.49%	1.15%
Unskilled employment	-0.01%	0.27%	-0.51%	0.17%	-0.52%	0.44%	0.99%	0.82%	0.53%	1.23%
Skilled real wage	-0.54%	-0.18%	-0.98%	-0.08%	-1.51%	-0.26%	1.27%	0.87%	-0.31%	0.66%
Unskilled real wage	-0.20%	0.17%	-1.28%	-0.42%	-1.48%	-0.25%	1.26%	0.87%	-0.29%	0.68%
Government spending	0.20%	0.47%	0.83%	1.58%	1.03%	2.06%	1.26%	0.90%	2.35%	2.96%
Household consumption										
HH1 (poorest)	-0.31%	0.75%	-1.04%	1.50%	-1.38%	2.25%	3.89%	3.28%	2.68%	5.48%
HH2	-0.04%	0.41%	-0.26%	0.80%	-0.31%	1.21%	1.72%	1.49%	1.45%	2.72%
HH3	-0.04%	0.28%	-0.19%	0.57%	-0.24%	0.85%	1.25%	1.08%	1.02%	1.96%
HH4	-0.11%	0.22%	-0.25%	0.53%	-0.36%	0.75%	1.28%	1.08%	0.90%	1.87%
HH5 (richest)	-0.08%	0.18%	0.02%	0.64%	-0.06%	0.82%	1.02%	0.89%	0.95%	1.74%

Source: Scottish Policy Foundation's CGE model

Labour productivity gains – which can be driven by workforce training, or investment in human capital – show positive and negative impacts. On the one hand firms can now produce the same output with less labour. On the other, labour effectively becomes cheaper, inducing substitution in its favour and improving competitiveness. The sharper employment falls in the shorter run reflect the initial dominance of the fact that firms can now produce their output with fewer workers. However, these adverse employment effects are typically offset over the long run, where we see moderate employment gains as capacity, and the demand for labour expands in response to improved competitiveness. Both skilled and unskilled workers see a fall in wages, though this effect is moderate (at -0.26/-0.25 per cent respectively) in the long run.

The impact on GDP in each scenario is positive with a three per cent increase in labour productivity leading to an increase in GDP worth £1.9 billion in the short run, and £4.3 billion in the long run. A 3 per cent increase in capital efficiency sees an increase in GDP worth £2.4 billion in the short run and £2.1 billion over the long run. An increase of three per cent in total factor productivity would see an increase to Scotland's GDP worth £4.5 billion in the short run and £6.3 billion in the long run.

There are substantial differences in the consequences for government spending across each group – with labour- and TFP-driven productivity growth lending themselves to considerably larger increases in government spending. Under labour productivity growth, this amounts to additional Scottish government spending worth over £750 million per year over the long run, and simultaneously

improving labour and capital efficiency delivers a £1.1 billion per year rise in Scottish government spending.

The productivity shocks have a substantial progressive effect on household spending, as the poorest 20 per cent of households in Scotland see their consumption rise by 5.48 per cent over the long run under a TFP shock – with the average family seeing almost a 2 per cent boost in their spending. Across all three types of productivity growth we see clear increases in household spending, with lower-income households benefiting to the greatest extent.

The impact of productivity shocks in services versus manufacturing

We wanted to consider how we could shape productivity growth to deliver inclusive growth outcomes. In doing so we modelled productivity improvements in Scotland's service sector as compared to manufacturing.

Overall, we see that service-sector shocks deliver long-run progressive effects, as consumption in lower-income households increases to a greater extent than in higher-income households (table A1). While TFP and capital productivity gains across Scotland's comparatively smaller manufacturing sector have a similar impact, improvements in labour productivity appear to deliver a slightly regressive impact, as higher-income households benefit to a greater extent (see table A2).

3.4 MACRO-ECONOMIC IMPACTS OF PRODUCTIVITY IMPROVEMENTS IN SCOTLAND'S 'EVERYDAY ECONOMY'

Focusing in on Scotland's 'everyday economy' allows us to see what impact boosting productivity in predominantly low-wage sectors in Scotland would have for the economy as a whole. For the purposes of this paper, and to gain insights into Scotland's everyday economy, we explore the impacts of productivity improvements in the following sectors (these sectors, for the most part, have higher than average concentrations of low pay, and reflect the everyday businesses of Scotland's economy that people interact with through their day-to-day lives):

- retail and wholesale
- food and drink
- agriculture
- textiles
- accommodation
- food and drink services
- recreational services, and
- other services.

These sectors account for around 24 per cent of total employment in Scotland's economy – or one in four jobs – and just under a quarter of the Scottish economy's total value added. Among these industries, food and drink is something of an anomaly. Classified as a 'growth sector', it displays distinct characteristics associated particularly with the prevalence of the whisky industry in Scotland's export profile. While the sectors explored through our modelling do not directly map onto the best available profile of pay by industry in Scotland, figure 3.1 shows a distinct picture of low-to-middling median wages across these industries, suggesting a concentration of low pay within these sectors.

In this case, we traced the impact of a 3 per cent productivity shock to capital productivity and TFP, and a smaller shock (of 2.33 per cent) to labour productivity. This reflects the challenge of making larger-scale labour productivity gains in labour-intensive sectors such as those explored here.

TABLE 3.2

The impact of productivity improvements in 'lower-pay' sectors

	Labour efficiency		Capital efficiency		TFP	
	Short-run	Long-run	Short-run	Long-run	Short-run	Long-run
GDP	0.35%	0.81%	0.34%	0.28%	0.70%	1.09%
Skilled employment	-0.12%	0.14%	0.25%	0.18%	0.14%	0.32%
Unskilled employment	-0.21%	0.08%	0.31%	0.22%	0.11%	0.30%
Skilled real wage	-0.47%	-0.15%	0.27%	0.19%	-0.21%	0.04%
Unskilled real wage	-0.61%	-0.28%	0.35%	0.24%	-0.27%	-0.04%
Government spending	0.06%	0.30%	0.13%	0.14%	0.19%	0.44%
Household consumption						
HH1 (poorest)	-0.08%	0.97%	0.95%	0.70%	0.89%	1.67%
HH2	0.00%	0.46%	0.45%	0.33%	0.46%	0.80%
HH3	-0.04%	0.29%	0.34%	0.25%	0.30%	0.54%
HH4	-0.09%	0.24%	0.34%	0.25%	0.25%	0.49%
HH5 (richest)	0.00%	0.26%	0.26%	0.19%	0.26%	0.46%

Source: Scottish Policy Foundation's CGE model

The distinct structure of many of Scotland's lower-pay sectors, which are particularly labour intensive, delivers differently shaped growth as compared to that seen from whole-economy productivity improvements. Here, the extent to which labour productivity improvements deliver greater GDP growth rather than raising capital productivity is more marked. The initial fall in employment is again reversed by long-run employment gains attributable to competitiveness improvements. This is again reinforced by a boost to government revenue and expenditure – of up to 0.44 per cent in real terms where low-pay sectors raise total factor productivity.

The labour productivity increase we modelled for lower-paid sectors would see a long-run increase in GDP worth £1.1 billion in Scotland and an increase in Scottish government spending of £110 million per year. The total factor productivity increase we modelled for lower-paid sectors would be worth a £1.5 billion increase in GDP in Scotland and an increase in Scottish government spending of £161 million per year.

In terms of household spending, we again see employment gains cycle into a progressive distribution of increased prosperity across the household income spectrum over the long run – though we see labour productivity improvements in the short run having negative effects in terms of employment and in household consumption. Were these gains to be staggered within and across sectors, however, as we expect there would be greater opportunity to manage short-run job losses, particularly given the likely improvement in the government budget.

For comparison, we also traced the effects of equivalent productivity improvements in financial services and mining – two of Scotland's most significant high-pay, high-productivity sectors. These sectors are significantly more capital intensive (and more skill intensive) than those we've included in Scotland's 'everyday economy', with labour:capital ratio of 0.91 and 1.55 respectively.

TABLE 3.3

The impact of productivity improvements in the 'higher-pay' sectors

	Labour efficiency		Capital efficiency		TFP	
	Short-run	Long-run	Short-run	Long-run	Short-run	Long-run
GDP	0.10%	0.29%	0.21%	0.20%	0.32%	0.49%
Skilled employment	-0.03%	0.05%	0.08%	0.08%	0.04%	0.13%
Unskilled employment	-0.02%	0.06%	0.07%	0.08%	0.05%	0.14%
Skilled real wage	-0.10%	0.03%	0.16%	0.13%	0.07%	0.16%
Unskilled real wage	-0.07%	0.05%	0.15%	0.12%	0.07%	0.17%
Government spending	-0.02%	0.04%	0.03%	0.05%	0.01%	0.10%
Household consumption						
HH1 (poorest)	-0.28%	0.09%	0.42%	0.41%	0.14%	0.50%
HH2	-0.07%	0.08%	0.14%	0.16%	0.08%	0.23%
HH3	-0.03%	0.07%	0.09%	0.10%	0.06%	0.18%
HH4	-0.02%	0.08%	0.09%	0.10%	0.07%	0.18%
HH5 (richest)	0.01%	0.09%	0.08%	0.09%	0.09%	0.18%

Source: Scottish Policy Foundation's CGE model

Here, the most marked difference is in the distribution of household consumption under labour productivity growth. Whereas productivity gains in the low-pay sectors see lower-income households benefit to a greater extent than better-off households, labour productivity growth in higher-pay sectors see the wealthiest 20 per cent benefit to the same extent as the poorest 20 per cent of households. This reflects both the greater skill intensity and capital intensity of the high-wage sectors. (In the high-pay sectors capital efficiency contributes around 41 per cent of TFP growth; in the low-pay sectors the contribution is around 25 per cent.) Growth in capital productivity and TFP, however, benefits poorer households to the greatest extent, mirroring the impact seen from gains in lower-pay sectors.

Equally, increasing productivity levels in these higher-pay sectors also has a smaller impact on the Scottish economy as a whole than doing so for lower-pay sectors, reflecting the relative sizes of these sectors. For example, the total factor productivity increase we modelled would see an increase of £677 million to Scotland's GDP and an increase in Scottish government revenues of £36.7 million per year, less than a quarter of the effect seen in boosting lower-pay sector total factor productivity levels.

While the model assumes that a wage-bargaining curve characterises wage-setting in the Scottish economy, the mechanisms at work in determining wages in the contemporary economy are disputed. In order to test the sensitivity of our results to the wage-setting assumptions made by the CGE model, we also traced the effects of equivalent productivity shocks under the alternative assumption that real wages are fixed – and will not be altered in response to employment or changing bargaining power. We find that if real wages don't rise or fall in relation to other macro-economic factors, the impact of productivity shocks on household consumption is even more skewed in favour of poorer households – and particularly the poorest 20 per cent of households, where the unemployed are clustered.

Our modelling shows that boosting productivity across Scotland's lower-wage sectors could play an integral role in realising sustainable and inclusive growth in Scotland.

3.5 THE IMPACT OF BOOSTING PRODUCTIVITY IN INDIVIDUAL SECTORS

International comparisons reveal the importance of sector-specific approaches to raising productivity rates in the everyday economy. Forth and Rincon-Aznar (2018) find a mixed picture of productivity performance among low-pay sectors across the UK: while low-pay sectors including textiles, clothing manufacturing and retail show relatively strong productivity performance as compared with international competitors, agriculture and arts, entertainment and recreation suffer from particularly weak productivity growth.

Wholesale and retail

Scotland's retail sector is its second largest employer, with 246,100 employees or self-employed workers, making up 9.5 per cent of total employment. Scotland's retail industry accounts for 9.6 per cent of value added in the Scottish economy – which also means it has the largest impact on household consumption of all sectors. The sector is fairly labour intensive, and more heavily exposed to exports (which account for around 20 per cent of its sales) than other areas of Scotland's everyday economy. This particular composition means that boosts to labour productivity deliver a bigger increase in value added (at a 1.51 per cent rise) and a small fall in own-sector employment (at 1.14 per cent) than other sectors. However, while the own-sector effects on employment are negative, aggregate employment increases slightly (by 0.05 per cent), as does GDP (by 0.34 per cent), reflecting the supply-side stimulus to other sectors through the reduction in the relative price of their purchases of inputs from wholesale and retail.

We find a three per cent TFP shock in the retail industry alone raises spending in the poorest 20 per cent of households in Scotland by 0.39 per cent in the short run, and 0.64 per cent in the long run, with positive (and progressive) effects across the income distribution. The scale of these effects in part reflect the modest increases in own-sector employment (at 0.06 per cent in the short run and 0.12 per cent in the long run) that arise in this case, but the same broad pattern is apparent for both labour and capital productivity improvements. Real wages rise in the short run and by rather more in the long run. The largest-scale positive effects we see come through increased exports, which experience a 3.59 per cent rise in the short run, levelling out at three per cent over the long run. As expected, the boost to TFP delivers the largest rise in value added (of which around 67 per cent is due to improvements in labour efficiency).

Overall, the increase in labour productivity within wholesale and retail we modelled could see an increase in Scotland's GDP of £470 million over the long run and an increase in Scottish government spending of £40 million per year. Likewise, the total factor productivity increase we modelled in wholesale and retail could see an increase in Scotland's GDP of £600 million and a £55 million increase in Scottish government revenues over the long run.

CONCLUSIONS AND RECOMMENDATIONS

While it is clear that raising productivity in the Scottish economy will drive growth, whether this growth is inclusive, narrowing inequalities, or whether it drives further economic inequality will depend on the decisions taken by policymakers. How far productivity growth fuels more broadly shared prosperity across Scotland will depend on action on several fronts.

Productivity growth underpins rising living standards across whole economies, but how individual households fare under stronger productivity growth will depend on two factors. Firstly, it will depend on the shape of productivity growth itself. Which sectors benefit from productivity growth, and how productivity is increased (through labour, capital or total factor productivity), will have a significant bearing on the potential for delivering more inclusive growth. However, secondly, narrowing inequalities through productivity growth will also require policy action to ensure the benefits from these gains go to workers, through increased wages and job quality or through increased employment levels. Crucially, it will also require well-planned and managed transitions for those people displaced by increased productivity in order to protect workers and wages.

There are clear and important areas for action to raise productivity and realise inclusive growth.

Pay and productivity are mutually reinforcing. Low pay is holding back productivity in Scotland's economy – and weak productivity performance is holding down wages. If Scotland is to unlock stronger pay growth, we can expect to feel the benefits through stronger productivity growth – and vice versa.

To deliver the pay growth Scotland needs to see, productivity growth must be paired with greater bargaining power for workers. Collective bargaining is a clear and critical component of shaping a future economy in which productivity gains can be more broadly shared.

Focusing Scotland's economic strategy beyond growth sectors, with clear and concentrated efforts on raising productivity in the everyday economy (where most people work), will be crucial. By exploring the impact of raising productivity in a cross-section of Scotland's everyday economy, we have seen how more inclusive growth can be delivered through productivity improvements over the long term, bringing greater gains for lower-income households across Scotland, and enabling a broader section of Scotland's population to share both in growing the economy, and in the prosperity that growth generates.

While boosting innovation across Scotland can unlock faster productivity growth, the diffusion of this innovation across Scotland's broader economy – across and beyond sectors – would provide the foundations for sustained productivity growth over the longer term.

By raising capital investment and setting ambitious plans to meet and manage the opportunities presented by automation, Scotland can get ahead. The Scottish

government's infrastructure pledge and the new SNIB are therefore welcome. However, by focusing this investment on delivering productivity growth that can in turn deliver inclusive growth and developing a social partnership approach to investment in general (and managing automation in particular), industries can reap the gains of capital efficiency-driven productivity growth, and seize the opportunities generated by new sources of demand.

With new and existing powers over taxation and social security, we can consider new ways to encourage productivity-boosting actions among employers and employees, and equally new ways to discourage productivity-harming actions. In particular these tools could be used to focus productivity growth in the parts of the economy most able to deliver inclusive growth.

We have found that productivity levels and patterns of growth vary considerably across Scotland's industries. Within the cross-section of low-pay industries this report explores, historic productivity performance has been mixed. Raising the bar on productivity in each of these industries generates distinct outcomes – with advantages and trade-offs in each. What is clear, however, is that each of Scotland's industries faces unique productivity challenges, and will have particular trade-offs to manage should productivity be successfully raised.

Boosting labour productivity was consistently progressive in its outcomes and particularly impactful within the more labour-intensive, lower-pay, everyday economy sectors we modelled. Investment in skills from employers, individuals and government could be crucial to delivering increases in productivity and to delivering increases with progressive outcomes.

Poor management practices and low levels of management are likely holding back productivity growth. Focused efforts to drive innovation through management practices, by improving job design and by reducing the use of temporary workers, should be high priorities for Scotland's economy.

There is also an emerging case for a population group approach to proactively manage and meet potential trade-offs from raising productivity. As the adoption of new technologies and developing demand for new skills reshapes work and labour markets, we can anticipate particular population groups to be affected differently. In order to protect groups that are most exposed to changing work or job losses, policymakers will need to take a focused and proactive approach to managing automation and seizing opportunities to raise the bar on productivity.

Given Scotland's ageing population and new tax powers, delivering productivity growth that delivers wage growth has never been more important to Scotland's public finances. With the Scottish government's focus on inclusive growth, finding ways to do so that benefit lower earners, narrowing inequalities, will be equally important.

The Scottish government, and Scottish Parliament more widely, clearly see productivity as a priority. The creation of the SNIB, the pledge to increase infrastructure spending in Scotland by one per cent by 2026 (circa £1.5 billion per year) and the creation of the Enterprise and Skills Strategic Board, and the Board's first strategic plan, all show policy attention on the area of driving productivity. However, more needs to be done to flesh out these initiatives and to bring productivity, innovation and inclusive growth agendas together.

This report has shown a number of potential approaches to delivering this shape of productivity growth. Below we outline seven recommendations that we believe could help to deliver increased productivity growth that could in turn help to deliver inclusive growth in Scotland.

RECOMMENDATIONS

1. The Scottish government should focus economic strategy on the 'everyday economy'

This report has clearly found that to deliver inclusive growth, we must aim to drive productivity in everyday parts of the economy, rather than simply high-performing growth sectors. Productivity growth that is blind to its effects will not deliver the Scottish government's aim of a more inclusive economy. The Scottish government should therefore combine its focus on 'growth sectors' through its economic strategy, with a similar if not greater focus on driving economic performance in the low-pay parts of the economy.

We have found that growth sectors cannot absorb significant numbers of jobs from high-employment low-pay parts of the economy. We have found that boosting productivity in low-wage sectors in general can have a progressive impact on the economy. We have also found that without government intervention, increases in productivity – even in the everyday economy – may not translate into increased pay, fair work and inclusive growth.

The Scottish government should therefore develop its approach to the everyday economy in Scotland, making this a clear economic priority for it and its agencies, including the new Scottish National Investment Bank, and ensuring that boosting productivity, promoting fair work and delivering inclusive growth through the everyday parts of the economy is an explicit high-level strategic aim of government policy.

2. A new Committee on the Future Inclusive Economy (CoFIE) for Scotland

The Scottish government and its agencies should establish a short-life Committee on the Future Inclusive Economy, in line with the Singapore Committee on the Future Economy. A CoFIE would combine a focus on productivity, automation, technological change and ageing, alongside consideration of existing economic trends in Scotland around stagnating productivity, wage growth and shared prosperity. The Committee would be short-life, working to understand the trends Scotland is facing and experiencing, outlining a vision for the long term, and outlining clear plans and responsibilities for delivering the future inclusive economy.

3. Sector-based social partnership bodies

The Scottish government, employers and representatives, together with employees and representatives, should establish new sector-based social partnership bodies across Scotland's economy, with an initial focus on low-pay sectors. Given the existing devolved settlement, these bodies are likely to be advisory in the first instance. They would work to jointly agree long-term goals for sectors in Scotland, and set minimum standards for pay and targets for wage growth. By focusing on delivering against fair work convention objectives, these partnerships would bring together employers and workers to raise job quality and productivity, drive inclusive growth, and promote innovation diffusion through linking sectors with colleges, universities and the wider skills system. We would also aim for these bodies to develop explicit plans to manage automation and drive productivity that can deliver inclusive growth.

A key aim of these new bodies would be to increase coverage of collective bargaining agreements across employers and sectors in Scotland, helping to drive progress against Scotland's new target within the National Performance Framework to increase collective bargaining coverage. These efforts should focus on low-pay sectors, where they can drive up productivity and realise more inclusive growth.

4. Ensure Scotland's national and local tax policy promotes productivity growth

With Scotland's new and existing powers of taxation, the Scottish government should consider what more can be done to drive the positive behaviours among employers and employees that will drive productivity growth, fair work and inclusive growth. In particular this should begin by considering how effective tax reliefs are in driving productivity and inclusive growth.

Given the Scottish government has agreed to review the Small Business Bonus, this should be done quickly with a view to how this funding could be best used to drive productivity, fair work and inclusive growth. In our view, consideration should be given to replacing the Small Business Bonus with a Productivity Credit, paid to small employers to spend on productivity-boosting activity, such as skills investment or R&D.

Beyond the Small Business Bonus, the Scottish government should undertake a review of local and national taxation, with a view to considering how existing (and any new) tax policy can best promote the behaviours we wish to see among employers and employees, and across the wider economy. This could include consideration of how tax powers could be used to boost collective bargaining agreements, to promote productivity spend and to encourage the sharing of prosperity between pay and profits.

5. Pilot tax revenue assignation within Scotland to boost productivity and inclusive growth

Consideration should be given to ensuring that financial incentives for government and agencies within Scotland are aligned with delivering productivity increases, fair work and inclusive growth. In particular, combining further assignation of some tax revenue to the regional or local level in Scotland alongside devolving further responsibility for driving productivity and inclusive growth improvements could be a powerful way to ensure alignment of incentives and aims across government and across Scotland. This could ensure that regional and local actors see reward for their success against these agendas. Protections would need to be put in place to ensure high-income areas do not benefit unfairly from any such arrangements.

6. Scotland should increase investment in in-work learning for lower-paid workers

Boosting investment in skills could be a crucial way of delivering increases in labour productivity and, in turn, more inclusive economic growth. Skills utilisation could improve in Scotland, as could skills investment and engagement among employers. Previous IPPR Scotland work has shown that currently Scotland's skills system is focused on young learners and has far lower levels of engagement among SMEs than other employers (Callander et al 2018).

The Scottish government, working with the Enterprise and Skills Strategic Board, should increase investment in in-work learning for lower-paid workers, and in particular for over-24s. It should also develop new ways to build contingency into this part of the skills system, to spread the costs with employers, and to ensure employers and employees accessing the skills system can lead to the greatest impact on productivity. Given the need to focus on those in work, and in particular those in low-paid and insecure work, and also the need to engage all employers, from self-employed through SMEs to larger employers, the Scottish government should consider how it can develop new bite-sized or nano-learning routes, fully flexible for employers and employees.

In addition, previous IPPR Scotland recommendations have outlined the idea of a new DisPlacement Service in Scotland, tasked with linking workers in businesses

and sectors at risk from displacement through productivity gains or automation with expanding employers and sectors, and providing a brokerage role between workers, employers and tailored skills provision.

7. The SNIB 'mission' should include an explicit focus on driving productivity in the everyday economy to realise inclusive growth in Scotland

The new Scottish National Investment Bank (SNIB) will see a mission-based approach to providing longer-term 'patient' capital to employers in Scotland. The Scottish government has the aim, if it receives derogation to do so from the UK government, to turn the SNIB into a fully-fledged publicly-owned investment bank. While it is early days in the development of the SNIB, it seems clear that its missions will align with the Scottish government economic strategy and more broadly key social and economic aims. Given the gaps in the economic strategy we have identified in relation to focusing on the everyday economy, the SNIB should not replicate these mistakes. We have found strong evidence that driving productivity in the lower-paid everyday economy sectors, alongside stronger collective bargaining, could deliver economic growth that is better able to narrow inequalities – a key element of inclusive growth. The SNIB should have an explicit focus on contributing investment (in, for example, skills or embracing managed automation across lower-paid sectors) that can deliver productivity growth that can in turn deliver inclusive growth in Scotland.

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ANNEX

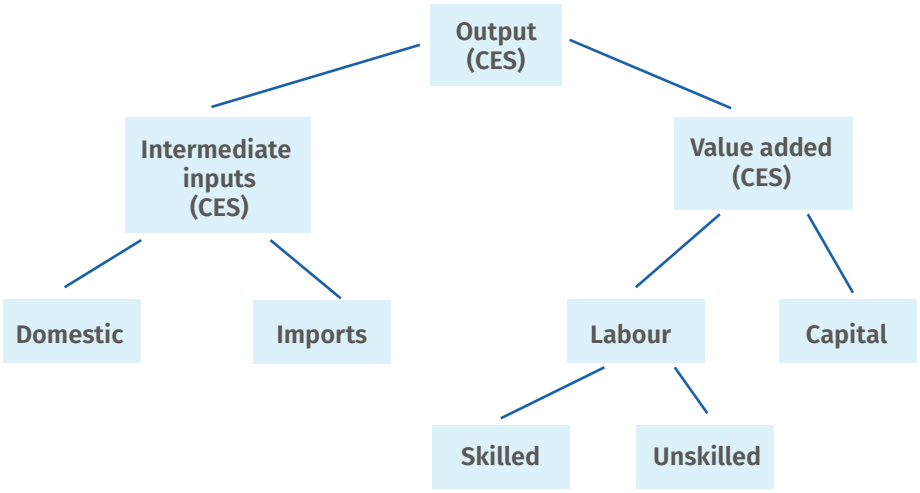
SCALE OF IMPACTS IN THE CGE MODEL

The scale of impacts seen in the Scottish Policy Foundation's Computable General Equilibrium (CGE) model results reflects the share of each factor in value added. For example, skilled labour accounts for the biggest share in total employment and labour as a whole accounts for a bigger share of value added than does capital. This results in the scale of impacts typically ranking as: TFP > (Aggregate) Labour Efficiency (LE) > Capital Efficiency (KE) > Skilled labour efficiency (Skilled LE) > Unskilled labour efficiency (Unskilled LE).

APPENDIX

FIGURE A1

The structure of production within each sector



Source: Scottish Policy Foundation's CGE model

TABLE A1

The impact of productivity improvements in the service sector

	Labour efficiency		Capital efficiency		Total factor productivity	
	Short-run	Long-run	Short-run	Long-run	Short-run	Long-run
GDP	0.84%	1.78%	1.12%	0.96%	1.99%	2.76%
Skilled employment	-0.34%	0.18%	0.62%	0.52%	0.30%	0.69%
Unskilled employment	-0.27%	0.26%	0.60%	0.52%	0.35%	0.77%
Skilled real wage	-1.01%	-0.29%	0.65%	0.47%	-0.39%	0.19%
Unskilled real wage	-0.84%	-0.16%	0.53%	0.41%	-0.34%	0.27%
Government spending	1.00%	1.69%	1.08%	0.68%	2.13%	2.38%
Household consumption						
HH1 (poorest)	-0.66%	1.33%	2.40%	2.09%	1.80%	3.42%
HH2	-0.14%	0.70%	1.12%	0.99%	0.99%	1.70%
HH3	-0.14%	0.47%	0.82%	0.72%	0.68%	1.20%
HH4	-0.24%	0.39%	0.82%	0.71%	0.58%	1.11%
HH5 (richest)	-0.10%	0.40%	0.69%	0.60%	0.58%	1.01%

Source: Scottish Policy Foundation's CGE model

TABLE A2

The impact of productivity improvements in the manufacturing sector

	Labour efficiency		Capital efficiency		Total factor productivity	
	Short-run	Long-run	Short-run	Long-run	Short-run	Long-run
GDP	0.18%	0.41%	0.26%	0.22%	0.44%	0.63%
Skilled employment	-0.03%	0.08%	0.10%	0.10%	0.07%	0.17%
Unskilled employment	-0.04%	0.08%	0.12%	0.11%	0.08%	0.19%
Skilled real wage	-0.11%	0.06%	0.21%	0.14%	0.10%	0.20%
Unskilled real wage	-0.12%	0.06%	0.22%	0.15%	0.10%	0.21%
Government spending	-0.01%	0.10%	0.09%	0.10%	0.08%	0.20%
Household consumption						
HH1 (poorest)	-0.41%	0.10%	0.62%	0.50%	0.21%	0.59%
HH2	-0.10%	0.10%	0.21%	0.19%	0.11%	0.30%
HH3	-0.04%	0.10%	0.13%	0.13%	0.09%	0.23%
HH4	-0.03%	0.11%	0.13%	0.13%	0.10%	0.24%
HH5 (richest)	0.03%	0.13%	0.09%	0.09%	0.12%	0.23%

Source: Scottish Policy Foundation's CGE model

TABLE A3

The impact of a sector-specific 3 per cent stimulus to labour productivity

	Short-run	Long-run
GDP	0.16%	0.34%
Employment	-0.06%	0.05%
Skilled nominal wage	-0.19%	-0.07%
Unskilled nominal wage	-0.27%	-0.13%
Government spending	0.02%	0.11%
Household consumption		
HH1 (poorest)	-0.04%	0.38%
HH2	0.00%	0.19%
HH3	-0.01%	0.12%
HH4	-0.03%	0.10%
HH5 (richest)	0.01%	0.12%
Impact within retail sector		
Output	0.76%	1.20%
Value added	0.98%	1.51%
Exports	1.38%	2.03%
Total employment	-1.44%	-1.14%

Source: Scottish Policy Foundation's CGE model

TABLE A4

The impact of a sector-specific 3 per cent stimulus to capital productivity

	Short-run	Long-run
GDP	0.14%	0.09%
Employment	0.12%	0.07%
Skilled nominal wage	0.11%	0.06%
Unskilled nominal wage	0.15%	0.08%
Government spending	0.05%	0.04%
Household consumption		
HH1 (poorest)	0.43%	0.26%
HH2	0.20%	0.12%
HH3	0.15%	0.09%
HH4	0.15%	0.09%
HH5 (richest)	0.11%	0.07%
Impact within retail sector		
Output	1.25%	0.57%
Value added	1.61%	0.72%
Consumption	0.34%	0.17%
Total employment	0.89%	0.41%

Source: Scottish Policy Foundation's CGE mode

TABLE A5

The impact of a sector-specific 3 per cent stimulus to total factor productivity

	Short-run	Long-run
GDP	0.30%	0.43%
Employment	0.06%	0.12%
Skilled nominal wage	-0.09%	-0.01%
Unskilled nominal wage	-0.12%	-0.05%
Government spending	0.07%	0.15%
Household consumption		
HH1 (poorest)	0.39%	0.64%
HH2	0.21%	0.31%
HH3	0.14%	0.21%
HH4	0.12%	0.19%
HH5 (richest)	0.12%	0.19%
Impact within retail sector		
Output	2.03%	1.78%
Value added	2.62%	2.25%
Exports	3.59%	3.00%
Total employment	-0.56%	-0.74%

Source: Scottish Policy Foundation's CGE model

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