Part A
Raising the Potential & Performance of the Scottish Economy

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A1 SCOTLAND’S ECONOMIC PERFORMANCE & POTENTIAL

- Scotland is without question a rich and successful nation, in the top 25 of global economies in terms of income per head and ranks near the top in the UK on most long-term indicators.
- Scotland has very significant comparative economic assets and advantages, in terms of natural resources, the education and skills of the people who live in Scotland and sectors with existing and potential global competitiveness.
- It is energy-rich with oil and gas resources, up to 25 per cent of Europe’s tidal power potential and 25 per cent of Europe’s offshore wind potential.
- We have world-class universities, a world-wide reputation for premium food and drink products and our country has been named the world’s most beautiful, boosting our outstanding tourism industry. We are at the cutting edge of games technology, photonics, life sciences, advanced manufacturing and other industries of the future.
- Despite these abundant resources, other independent countries with the ability to tailor economic policy to their own needs have performed better than Scotland. The median income of the group of 12 small advanced economies is 14% higher in GDP per head; a gap of £4,100 per person. This shows what is possible for an independent Scotland.
- The economic debate was at the heart of the 2014 referendum. That debate was predicated on the assumption that the UK would continue to be a member state of the EU.
- A key argument from the pro-independence side was that the UK economy was unusually unbalanced – both in terms of geographical performance and inequality in income and wealth among UK citizens.
- This report shows very significant regional disparity of performance in the UK. The gap in performance by local areas is by a distance the most unequal in Europe, with far too much economic activity and opportunity concentrated in London and the South-East of England.
- The gap between rich and poor in the UK continues to be one of the largest among developed countries, with growing evidence that such inequality acts as a drag on economic performance.

1 The reference group of 12 small advanced economies consists of Austria, Belgium, Denmark, Finland, Hong Kong, Ireland, the Netherlands, New Zealand, Norway, Singapore, Sweden, and Switzerland
2 Reports published included the UK Government’s Scotland Analysis Papers; Scotland’s Future, the White Paper published by the Scottish Government and other papers such as Building Security and Creating Opportunity: Economic Policy Choices in an Independent Scotland, published by the Scottish Government in 2013.
• A dependence on consumer debt fuelled spending for growth has been a consistent feature of the UK economy and is not sustainable and carries very significant risks.

• The UK’s export performance has been poor and with a falling share of the global market. The UK has – by far – the highest trade deficit in the EU.

• Scotland performs close to the UK average in terms of economic performance per person but has not enjoyed similar levels of population and labour force growth.

• If Scotland had matched UK population growth since 1980, the population of Scotland would now be 5.8 million, if it had matched the population growth of the other small European countries (such as Austria, Denmark, Finland, Ireland, Norway and Switzerland) there would be 6.1 million living in Scotland.

• If the gap between Scotland’s real per capita income and the median of the small advanced economy group was closed, income per head would be 14 per cent higher. Closing the gap between Scotland and the best performers would increase incomes by over a half. Closing this gap would mean, in today’s values, an additional £22 billion in additional GDP and a potential additional £9 billion in tax revenues.

• The decision of the UK to leave the European Union will fundamentally change Scotland’s economic future. Brexit will almost certainly widen, not narrow, the gap between Scotland and comparator countries.

• The UK Treasury says Brexit will make the UK “permanently poorer”. This is not a controversial claim. There is a widespread consensus among economists, with few exceptions, that leaving the EU will damage UK economic growth, productivity and job creation.

• The Fraser of Allander Institute estimate a potential Brexit impact of the loss of between 30,000 and 80,000 jobs, the loss of between £3 billion and £8 billion in GDP and a real wages cut of £2,000, depending on the model that succeeds Brexit negotiations.

• Scottish Government modelling shows an adverse impact on trade, productivity, population and foreign direct investment. And LSE’s Programme of Brexit research suggests Scotland (as well as Wales and Northern Ireland) are already being disproportionately hit by the impact of the Brexit vote.

• The already huge difference in economic performance between London and the South-East of England and other parts of the UK is therefore likely to increase.

• This means it is essential to stimulate an inclusive, national debate on Scotland’s economic future to find out whether a different, better path is possible.

• Scotland’s resources and talent, combined with good decision-making and the ability to tailor policy to our needs, can lead to improved economic performance and avoidance of the low growth future in a UK outside the EU. The growth aspirations here are structured over three time horizons: (i) First 10 years: catching up with the small advanced economies average growth rate (currently 2.5%) (ii) Years 10 to 25: closing the GDP per capita gap with the small advanced economies (with period of
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Scotland’s Assets and Advantages

A1.1 The debate on the strength of the Scottish economy generally focuses on short-term indicators of performance such as the latest GDP or labour market statistics that have been published. While of course these are important pointers, it is also important to consider the Scottish economy’s long-term prospects with consideration given to Scotland’s comparative economic assets and advantages.

A1.2 Scotland is without question a rich and relatively successful nation, it is in the top 25 of global economies in terms of income per head and ranks near the top in the UK on most long-term indicators, behind only London and the south east of England.

A1.3 Scotland has very significant comparative economic assets and advantages, in terms of natural resources, the education and skills of the people who live in Scotland and sectors with existing and potential global competitiveness.

A1.4 Scotland has been an energy producing country since the industrial revolution, initially coal and since the 1970s, oil and gas. Energy services has become a global business, with international activity now accounting for more than half of total sales in Scotland’s oil and gas supply chain companies, with a value of more than £11 billion in 2015.£

A1.5 As the global economy transitions to meet the challenges of climate change, Scotland will retain competitive advantage in energy. In 2016, Scotland generated 54% of its electricity demand from renewable sources (principally hydro and onshore wind). Scotland has the majority of the UK’s onshore wind energy resources and the seas around Scotland have up to 25% of Europe’s tidal power and 10% of its wave power and around 25% of the European offshore wind resource potential.

A1.6 Other natural resources that will be valuable in the future include water resources and the natural environment as well as many cities and towns ranked highly for the quality of life that they provide.

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3 Source: Aberdeen Chamber of Commerce (2017) Survey of International Activity in the Oil and Gas Sector 2015-16
4 Source: Scottish Government (2017), Energy Statistics Summary
5 Source: http://www.gov.scot/Topics/marine/marineenergy
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A1.7 Five Scottish universities appear within the top 200 universities\(^6\). The quality of impact of Scottish science is evidenced by analysis\(^7\) that found that Scotland was top for peer-reviewed scientific publications per year per researcher and was second only to the Netherlands for research citations per researcher (a measure of the influence of the findings). As well as being internationally competitive in the global higher education and research markets, universities are increasing drivers of economic growth, forging and growing new industry sectors.

A1.8 Scotland has a worldwide reputation for producing premium food and drink products. In 2016 exports of these products amounted to £5.5 billion\(^8\). Successful export sectors include Scotch Whisky and more recently Scottish Salmon.

A1.9 Scotland is home to one of the largest life sciences clusters in Europe. Scotland has long been a pioneer in medical education and research and more medical research is carried out per capita in Scotland than anywhere in Europe\(^9\).

A1.10 Scotland’s natural environment and vibrant urban areas attract tourists. Scotland was included at number 2 in the Rough Guides top ten ‘must see’ places to visit in 2017\(^10\). There have been many innovations in the tourism sector, not least the role of festivals and events, and continuing innovation can deliver substantial further development in this rapidly growing global sector.

A1.11 Scotland also has a well-qualified workforce with an estimated 60% of the working age population having tertiary education qualifications, amongst the highest in the OECD group of advanced economies\(^11\).

A1.12 Scotland has been one of the best performing parts of the UK for inward investment, attracting record numbers of projects in 2016 and has become the leading part of the UK for research and development inward investment projects\(^12\).

A1.13 The financial services sector in Scotland has a long history and global reputation, particularly in high value areas such as insurance and asset management.

\(^6\) Source: The Times Higher Education World University Rankings 2016-17

\(^7\) Source: Elsevier Analytical Services (2016), International Comparative Performance of the Welsh Research Base

\(^8\) Source: Scottish Government (March 2017), Scotland Food and Drink Exports, 2016

\(^9\) Source: Scottish Government, Life Sciences – Key Sector Report

\(^10\) Source: Rough Guides (January 2017)

\(^11\) Source: Based on ONS Labour Market Profile for Scotland and UK (2016) and OECD Education at a Glance 2017

\(^12\) Source: Ernst & Young (2017), Scotland Attractiveness Survey
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A1.14 Scotland also has a number of clusters of highly competitive companies operating in niche global markets, some well-established, others more recent or emerging. These include computer game designers, textiles, quantum and nano-technology, chemical manufacturing, specialist manufacturing, robotics and artificial intelligence, digital and data technologies and precision medicine and life sciences. The further development of emerging sectors requires much higher skills than many traditional sectors, providing opportunities to further leverage Scotland’s universities and colleges.

A1.15 These assets and advantages are greater than many comparable countries, and Scotland’s economic potential is significant.

**Comparative Performance of the Scottish Economy**

A1.16 The GDP of Scotland in 2016/17 was £159.4 billion or £150.0 billion excluding the contribution of oil and gas\(^{13}\), which is equivalent to a GDP per Capita of £29,500, or £27,800 excluding oil and gas. This compares with £29,800 for the UK overall.

A1.17 The long-term Scottish economic growth rate has lagged the UK rate by around 0.5%. Since devolution, Scottish growth has generally been close to the UK growth rate, but has failed to close the gap, and since the financial crisis and the fall in oil prices, it has widened (Figure 1-1). It should also always be remembered that overall UK economic performance statistics mask very large regional disparities.

\(^{13}\) Scottish Government (2016), Government Expenditure and Revenue Scotland, GDP including North Sea Geographical Share
Figure 1-1 – Nominal GDP (Scotland and UK, 1998-2016)

Sources: Government Expenditure & Revenue in Scotland (GDP estimates, Onshore)

A1.18 Measured in GDP per capita terms, the performance of the Scottish economy benchmarks better against the UK (Figure 1-2), although, as we come on to discuss the UK economy has been underperforming and so it provides an unambitious benchmark.

A1.19 The main reason for this difference is the divergence in patterns of migration, with Scotland having much lower population growth than the UK. This has been driven by emigration as Scots sought opportunities elsewhere (particularly in the pre-devolution period) and lower immigration than the rest of the UK. Population trends can be an indicator of economic health, but GDP per capita is a more useful measure of economic performance, not least because it facilitates comparison between economies.
Figure 1-2 – Nominal GDP per Capita (Scotland and UK, 1998-2015)

GDP per capita

Sources: Government Expenditure & Revenue in Scotland (GDP estimates, Onshore)

A1.20 So, on one measure of the economy (scale) Scotland’s growth consistently underperforms the UK, while on the other (prosperity) it performs better.

A1.21 The key point this report seeks to address, however, is not the past but the future performance of the economy and in particular, whether it is best for future generations for Scotland to be part of a low growth, unbalanced, UK economy outside the EU, or to adopt the Next Generation Economic Model for Scotland outlined later in this report. The key is to focus on the drivers of growth – the three “Ps” and on the best performing small countries globally.

Components of Economic Growth

A1.22 In an advanced economy, there are three main components that help explain where economic growth comes from, and so three potential high level targets for economic growth policies, the three “Ps” of growth:

- Population: the numbers of working age people.
- Participation: the proportion of those working age people that are participating through the economy through employment and other wage and profit earning activities.
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- Productivity: a measure of the output that is produced with a given set of inputs. There are several measures of productivity, including output per hour worked, a measure of labour productivity. Total factor productivity would be a better measure if data was available.

A1.23 The drivers of growth can be quite different for national GDP and GDP per capita. National GDP growth is often driven by the workforce expanding, either through reduced emigration or increased immigration or by increasing the economic activity rate of those individuals already living within the country - for example, increasing the female participation rate in the paid workforce or reducing the level of long-term unemployment. National GDP growth can also come from increased resource use, such as through a greater exploitation of oil and gas resources. Some of this increase in resource use may be unsustainable if it is a finite resource, however the increased national use of well-managed renewable resources would not impede the abilities of future generations to grow.

A1.24 The growth of GDP per Capita is more closely related to productivity increases within the economy. This is the ability for individuals to gain a greater level of output for a given set of outputs by doing things differently or better. The conventional economic theory on how this growth is achieved focuses on five key drivers of productivity, these are:

- investment in physical capital such as public infrastructure, consumer durables or plant and machinery for production;
- increase in skills and human capital;
- innovation of new and improved products and processes;
- entrepreneurship; and
- competition and increased competitiveness.

A1.25 In addition to these factors, developing economic theory has identified additional drivers of productivity growth. These are:

- social capital;
- industrial structure;
- agglomeration effects;
- openness and trade;
- regulation;
- absorptive capacity (of new technologies);
- new knowledge; and
- reducing waste.
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A1.26 The sustainability of growth, both national GDP and GDP per capita is dependent on the particular driver of this growth. Some productivity growth drivers, such as reduced waste and increased human capital are likely to contribute to the sustainability of an economy, while others such as the increased non-renewable resource use may cause problems for the future. We develop these three components and suggest policies to improve performance in the coming chapters.

Population Trends

A1.27 Trends in Scottish population in recent decades provide some insight into economic performance. In the 1980s and 1990s, Scottish population was static or in decline, with a fall in the population of more than 2%. This has been reversed since devolution, with the Scottish population growing by almost 6% between 1999 and 2015 to 5.4 million. However, this has slowed since the financial crisis and is still behind the population growth in the UK and that experienced by successful small advanced economies (Figure 1-3).

A1.28 So, if Scotland had matched UK population growth since 1980, the population of Scotland would now be 5.8 million and if it had matched the population growth of the other small European countries shown in Figure 1-3 there would be 6.1 million living in Scotland.

Figure 1-3 – Population Growth 1980-2015 (Scotland, UK and Selected European Countries

![Figure 1-3 – Population Growth 1980-2015 (Scotland, UK and Selected European Countries)](source: IMF World Economic Outlook Database and National Records of Scotland)

Benchmarking Scotland’s Economy

A1.29 When Scotland’s economic performance is benchmarked, it is often against the UK economy. However, given the long term relative decline in the UK economy and the challenges that it now faces with productivity moribund, regional disparities, inequality and
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the forthcoming economic shock from Brexit, Scotland would do well to look more broadly be more ambitious and seek to benchmark against better performing economies, as is already done by the Scottish Government’s National Performance Framework.

A1.30 An independent Scotland would start as one of the wealthiest countries in the world, with a similar level of GDP per capita as New Zealand, France and Japan (Figure 1-4).

A1.31 However, there is a gap between Scotland’s economic performance and that of other small advanced economies. If Scotland were to be added to the list of 12 benchmark small advanced economies, it would be 12th out of 13 in terms of GDP per capita. The median of this group is 14% higher than Scotland, a gap of $5,500 (£4,100).

A1.32 This provides a measure of what Scotland can achieve in the future if it has the same ability to tailor economic policy to its own needs and advantages as these other countries do.

Figure 1-4 – GDP per Capita in Advanced Economies (2016, US $)

Economic Context

A1.33 Scotland’s economic performance is, like the UK, amongst the best performing decile in the world economy. That said, while the UK continues to be one of the largest global economies its economic model is one that has struggled to match the performance of many other advanced economies and has seen its position in the economic league tables decline from the wealthiest economy little more than a century ago to 20th now in terms of economic output per capita.

A1.34 The UK model has centralised economic activity in London and the South East, a template that no other large advanced economy has followed. As a result, the disparity in regional
economic performance far greater than any other European country. While London dominates the UK economy, Scotland is close to the average overall UK economic output per person and is well ahead of the North and Midlands of England, Wales and Northern Ireland.

A1.35 The UK economy has also struggled to provide the earnings growth that would deliver rising living standards (which is also likely to be an indicator of slow productivity growth). Real terms average annual employee earnings are still well below pre-crisis levels and are not projected to recover to those levels until the 2020s.

A1.36 And of course the disorderly Brexit process has created significant economic uncertainty. The devaluation of Sterling and the worsening outlook for UK public finances point to the economic shock yet to come which we fear will be material and long-lasting.

A1.37 Furthermore, it is noticeable that the UK economy’s dependence of debt financed consumer spending led growth has caused many policy makers including the Bank of England material cause for concern.

**GDP and GDP per Capita**

A1.38 The current discussion on economic growth is chiefly focused on the Gross Domestic Product (GDP) of a country, rather than the well-being that it is supposed to represent. GDP is a measure of the value of all goods and services produced in a country in any given year.

A1.39 The measure of GDP does not take account of the implications of achieving this output. Some of the current contributors to GDP will have negative consequences on the ability for future economic activity to be maintained, such as overuse of natural resources. Therefore, in addition to considering overall economic growth it is important that a focus on the sustainability of this growth is core to strategic thinking. This sustainability would reflect the inclusive nature of this growth, the environmental implications of such growth and the social implications.

A1.40 However, the measure of GDP is important because it is closely related to the amount of money a government has available to spend on goods and services. Taxes are paid on the economic activity that is measured as part of GDP, therefore if the level of national GDP falls this will lead to a lower level of money available to pay for public services.

A1.41 The overall level of GDP in a country is less important to individuals than the level of GDP per capita. This is the total amount of value added per head of population and is an indication of the proportion of the population that is in work and the productivity of those employees.

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14 Bank of England (June 2017), Financial Stability Report
A1.42  The simplest way to understand GDP from its many possible calculations is as a summation of all of the wages/salaries and all of the company profits created in an economy in any one period of time.

Global Economic Context

A1.43  Over the last few decades, the world economy has grown at a real terms annual average rate of 3.5%, which means it has doubled in size every 20 years or so.

A1.44  The IMF expects the global economy to continue to grow over the next few years at a rate slightly higher than the long-term trend. The driver of this growth will be the emerging and developing economies, expected to grow by around 5% annually, while the advanced economies are expected to grow more modestly at around 1.75%.

A1.45  This global growth has seen billions of people escape poverty, particularly in Asia, as high rates of economic growth in China, India and other Asian countries have delivered rapid economic development. However, in the post-crisis world there are fewer high growth economies. In 1997, there were 35 countries with economic growth rates of 7% or more, but by 2015 that had fallen to nine countries.

A1.46  The consensus for at least the two to three decades before the financial crisis was that monetary policy was key to macroeconomic demand management, with interest rate policies focused on controlling inflation. At the height of the crisis in 2008, central banks cut interest rates close to zero and then resorted to unconventional monetary policy interventions such as quantitative easing (QE). Interest rates have now been close to zero for almost a decade and fiscal policies have become more prominent as governments have sought to stimulate economic growth.

A1.47  The post-World War Two period was characterised by increased globalisation, an environment in which many small advanced economies prospered as they found niches in global markets as trade barriers were reduced.

A1.48  The financial crisis and its aftermath has also challenged the 1980s US and UK consensus on the role of government. This held that government should create a stable environment and then get out of the way of the private sector and allow it to generate prosperity. A more active role for government has been a feature of many small successful economies and is now being implemented and debated in many larger advanced economies. This includes the UK, which is currently consulting on an Industrial Strategy.

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15 IMF World Economic Outlook (April 2018)
16 IMF World Economic Outlook (April 2018)
Economic Fundamentals and Long-term Opportunities

A1.49 While we are living through a period of uncertainty globally, there are some long-term trends that we can be confident about and which provide a basis for optimism about global market opportunities for Scotland. These were summarised in a lecture by Professor Graeme Roy of the Fraser of Allander Institute in 2017 and are discussed below.

Rapidly Emerging Markets

A1.50 In 30 years’ time, China will be the largest economy in the world by a significant margin, followed by India and Indonesia will rise to fourth. And the growth will not be confined to Asia, Mexico is predicted to be larger than the UK economy by 2030.

A1.51 Scotland currently exports very little to these large and growing economies (Scotland exports more to Ireland than to China and more to Luxembourg than to India) but the demand for quality goods and services from their households as they become wealthier will be substantial and so presents major growth opportunities for Scottish goods and services.

Technological Development

A1.52 Whilst recent decades have been dominated by globalisation the next few seem set to be dominated by exponential technological development, a 4th industrial revolution, driven by communications technologies, robotics, artificial intelligence, nanotechnology, data processing power, 3D printing, the Internet of Things, driverless vehicles and medical breakthroughs.

A1.53 This disruptive time creates many opportunities, from which Scotland is well placed to benefit, given its strengths in many areas of science and technology (including in the universities, as discussed later in this report) and the decreasing importance of physical distance to market.

A1.54 To benefit Scotland will need to continue to invest in digital infrastructure and, crucially, in the digital skills development required to make full use of the new technologies.

Equality and Sustainability

A1.55 These rapid changes will mean challenges that are already apparent. Just as the gains from trade during the age of globalisation did not benefit everyone it is also likely that the gains from technological development will also be unevenly spread. This again emphasises the need to invest in digital skills and also the wider issue of how the economy responds to the loss of jobs driven by technology (including some current high value jobs such as legal and accounting services). Again the education and skills system will have an important role to play since current and future generations are likely to have more than one career during their lives.
A1.56 Other challenges include adapting to an ageing population and climate change. While these are often discussed in terms of social and environmental challenges, they both present opportunities too. Goods and services relevant to older people, supporting healthy ageing, and to adapting to climate change could expect global market opportunities.

**UK and Scotland Before Brexit**

A1.57 While Scotland shares many of the features of a small advanced economy, much of the most important economic management responsibility is reserved to Westminster and Whitehall. Consequently, Scotland is, to a significant degree, subject to a large country economic approach that is not always appropriate to our circumstances. As a large economy, the UK should have a strategy based on spreading risk across sectors and across regional economies so that it is well insulated from economic shocks.

A1.58 However, not only is the UK’s large economy approach inappropriate for a small advanced economy such as Scotland, but it has been poorly executed by successive UK governments. The global financial crisis highlighted that the UK had become heavily dependent on financial services, which continue to account for a large proportion of UK Government tax receipts with almost £1 in every £9 collected from banks and other financial institutions. The UK economic is also centralised on London and the South East with high levels of regional disparity and inequality.

A1.59 The UK was the predominant global economic power at the start of the twentieth century - the largest economy in the world in both absolute and per capita terms. The UK remains one of the largest global economies, as the fifth or sixth largest economy (depending on whether historic or current exchange rates are used for the comparison) in 2016, as measured by Gross Domestic Product (GDP). However, in per capita terms the UK is 20th out of the 39 advanced economies (Figure 1-5) having been first a century ago.

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17 PWC for City of London Corporation (December 2016), Total Tax Contribution of UK Financial Services
Critique of UK Economic Model

A1.60 The structural problems in the UK economy are well recognised, including in reports commissioned by the UK Government. For example, the problems identified by former Deputy Prime Minister Lord Heseltine in his 2012 report \(^{18}\) included:

- **The productivity gap**: The UK output per hour worked lags behind countries such as the US, Germany and France.

- **Gross domestic product**: Prior to the financial crisis of 2008, UK growth was increasingly driven by the accumulation of unsustainable levels of public and private sector consumption fuelled by debt, greatly outstripping the contributions of business investment and net trade to UK economic growth.

- **Research and development**: While the UK has a strong reputation for world-class research, the UK does less well at translating that into goods and services.

- **Trade in goods and services**: Over the last 30 years the UK’s balance of trade and share of global export markets have deteriorated. While the surplus in the balance of trade in services has grown steadily, it has been outgrown by the rise in the trade deficit in goods.

\(^{18}\) Lord Heseltine (2012), No Stone Unturned
**Persistent regional disparities:** Despite the efforts of successive governments to address regional disparities, the variation in economic performance across the UK persists. It is not just the relative difference between the contributions of different regions that matters but the ability of all regions to grow their wealth and prosperity.

**UK Trade Deficit**

A1.61 As Lord Heseltine noted, there has been a decline in UK exports of goods and an increase in imports and while this has been balanced by a positive net balance in the trade of services, the UK’s share of the global market is falling. In terms of goods, the UK has by far the highest trade deficit in the EU (Figure 1-6). Brexit is likely to make this difficult situation, even worse.

![Figure 1-6 – Trade Balances in the EU in 2016 (Goods, € billion)](source: Eurostat, February 2017)

**UK Regional Disparities**

A1.62 The UK has by far the widest distribution of regional economic performance amongst developed economies (Figure 1-7).
A1.63 There are large disparities in regional economic output in the UK, with economic output (Gross Value Added, GVA) per head in London at around 170% of the average for the UK overall and every other UK nation and region much closer to the national average (Figure 1.8). So, the gap is not between Scotland and the UK as a whole, but between London and all the other nations and regions of the UK, and this is reflected in fiscal performance as well as economic output.

A1.64 Scotland’s economic output per head is the best of the UK nations and regions, outside of London and the South East. Some argue that the underperformance of most UK nations and regions is compensated by fiscal transfers from London and the South East. We disagree with the desirability, sustainability and ambition of this position. This is not as good as it gets and the suggestion that the UK will continue to do this long term is unrealistic.

A1.65 We should note at this point that this is a critique of the overall model and is not intended as a criticism of the world city that is London itself. The challenge for Scotland (and other areas) is to balance the benefits of proximity to London and all that goes with it in terms of opportunity, with the negative effects of its gravitational pull on talent, capital and decision making power on the rest of the UK.
UK Earnings Yet to Recover from Crisis

A1.66 The UK economy is also failing to deliver the earnings growth that would deliver rising living standards. Analysis by the Resolution Foundations finds that real terms average annual employee earnings are still well below pre-crisis levels and are not projected to recover to those levels until the mid 2020s (Figure 1-9).
Scotland Constrained by the UK’s Big Economy Model

A1.67 Scotland shares many of the characteristics of other successful small advanced economies:

- strong institutions and levels of social capital;
- human capital and knowledge (and world-class research institutions);
- a valuable resource endowment (oil and gas, renewables, food, tourism); and
- proximity to large, prosperous markets.

A1.68 However, Scotland is constrained in developing policies that are specific to the context and potential of Scotland’s economy. As part of the UK, it has had a policy framework that is more like that of a large economy than of a small advanced economy. The devolution of powers to date has helped, but it is the overall system that makes the difference – and Scotland is held back from following a ‘small economy approach’.

A1.69 Scotland has been subject to the gravitational pull of London without being able to develop policies that would make Scotland a more attractive environment for mobile factors of production – to both manage the risks of London as well as to leverage the potential asset of proximity to London.
Many of the policies that Scotland inherits from the UK are more suited to a large economy than a small economy. Shifting towards policy settings and approaches that are more characteristic of successful small economies would generate economic benefit for Scotland. These include:

- a more strategic approach to the economy, targeting policy (including those crucial economic policy areas currently reserved) towards pursuing those opportunities where Scotland can be competitive;
- taking an outward-looking globally-engaged approach;
- being more responsive to new opportunities when they arise and developing institutions to support all of this; and
- enabling greater and better collaboration between government, businesses and all others with a stake in improving economic and social conditions.

**Economic Impact of Brexit In UK**

To date any economic impact associated with Brexit will have been associated with economic uncertainty, given that Brexit has not yet happened. The consequences of this uncertainty will not be apparent for some time since the most likely impact will have been on factors such as decisions to invest, the result of which may not be apparent in economic statistics for months or even years.

However, there are already signals of the economic shock to come, including the fall in value of Sterling (increasing the price of imports, both of consumer goods and inputs to UK industry) and the delay in the UK’s planned fiscal consolidation.

Almost all the projections made for the economic impact of Brexit on the UK economy to 2030 show a significant negative impact (the sole exception being the Economists for Brexit group). The negative economic impact projections range up to 9.5% of GDP, resulting from changes to trade, productivity, foreign direct investment, regulation and migration.

HM Treasury’s own estimates put the impact at 7.5% of GDP after 15 years, associated with a loss of trade of 24% (with an associated productivity impact of 25%) and a loss of foreign direct investment of 22% by 2030 (with an associated productivity impact of 25%) but assume no impact associated with a reduction in migration.

To put this in some context, the 2008-09 recession that followed the financial crisis was the deepest UK recession since the Second World War, with the economy contracting by around 6%. So, HM Treasury is predicting that the impact of Brexit will be higher than the deepest post war recession – and that is assuming no negative impact from reductions in...
migration. This is a clear and present danger to the Scottish economy and the future well-being of all. The implications should never be under-estimated.

**Economic Impact of Brexit in Scotland**

A1.76 Scotland is currently facing an uncertain economic future, with the outcome of Brexit negotiations likely to make a significant difference to Scotland’s economic prospects.

A1.77 LSE’s Programme of Brexit research\(^{20}\) suggests Scotland (as well as Wales and Northern Ireland) are already being disproportionately hit by the impact of the Brexit vote.

A1.78 The Fraser of Allander Institute has set out the long term economic implications of Brexit\(^ {21}\). Its analysis describes how trade opens businesses to new opportunities for exporting and investment and how labour mobility boosts labour supply, helping to increase productivity and address demographic challenges in countries, such as Scotland, with an ageing population. Competition helps efficiency, product specialisation and growth and financial integration deepens and broadens capital markets. All these are expected to be impacted in one way or another by becoming less integrated with the EU.

A1.79 Three scenarios for the future relationship with the EU post-Brexit are modelled: a ‘Norway’ model, a ‘Switzerland’ model and a ‘WTO’ model.

A1.80 All these scenarios show significant negative impacts on the Scottish economy, with the WTO model showing economic output 5% lower than it would be otherwise, 80,000 job losses and a reduction in real wages of £2,000 (Table 1-1).

A1.81 Scottish Government analysis\(^ {22}\) estimates the potential impact at 8.5% of GDP by 2030, £12.7 billion per annum (WTO style relationship), as a result of adverse impacts on trade, productivity, population and foreign direct investment. The economic modelling also forecasts an associated 9.6% real reduction in disposable income.

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\(^{20}\) Regional Economic Impacts of Bexit, Lecture by Swati Dhingra and Henry Overman, 15 November 2017.

\(^{21}\) Fraser of Allander Institute (October 2016), Long-term Economic Implications of Brexit

\(^{22}\) Scottish Government (January 2018), Scotland’s Place in Europe: People Jobs and Investment
### Table 1-1 – Impact of Post-Brexit Scenarios on Scottish Economy after 10 years

<table>
<thead>
<tr>
<th></th>
<th>Norway model</th>
<th>Switzerland model</th>
<th>WTO model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports of Goods</td>
<td>-12% to -18%</td>
<td>-12% to -18%</td>
<td>-26%</td>
</tr>
<tr>
<td>Exports of Services</td>
<td>-11% to -18%</td>
<td>-18% to -22%</td>
<td>-25%</td>
</tr>
<tr>
<td>GDP %</td>
<td>2-3% lower</td>
<td>3-4% lower</td>
<td>5% lower</td>
</tr>
<tr>
<td>GDP £ compared to 2015-16</td>
<td>£3-5bn lower</td>
<td>£4-6bn lower</td>
<td>£8bn lower</td>
</tr>
<tr>
<td>Real wages %</td>
<td>3-4% lower</td>
<td>5-6% lower</td>
<td>7% lower</td>
</tr>
<tr>
<td>Real wages (£ full-time earnings)</td>
<td>£800-1,200 lower</td>
<td>£1,200-1,600 lower</td>
<td>£2,000 lower</td>
</tr>
<tr>
<td>Employment level</td>
<td>1-2% reduction</td>
<td>1-2% reduction</td>
<td>3% reduction</td>
</tr>
<tr>
<td>Numbers of jobs</td>
<td>30,000 jobs lost</td>
<td>30,000 jobs lost</td>
<td>80,000 jobs lost</td>
</tr>
</tbody>
</table>

*Source: Fraser of Allander Institute (October 2016), Long-term Economic Implications of Brexit*

### Growth Aspirations for the Scottish Economy

**A1.82** We hope that the lessons set out in this report provide a good basis for specifying a reasonable, ambitious economic aspiration for Scotland. First, the economic performance of small advanced economies provides guidance on what Scotland could achieve.

**A1.83** Closing the gap with the small advanced economy group median would mean, in today’s values, an additional £22 billion in additional GDP per year and additional £9 billion in annual tax revenues (assuming no change in the proportionate tax take).

**A1.84** What seem to be small differences in the long-term trend growth rate make a significant difference over time. This is the economic impact of what Einstein called the 8th wonder of the world – compound interest. At a long-term growth rate of 1.5% (which has been the trend rate for Scotland), it takes almost 50 years for the size of the economy to double. A 2.5% growth rate (the average for small advanced economies) reduces this to 30 years and a 3.5% growth rates cuts it to around 20 years.

**A1.85** The aspiration for each of these horizons has been informed by consideration of the small advanced economy experience: the historical precedents are there for sustained improvements in growth rates, and for strong convergence towards the income frontier, and the supporting policy and environmental factors. This group currently has higher levels of per capita income than Scotland and are countries that Scotland can reasonably aspire to match over the next period if it pursues well-judged and tailored economic policies.

**A1.86** This 12 small advanced economies in question are listed in Figure 1-10. In a similar way, a benchmark group of 10 large advanced economies is constructed: selected IMF advanced economies with populations of over 20 million people.
A1 Scotland’s Economic Performance & Potential

Figure 1-10 – Selected Advanced Economies

<table>
<thead>
<tr>
<th>Small advanced economies</th>
<th>Country</th>
<th>Population</th>
<th>GDP/Cap (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>4,728,000</td>
<td>70,638</td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>4,844,000</td>
<td>41,593</td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>5,290,000</td>
<td>74,941</td>
<td></td>
</tr>
<tr>
<td>Scotland</td>
<td>5,405,000</td>
<td>39,441</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>5,503,000</td>
<td>46,017</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>5,607,000</td>
<td>57,713</td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td>5,749,000</td>
<td>56,444</td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>7,410,000</td>
<td>46,109</td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>8,420,000</td>
<td>80,591</td>
<td></td>
</tr>
<tr>
<td>Austria</td>
<td>8,815,000</td>
<td>47,290</td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>10,120,000</td>
<td>53,218</td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>11,352,000</td>
<td>43,582</td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>17,080,000</td>
<td>48,346</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Large advanced economies</th>
<th>Country</th>
<th>Population</th>
<th>GDP/Cap (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>24,764,000</td>
<td>55,707</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>36,657,000</td>
<td>45,077</td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>46,333,000</td>
<td>28,859</td>
<td></td>
</tr>
<tr>
<td>South Korea</td>
<td>51,454,000</td>
<td>29,891</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>60,589,000</td>
<td>31,984</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>64,801,000</td>
<td>39,869</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>66,051,000</td>
<td>39,735</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>82,713,000</td>
<td>44,550</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>126,750,000</td>
<td>38,440</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>325,890,000</td>
<td>59,501</td>
<td></td>
</tr>
</tbody>
</table>

Source: IMF World Economic Outlook, April 2018 (data for 2017); Scottish Government

Reasons for Scotland’s Economic Performance Gap

A1.87 Scotland’s growth has been consistently lower than the small advanced economy group average. However, it is reasonable for Scotland to aspire to converge to the growth rates of the small economy group, particularly to the extent that it can pursue economic policies more akin to other small advanced economies and given the range of resources and advantages Scotland enjoys.

A1.88 Finland provides a useful performance benchmark. After a deep recession in the early 1990s following the collapse of the Soviet Union, Finland’s innovation-driven growth model generated strong growth rates – frequently above 4% in the 15 years prior to the crisis. The combination of industrial strength (firms like Kone), Nokia and the IT sector, as well as natural resources, was successful. And there was a strong policy focus on human capital, good macro policy, regional integration and social cohesion. The shocks to hit Finland over the past several years have created significant economic costs and will require major structural reform to restore competitiveness. But Finland’s strong fundamentals remain intact.

A1.89 Another example of a country that has implemented change is New Zealand, which reformed its economy extensively in the 1980s and early 1990s, placing it on a stronger footing. It has performed well over the past 20 years, including in the post-crisis period, with growth rates frequently above 3%. A significant portion of this growth has been due to growth in hours worked (low unemployment and high participation rates, favourable demographics, and very strong rates of net migration). The economy is still based on
exploiting natural resources, through agriculture and tourism, and its productivity performance is low. But this growth model has worked effectively.

A1.90 Over a medium-term horizon, the economic aspiration for Scotland can be framed around sustaining GDP growth at above-average rates to converge towards the income frontier for small advanced economies.

A1.91 Periods of strong growth in small advanced economies are commonly due to strong growth in exports, such as Sweden and Ireland, currently. The periods of strong growth in small economies, such as the mid-1990s through the mid-2000s, were also due to better engagement with the global economy (e.g. moving into knowledge intensive activities at a time when demand was growing strongly).

A1.92 There are some exceptions, such as New Zealand’s migration-driven growth model. New Zealand’s net migration is currently running at about 1.4% of the resident population, making a substantial contribution to headline GDP growth. Indeed, despite GDP growth of 3.6%, per capita income growth has been around 0.6%.

A1.93 Scotland has much in common with the other small advanced economies. For example, measures of human capital, research and innovation capability, natural resource endowments, and so on, as well as the quality of its overall policy infrastructure (much of which is shared with the UK, a higher income country). Scotland is also close to large, prosperous markets. Scotland can clearly be amongst the highest-performing European small advanced economies.

A1.94 However, we argue that Scotland is constrained in terms of developing policies that are specific to its economy. As part of the UK, it has had a policy framework that is more akin to a large economy than to a small advanced economy. The devolution of responsibilities to date has helped, but it is the overall system that makes the difference – and Scotland is held back from following an approach more suited to our size.

A1.95 For example, Scotland has been subject to the well-rehearsed gravitational pull of London without being able to develop policies that would make it a more attractive environment for mobile factors of production, not least labour and talent – to both manage the risks of London as well as to leverage the potential asset of proximity to London. The UK Government has argued against a differentiated model for Scotland in the event of Brexit and has opposed the devolution of immigration powers.

A1.96 This reality has implications for both the nature of the economic policy agenda that Scotland should adopt as well as for a reasonable growth aspiration for the country.

**GDP Growth Objectives**

A1.97 It is an appropriate aspiration to aim for the top half of the per capita income league rankings. Currently, this aspiration would position Scotland alongside the Netherlands and
close to the other small countries that can be treated as particularly useful peers for Scotland. This long-term aspiration is a useful anchor for the overall economic growth process.

A1.98 The aspirational targets are specified in relative terms (relative to the small economy peer group). This means that the target can adjust to a changing economic context: a stronger economic outlook that leads to stronger small economy performance will lead to a more ambitious aspiration for Scotland (and vice versa).

A1.99 The aspiration is specified over three time horizons. In the first, shortest time horizon (over the next 10 years), the aspiration is framed in terms of converging to the small economy growth rate average. In the second, medium-term, horizon (10-25 years), the aspiration is specified in terms of convergence or catch up growth relative to Scotland’s small economy peers. And the third, long term, horizon (25 years plus) is to reach a target per capita income position.

A1.100 The immediate objective for Scotland should be to converge to the GDP growth rates of the small advanced economy group (approximately 2.5%). Scotland’s growth rate is forecast to be around 1.2-1.6% from the present year until 2020 according to the Fraser of Allander Institute and between 0.4-1.1% to 2022 according to the Scottish Fiscal Commission. Scotland should aspire to incrementally increase the growth rate throughout the subsequent decade, closing the growth gap and attaining a 2.5% growth within a decade.

A1.101 Following the attainment of a 2.5% growth rate, Scotland should target incremental increases in the growth rate through the subsequent decade to reach a 3.5% growth rate. Achieving this would mean that throughout this period, Scotland’s economy would be growing at a greater rate than the small economy group.

A1.102 The long-term objective for Scotland, should be to reach and maintain the median GDP per capita of the small advanced economy group.

**Conclusion: purposeful, consistent, longer term strategy required and can deliver**

A1.103 Taken together the evidence therefore suggests that we are best to work to a relatively balanced outlook and ambition that nonetheless sees Scotland aspire to become one of the most successful small advanced economies in the world over the next generation and more.

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23 Fraser of Allander Institute Economic Commentary (June 2017)
24 Scottish Fiscal Commission (December 2018), Scotland’s Economic and Fiscal Forecasts
A1.104 The prize in achieving this will be a transformation in living standards across the country. That it is a long-term strategy should not diminish it one bit. We have to begin the process now and the contribution this makes to future generations will be remarkable.

A1.105 Growth targets should be set for the long term and reported against. There should be a three phase approach: (i) First 10 years: catching up with the small advanced economies average growth rate (currently 2.5%) (ii) Years 10 to 25: closing the GDP per capita gap with the small advanced economies (with period of 3.5% growth) (iii) maintaining a GDP per capita position in line with the top half of the small advanced economies group.
A2 INSIGHTS ON THE PERFORMANCE OF SMALL ADVANCED ECONOMIES

- Common themes in benchmark small advanced economies policy include a commitment to strong policy foundations (solid macro policy settings, innovation and human capital, and internationalisation), as well as a high degree of strategic coherence across these different policy settings, positioning the country to compete effectively in the global economy.
- Small economies perform better than larger ones consistently by around 0.7 percentage points per year over the last 25 years on average.
- This growth performance has meant the benchmark group of 12 small advanced economies held its share of the global economy over past decades remaining competitive even with the integration of the large emerging markets. The share of many large economies, including the UK, has retreated substantially.
- Small advanced economies have done well in terms of labour market performance, with relatively low unemployment, on average, a couple of percentage points under those of larger advanced economies.
- On average, there is no clear margin between small and large advanced economies in terms of levels of labour productivity which is constrained in small economies by the small size of the domestic market; the strong performance in the trading sectors offsets this. In this respect leaving the EU and Single Market would obviously act as a growth restraint for Scotland.
- Small advanced economies also tend to do well on measures of the extent to which the gains from growth are broadly shared. Many small advanced economies, notably those in Northern Europe, have low levels of income inequality. Income distribution outcomes are a matter of policy choice, rather than anything intrinsic to small advanced economies.
- The overall performance of our benchmark group is significantly ahead of the UK and the large economies. Policy making is more agile and of higher quality because it requires to be.
- Through history, there has been a strong relationship between periods of trade openness and an increase in the number of countries. Over the past 100 years, the number of independent countries rose from under 70 to just under 200 today.
- Overall, small countries have effective, responsive governments, with a well-developed sense of strategic capacity, high levels of trust and social cohesion, and the ability to adapt in response to changing international circumstances.
- Small competitively-strong economies are continuing to invest in key sectors and clusters, to help them develop positions of advantage in a more competitive and challenging global economy.
A2.1 The experience of small advanced economies provides valuable insight to and guidance for the economic prospects for Scotland, the nature of a high-quality Scottish economic growth agenda, as well as the calibration of an ambitious, reasonable economic aspiration for Scotland. This group of small advanced economies has many similar challenges, opportunities, exposures and intrinsic characteristics as Scotland, and is an appropriate comparator group.

A2.2 This chapter describes the economic growth record of small economies over the past several decades, relative to their large economy counterparts. Specific attention is paid to the post-crisis experience of small advanced economies and what this suggests for the small economy outlook. It considers key reasons for the strong performance by small economies. As part of this analysis Scotland’s economic performance over the past 15 years is benchmarked against the small advanced economies group and lessons for the future are discussed.

A2.3 This chapter describes the common themes in economic policy strategy in high-performing small advanced economies. These include a commitment to strong policy foundations (solid macro policy settings, innovation and human capital, and internationalisation), as well as a high degree of strategic coherence across these different policy settings, positioning the country to compete effectively in the global economy. Based on the international small economy experience, it provides a foundation for a Scottish strategic policy agenda to strengthen the country’s economic performance.

Historical Performance

A2.4 Small advanced economies have performed strongly over the past several decades, and particularly so over the past 25 years. This has been a period of intense globalisation that has supported active international expansion by many small advanced economies.

A2.5 The first observation to make is that small advanced economies tend to have relatively high levels of per capita income, and a few small advanced economies have particularly high levels – such as Switzerland and Norway (Figure 2-1). Although there is clearly a significant distribution of income levels across the small advanced economies group, the top-performing small advanced economies dominate the rankings: countries such as Denmark, Sweden and Ireland rank strongly.
Part A: Raising the Potential & Performance of the Scottish Economy

**Figure 2-1 – Strong Advanced Economics have strong per capita income performance**

Real GDP per capita income, US$, 2016

![Graph showing real GDP per capita income for various countries, with strong performance for small advanced economies.](image)

*Source: IMF World Economic Outlook, April 2018*

**A2.6** These strong per capita income measures are the result of strong small country GDP growth rates over the past few decades. Figure 2-2 shows there has been a distinctive edge of around 0.7% of GDP growth in small advanced economies over the past 25 years relative to their larger counterparts. This strong performance has been broadly-based across the small advanced economies group (Figure 2-3), although several small Northern European economies have generated sluggish growth performance since 2000 (notably Denmark, Finland, and the Netherlands). But some small countries, such as Ireland and New Zealand, have generated strong growth over this period.
Part A: Raising the Potential & Performance of the Scottish Economy

**Figure 2.2** – Small advanced economies have consistently out-grown large advanced economies, particularly over the past 25 years

*Real GDP growth, %, average, 1990-2016*

Source: IMF World Economic Outlook, April 2018; Landfall Strategy Group calculations

**Figure 2.3** – This strong growth performance by small advanced economies has been fairly broad-based, and with some very strong performers

*Real GDP growth, %, average, 2000-2016*

Source: IMF World Economic Outlook, April 2018; Landfall Strategy Group calculations
A2.7 These growth rates mean that, as a group, small advanced economies have held their share of global GDP constant over the past few decades (Figure 2-4). Small economies have remained competitive even with the rapid integration of large emerging markets into the global economy, even as the global GDP share of many large economies (including the UK) has retreated substantially.

Figure 2-4 – Small advanced economies have held their share of GDP constant over the past few decades; many larger economies have declined

Source: IMF, World Economic Outlook, April 2018; Landfall Strategy Group calculations

A2.8 It is also instructive to look at the variation in growth models across countries. Figure 2-5 notes the contributions from labour productivity and hours worked to GDP growth over the past 15 years. For example, some strong growth countries such as Singapore, Hong Kong and New Zealand have benefited from strong growth in the labour input; other countries like Ireland have also benefited from strong productivity growth, importantly driven by the multi-national companies that have invested. The overall insight is that, for many small advanced economies, labour productivity growth has been a key growth engine.
Part A: Raising the Potential & Performance of the Scottish Economy

Figure 2-5 – There is significant variation in the productivity contribution to GDP growth across the small advanced economies group

<table>
<thead>
<tr>
<th>Country</th>
<th>Hours Worked</th>
<th>Labour Productivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Ireland</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>NL</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Switzerland</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Norway</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Belgium</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Austria</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Finland</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Iceland</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Netherlands</td>
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<td>Low</td>
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<tr>
<td>Denmark</td>
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<tr>
<td>South Korea</td>
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<td>Australia</td>
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<td>UK</td>
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<tr>
<td>Spain</td>
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<td>Germany</td>
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<td>France</td>
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<td>Low</td>
</tr>
<tr>
<td>Japan</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Italy</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>

Source: The Conference Board Total Economy Database, May 2017; Landfall Strategy Group calculations

Figure 2-6 breaks down per capita income levels into its two component parts: hours worked per capita and labour productivity (per hour worked). There is significant variation across the group. Some small advanced economies, such as Singapore, and New Zealand, rely primarily on high hours worked to support their per capita income levels, with relatively low levels of labour productivity. In contrast, many of the more mature small economies in Europe, such as the Nordics and the Netherlands, have a relatively strong contribution to per capita income from labour productivity. The UK is slightly below the advanced economies average in hours worked as well as the level of labour productivity.
There is variation in small country growth models; but most small European economies have strong labour productivity contributions.

Source: The Conference Board Total Economy Database, May 2017; Landfall Strategy Group calculations

On average, there is no clear margin between small and large advanced economies in terms of levels of labour productivity (Figure 2-7). Labour productivity is constrained in small economies by the small size of the domestic market; the strong performance in the tradables sector has offset this.
Figure 2-7 – Many small advanced economies have high levels of labour productivity, although the average is similar to large economies

Labour productivity (GDP per hour worked), 2016 PPP, 2016

Source: The Conference Board Total Economy Database, May 2017; Landfall Strategy Group calculations

A2.11 However, small advanced economies have done well in terms of labour market performance, with relatively low unemployment and high participation rates. On average, unemployment rates across the small advanced economies group have tracked consistently under those of larger advanced economies by a couple of percentage points. Figure 2-8 describes the 2016 unemployment rate across the advanced economies group which is slightly skewed by the unemployment legacy of the crisis in small countries such as Ireland and Finland.
A2 Insights on the Performance of Small Advanced Economies

Figure 2.8 – Several low GDP growth economies record relatively low rates of unemployment, but there is a broad distribution

Unemployment rate, %, 2016

Source: IMF World Economic Outlook, April 2018

A2.12 In addition to these headline measures of economic performance, small advanced economies tend to do well on measures of the extent to which the gains from growth are broadly shared. Figure 2.9 notes the income distribution across advanced economies. Many small advanced economies have low measures of income inequality, notably in Northern Europe, although countries such as Singapore and Hong Kong have high measures of income inequality. Income distribution outcomes are a matter of policy choice, rather than anything intrinsic to small advanced economies.
Part A: Raising the Potential & Performance of the Scottish Economy

Figure 2.9 – There is a broad range of income inequality outcomes: some are low (the Nordics) while some are high (Singapore & Hong Kong)

Source: OECD; official sources

A2.13 Of course, not all small advanced economies have performed well. One important characteristic of small advanced economies is that their GDP growth trajectory tends to be more variable. A lesson therefore is to be aware of exposure to externally sourced volatility and plan accordingly.

A2.14 Overall, small advanced economies have out-performed their larger economy counterparts over the past 25 years. They are competitive, innovative and dynamic – and generate good social outcomes. They have been responsive and agile in response to shocks and have been well adapted to the period of intense globalisation over the past few decades. However, although small can be beautiful, small countries have limited margin for policy error.

Drivers of Success

A2.15 So, why have small countries tended to perform better than large countries over the past few decades, a finding that runs counter to conventional wisdom? This chapter considers three explanatory factors: the nature of the external environment; the intrinsic characteristics of small countries; and policy choices made by small country governments.

Positive External Environment

A2.16 The global economic and political environment since the end of the Second World War has been much more supportive of small country performance than have previous periods of history. There has been an active process of globalisation, supported by multilateral
Institutions like the GATT and the WTO, national decisions to remove barriers to trade and capital flows, strong global growth (most recently from emerging markets), as well as by innovations in information and communications technology.

A2.17 Indeed, over the past several decades, global growth in exports of goods and services, as well as cross-border flows of capital, have significantly out-paced global growth in GDP. And there has been a particularly intense phase of globalisation in the post-1990 period.

A2.18 This has enabled many small countries to overcome the constraints of a small domestic market by integrating into the global economy. Although geography and national borders still matter, improvements in access to foreign markets have had a positive effect. Indeed, small countries have been very active globalisers. It is hard to imagine the success of small advanced economies without this favourable external environment.

A2.19 In addition, small countries have benefited from a relatively benign global political environment in which being small does not create major security risks. Taken together, this period of economic openness and political stability creates a supportive environment for small countries.

A2.20 One useful measure of this is the increase in the number of new countries. Indeed, through history, there has been a strong relationship between periods of trade openness and an increase in the number of countries. And over the past 100 years, the number of independent countries rose from under 70 to just under 200 today (Figure 2-11).

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Part A: Raising the Potential & Performance of the Scottish Economy

Figure 2-10 – Many small advanced economies experienced a marked slow-down in growth rates during the global financial crisis

<table>
<thead>
<tr>
<th>Real GDP growth change, % (difference between 2007 and 2009; between 2009 and 2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: IMF World Economic Outlook, October 2017; Landfall Strategy Group calculations</td>
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</tbody>
</table>

Source: IMF World Economic Outlook, October 2017; Landfall Strategy Group calculations

Figure 2-11 – The number of independent states has increased sharply over the past 100 years, rising from about 70 to just under 200 today

Source: UN; www.wikipedia.org; Landfall Strategy Group calculations. Note: Since 2000, UN membership is treated as providing the upper bound on the number of independent states
A2.21 The ability of small countries to benefit from the process of intense globalisation has been varied, which also helps explain some of the variation in performance across the small economy group. For example, the challenging physical location of countries like New Zealand created challenges with respect to regional and global integration, whereas Singapore and Switzerland were well-placed to benefit.

**Domestic Intrinsics**

A2.22 Many small countries also benefit from domestic characteristics that make it easier for them to adapt to a changing external environment.

A2.23 First, the international rankings consistently show that small country governments have higher quality, more effective government institutions. For example, nine of the top 10 countries on the Government Effectiveness measure from the World Bank’s Governance Indicators Project are small countries (Figure 2.12).

![Figure 2.12](www.govindicators.org) – Small advanced economies have high levels of government effectiveness

Source: Worldwide Governance Indicators, World Bank (www.govindicators.org). This captures measures of government effectiveness such as perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government’s commitment to such policies.

A2.24 Small country governments also seem to find it easier to organise themselves in a structured and coherent way around a national strategy. It is more difficult to conceive of a coherent national strategy for a country the size of the US or the UK. The policy conversations that are common in small countries have a more deliberate, strategic feel than those in large countries. Indeed, many large countries sometimes seem to be too big and complex to
manage effectively, particularly in a world of disruptive changes. Small countries seem to have a sense of shared purpose, which makes it easier to sustain a policy direction as well as to respond flexibly to change.

A2.25 Second, small countries are regularly at the top of the global rankings of social capital and trust. The World Values Survey reports markedly higher levels of general social trust in small countries than in large countries. And academic research indicates that countries that have higher levels of trust are better able to make good policy decisions and to generate stronger outcomes.

A2.26 Lastly, small countries tend to be more responsive: they have good capability to learn, adjust and adapt to changing international circumstances. This may be because small countries tend to have an acute sense of their exposure to the external environment. External economic and political forces impact more forcefully and rapidly on small countries than on large ones, and so small country policy agendas and national discussions tend to be more focused on responding to the external environment.

A2.27 Among other things, this means that small countries tend to have better developed sensing mechanisms in terms of what is happening in the rest of the world. They see themselves as ‘price takers’, having to respond to external developments rather than believing that they can shape them. And the humility that comes with this perspective means they are more likely to be able to change course when necessary to adapt to a changing global landscape. As one piece of evidence in this regard, the IMD Competitiveness Yearbook reports data showing that small countries have more positive attitudes towards globalisation than large countries, being more open to the global economy.

A2.28 Overall, small countries have effective, responsive governments, with a well-developed sense of strategic capacity, high levels of trust and social cohesion, and the ability to adapt in response to changing international circumstances.

**Policy Choices**

A2.29 But these relatively exogenous factors – the state of the international environment and domestic intrinsics – are incomplete as an explanation of strong small economy performance. Even with good intrinsics, and a supportive external environment, a substantial amount of the variation in performance is due to the way in which countries act to position themselves. Successful small advanced economies are those that have adapted themselves to the global environment, developing positions of strong competitive advantage.

A2.30 Successful small advanced economies share several distinctive policy characteristics. These include high quality (macro and micro) policy foundations; a strong commitment to sustained investment in innovation, knowledge, and human capital; and an external orientation that drives strong international engagement.
A2.31 On all of these measures, small economies systematically out-perform larger economies. There is also a strong sense of strategic purpose, with a view on how to distinctively position the economy to compete. On many of these measures, there are significant differences between small economies and large economies (including the UK).

A2.32 Overall, post-crisis the environment is more challenging for small (and large) economies than has been enjoyed for much of the pre-crisis decades. However, small economies retain good intrinsics and have a history of responding effectively to change in the global economy. Many small advanced economies are responding aggressively and creatively to this new environment and are generating reasonable outcomes. Small advanced economies can continue to perform strongly if they act appropriately, although there is less room for error. As a result there tends to be fewer sustained policy errors than in larger economies.

Small Economy Policy in the Post-Crisis Environment

A2.33 There is a widely-shared sense across small advanced economies that this ‘new normal’ will require a new set of policy approaches to generate strong economic and social outcomes. Small economies will need to work harder to generate the rates of GDP growth they enjoyed before the crisis.

A2.34 Small economies have a track-record of policy innovation and have responded well to previous challenges. And over the past few years there has been a determined policy response to the new challenges and opportunities of structural change in the global economy. There have been three types of policy responses: strengthening policy foundations; investing in new growth engines; and economic risk and resilience.

A2.35 These responses are apparent in action taken in Scotland, albeit within the policy limitations of devolved powers. However, rather than review existing Scottish Government economic policy initiatives, this section draws on examples and lessons from elsewhere that might be instructive in learning lessons. This will be particularly important in the event of Scotland becoming independent, since the full range of policy approaches will then be available to pursue Scottish economic strategic interests, in a coherent and deliberative way, as has been apparent in the small advanced economy benchmark countries.

Strengthening Policy Foundations

A2.36 Most small advanced economies have well-regarded policy foundations. However, the challenges of the post-crisis environment have led to a renewed focus on improving the quality of these policy settings. There is an acute awareness of the need to strengthen productivity and improve cost competitiveness.
Investments in New Growth Engines

A2.37 In most successful small advanced economies, growth and innovation have been driven out of well-established clusters of economic activity. Over time, these clusters (and the firms within these clusters) have innovated, developed new positions of advantage in adjacent spaces, and so on. These clusters have been successful growth engines for small advanced economies. The export structures of many small advanced economies tend to be dominated by relatively small numbers of clusters that have built strong competitive positions in international markets.

A2.38 Small competitively-strong economies are continuing to invest in key sectors and clusters, to help them develop positions of advantage in a more competitive and challenging global economy. For example, several small countries, notably Denmark and the Netherlands, are actively taking advantage of the opportunities from the 4th Industrial Revolution (such as Denmark's Production Panel and the Smart Industry initiative in the Netherlands). This is a way of strengthening the international competitiveness of high-cost industrial sectors of the economy.

A2.39 This is supported by Research and Development (R&D) spending and human capital initiatives to ensure that the capabilities and strengths of small advanced economies remain at the forefront. Skills strategies are being upgraded in many small countries with more emphasis on vocational education and the matching of skills demand and supply - for example, the initiatives associated with the Action Plan for Jobs in Ireland.

A2.40 One other area of policy focus is on strengthening the pipeline of new high-growth firms. In many small economies, large firms have played an important role – and many of these firms remain highly productive and innovative, and are internationally successful (from Vestas to Nestle and Unilever to Novartis and ABB). But there is less evidence of younger firms that have grown aggressively: start-up rates are frequently respectable in small countries, but the process of scaling up has been more challenging. This is widely seen to be constraining productivity and employment growth as well as innovation.

A2.41 In response, there has been substantial firm-level policy activity in many small advanced economies. Some of this is focused on generating a stronger eco-system for innovative start-ups (such as Start-Up Delta in the Netherlands, the development of incubators in Switzerland, and so on). There are also many efforts in enterprise agencies to better focus their efforts on activities that support high-growth potential firms to expand aggressively into international markets (Ireland and New Zealand are good examples). Enterprise policy is becoming a much more central element of economic policy.

A2.42 Some of these attempts to encourage innovation are occurring in non-traditional sectors, especially in the digital space. Small countries such as the Netherlands, Sweden, and Ireland are particularly active in this area. Some of these new IT-intensive sectors are seen to play to small country strengths: high quality human capital, research institutions, good quality of life, and not as scale-sensitive as other sectors. Indeed, small economies in
Europe have produced several prominent start-ups (from Spotify to Rovio; and Skyscanner in Scotland) and there are several unicorns (in the fintech, payments space). Supporting policy initiatives include strengthening digital infrastructure (New Zealand), a responsive regulatory environment (Switzerland), as well as actions to strengthen capital markets.

**Economic Risk and Resilience**

A2.43 Economic risk and resilience has moved up the policy agenda in the post-crisis environment. There is an understanding of the exposures to a more uncertain, volatile global economic and political environment. Post-Nokia, there is a sharper realisation that key sectors in small economies are also exposed to disruptive changes in technologies, business models, consumer preferences, and so on, in ways that can have a material economic impact.

A2.44 Governments are building resilience into their macro and financial systems. Small country governments are also leading on financial stability measures, including introducing macro-prudential policy to limit the risks of housing bubbles and excessive levels of household debt (Singapore, New Zealand, and others).

A2.45 There is increased interest in market diversification to reduce the exposure to country or region-specific shocks. In Europe, countries such as Denmark, Finland and Ireland, have been developing strategies for developing relationships with emerging markets (particularly in Asia) as a hedge against the currently high levels of exposure to Europe (70% of Danish exports, for example, are currently sold to European markets). And in Asia, countries such as Singapore and New Zealand – which have benefited significantly from the rise of China – are now actively rebalancing portfolios to avoid the economic and political risks that come from over-exposure. In this context, an obvious danger of Brexit is that Scotland becomes ever more exposed to a low growth UK market.

A2.46 There is also interest in developing well-diversified portfolios of strengths at sector-cluster level - these clusters are well-positioned to absorb shocks. The experiences of small economies, such as Norway, Finland and New Zealand, are instructive in terms of the issues and policy approaches that are useful in this regard (from building labour market flexibility to deliberately investing in a pipeline of new strengths). But there are also risks from over-diversification and investing in areas where there is not a position of distinctive strength or capability. The policy answer to this is deeply country-specific.
A3 CHOOSING THE GROWTH MODEL FOR SCOTLAND

- The levels of international engagement by small advanced economies are substantially higher than for larger economies and the growth in international economic activity has also been stronger. This is the case for both exporting as well as cross-border direct investment.
- Large multinational firms play an important role in small advanced economies in driving international expansion.
- However, increasingly, small advanced economies are investing in firm-level enterprise policy to support international expansion by indigenous firms. Export promotion agencies are increasingly working intensively with high-growth potential firms to accelerate their international engagement.
- Small advanced economies take micro and macro policy foundations very seriously. In terms of micro or structural policy, small advanced economies rank highly on the various indexes of the quality of policy and flexibility of business environment.
- The strong performance of small countries is largely a matter of deliberate choice and management. It is the small advanced economies that have positioned themselves most appropriately for the challenges and opportunities of globalisation that have performed best. In contrast, those countries that did not engage with, and respond to, these global forces did not fare well.
- Two fundamental lessons are clear: Scotland must become more engaged, not less, in the global and European economy in order to boost growth. And the opportunity to contribute to, and benefit from, that growth must be more widely shared.
- The UK economic model: In considering the future, the UK economic model is wrong for Scotland. Leaving the EU and the Single Market, hostility to immigration, concentrating economic activity in London and the South-East of England, low wages and tolerating a large gap between rich and poor can only depress growth and opportunity.
- Our recommended starting point for a Next Generation Economic Model for Scotland is based on learning the lessons from small advanced economies and applying them intelligently to Scotland’s circumstances, needs and opportunities. Drawing on all 12 small advanced economy case studies we are especially drawn to a hybrid of Denmark, Finland and New Zealand. Features of that model include: quality of governance; long term cross partisan strategy, a focus on innovation, being a competitive location for international investment, exploiting Scotland’s resource endowment, an export-orientation, migration-friendly, where flexible labour markets combine with fair and progressive work and active employment policies, maintaining a highly skilled workforce with transferable skills, using taxation as a tool for economic development but not competing as a low tax location, placing inclusive growth at the heart of the strategy and viewing quality of life as both an asset and objective.
A3.1 There is no single small economy policy template that applies when picking the best international model for any one country. Various successful small advanced economies have very different policy settings: the Nordics are different from Ireland and New Zealand. Because context matters, it is not always helpful to talk about specific ‘best practice’ types of policy. But there are some general themes that are observed consistently across high-performing small advanced economies. These general policy themes are particularly instructive for informing Scotland’s economic policy debate.

A3.2 The shared context of high-performing small advanced economies – operating at the income frontier, and highly open to the global economy – leads to similarities across the small advanced economy group in terms of the strategic design of economic policy. Specifically, global exposure means that small countries have to face a stronger competitive discipline with an accompanying sense that they need to be distinctive so they can compete with other larger economies but not take fiscal or dependency risks.

A3.3 Whereas larger advanced economies can rely more heavily on the domestic market, small advanced economies frequently develop a deliberate policy strategy to position themselves in the global economy to serve a more diversified customer base. The exact nature of this strategy will vary according to the specifics of the local context and comparative advantages/relative costs. Examples include FDI attraction (Ireland), R&D and innovation-led strategies (Finland, Switzerland, Denmark), and the exploitation of natural resource-based comparative advantage (New Zealand, Norway).

A3.4 The nature of these strategies also needs to be sensitive to the external environment. For example, in the mid-late 1990s there was a concerted effort in many small economies to upgrade their innovation capability and investment to respond to new opportunities in the global economy. And from New Zealand to Denmark, there is currently intense economic policy across the small advanced economies group as these economies upgrade economic policy settings to respond to the post-crisis environment.

A3.5 This international experience provides a basis for informing the design of a growth agenda for Scotland that fits with its strategic context. Scotland has a good policy foundation in many respects, but deliberate policy choices will be required to secure the desired growth outcomes.

A3.6 Shifting towards policy settings and approaches that are typical of successful small economies would generate economic benefit for Scotland. There are several common policy themes and properties of high-performing small advanced economies from which Scotland can learn:

- active international engagement;
- strong, sustained investment in knowledge, innovation and human capital;
• strong policy foundations that provide the support for economic success specifically in the Scottish context;
• ‘strategic coherence’ – a clear view on how to position the economy to compete that allows specific policies to be aligned and integrated (which there would be considerably more scope for in an independent Scotland with a much wider range of powers available than are currently devolved).

A3.7 Whilst active international engagement and investment in knowledge, innovation and human capital are already priorities in Scottish economic policy, the lessons to be learned from the benchmark small advanced economies relate to strategic coherence, with all areas of policy, directed towards realising identified economic opportunities. In the Scottish context these include areas of policy currently reserved at Westminster as well as devolved areas.

Active International Engagement

A3.8 Small economies have to develop a well-performing external sector in order to generate strong economic outcomes – the domestic market in small advanced economies is too small to get the required levels of scale and specialisation. Indeed, there are substantial differences in productivity levels between domestic and externally oriented sectors; this is true across advanced economies, but is particularly true for small advanced economies, and in Scotland, with a limited domestic market. International engagement is at the core of small country economic policy; this is a target outcome as well as central to the strategic policy approach.

A3.9 Figure 3-1, Figure 3-2, Figure 3-3, Figure 3-4 and Figure 3-5 report several measures of international economic engagement. The levels of international engagement by small advanced economies are substantially higher than for larger economies and the growth in international economic activity has also been stronger. This is the case for both exporting as well as cross-border direct investment.

A3.10 The small economy group time series shows accelerating international intensity from the mid-1990s, partly reflecting strong global growth and the integration of emerging markets. Many small countries have also benefited substantially from inward direct investment, notably Ireland and Singapore which have placed FDI attraction at the centre of their respective economic strategies.
Part A: Raising the Potential & Performance of the Scottish Economy

Figure 3-1 – Small advanced economies have significantly higher export shares than most larger advanced economies

Exports of goods & services, % of GDP, 2016

Source: World Bank, WDI, June 2017; Landfall Strategy Group calculations

Figure 3-2 – Small advanced economies grew their export shares strongly from the mid 1990s

Exports of goods & services, % of GDP, 1990-2016

Source: World Bank, WDI, June 2017; Landfall Strategy Group calculations. Note: high export SAEs are Hong Kong, Ireland and Singapore.
Part A: Raising the Potential & Performance of the Scottish Economy

Figure 3-3 – Small advanced economies also have very high levels of outward direct investment

Outward direct investment stock, % of GDP, 2016

Source: UNCTAD

Figure 3-4 – Small advanced economies have high levels of inward direct investment; this is core to some small countries’ economic strategies

Inward direct investment stock, % of GDP, 2016

Source: UNCTAD
Part A: Raising the Potential & Performance of the Scottish Economy

A3 Choosing the Growth Model for Scotland

Figure 3-5 – Small advanced economies produce a significant number of large multinationals


A3.11 Large multinational firms play an important role in small advanced economies in driving international expansion (as well as contributing significantly to productivity and innovation). Figure 3-5 reports that small advanced economies produce more large companies per million of population than do their larger economy counterparts. The international activity of these small country firms is a central part of strong external engagement by small advanced economies.

A3.12 Policy has also made an important contribution to international engagement by small advanced economies. The development of sound policy foundations, as well as investing heavily in innovation and human capital (discussed below), have made a substantial contribution to the competitive position of internationally engaged small economy firms.

Investing in Innovation and Human Capital

A3.13 Successful small advanced economies are characterised by heavy investments in knowledge, innovation and human capital (skills, retraining). It is commonly observed that small economies, because they have limited resources, act to ensure that they make the most of their people. This focus on knowledge and human capital has been central to the way in which small advanced economies have built distinctive international competitive positions. This capability is necessary to generate the high levels of labour productivity that underpins the competitive positioning of high cost small advanced economies in the global economy.
A3.14 Many small advanced economies invest very heavily in R&D (Figure 3-6). There is variation across the group (New Zealand is towards the bottom), and in the way in which innovation is undertaken (some like Ireland and Singapore rely on R&D intensive multi-national companies). The time series of R&D spending suggests an increased investment in R&D from the mid-late 1990s (Figure 3-7), which enabled small economies to transform the export structure (moving into higher value, higher growth categories).

Figure 3-6 – Several small advanced economies have sustained high levels of investment in R&D

Source: OECD, World Bank
A3.15 One other measure of the domestic innovative capacity of small advanced economies is provided in the World Economic Forum’s Global Competitiveness Report (Figure 3-8). Small advanced economies tend to perform well in the overall competitiveness rankings. But for advanced economies it is the performance on the innovation and business sophistication measures that are particularly relevant. Many of the high performing small economies, such as Switzerland and several Nordics, perform particularly well on this innovation measure. In contrast, countries such as Singapore and New Zealand perform less well.
A3.16 In addition to these substantial investments in innovation, small countries also prioritise investment in human capital. Consider the strong performance of small advanced economies on the World Economic Forum’s Human Capital Index, a composite measure of multiple dimensions of human capital (Figure 3-9). This performance is due to a combination of strong formal education systems, based on technical/vocational training and high quality schools, universities, and research institutions.

Figure 3-8 – Many small economies score well on innovation, as well as on overall measures of competitiveness

Source: 2016/17 Global Competitiveness Report, World Economic Forum (innovation=blue, business sophistication=yellow)
A3.17 Many small economies are currently investing in initiatives to prepare their existing and future workforce for the workplace of the future, recognising that disruptive change is on the way. A good example is the various initiatives associated with the Production Panel work in Denmark on capturing opportunities from emerging technological opportunities.

**Strong Policy Foundations**

A3.18 Small advanced economies take micro and macro policy foundations very seriously. In terms of micro or structural policy, small advanced economies rank highly on the various indexes of policy quality and the business environment. As just a few examples, small advanced economies have consistently dominated several international measures of competitiveness (including the World Economic Forum’s Global Competitiveness Report noted above); the World Bank’s ‘ease of doing business’ index, the various OECD measures of regulatory quality, World Bank measures of governance and so on.

A3.19 Small economies understand the importance of efficiency and flexibility, so that they are able to respond quickly to shocks and structural changes. This is an important part of both the economic dynamism of small economies as well as economic resilience. One interesting dimension of this approach to flexibility is in terms of active retraining participation and a well-developed system of social insurance that allocates risks efficiently and supports the rapid movement of labour across an economy. Denmark and the Nordics are a good example of this approach, as is Switzerland.
A3.20 There is no such congruence in the approach to government spending in small advanced economies. Many successful small advanced economies (particularly in Europe) have high levels of government spending and tax (Figure 3-10), although others (New Zealand, Ireland, Singapore and Hong Kong) have lower levels of government spending. However, this spending needs to be supported by higher levels of productivity. Indeed, there is (slight) downward pressure on government tax and spending levels in small economies due to concern about slowing growth and cost competitiveness. This is currently an area of policy focus in countries such as Denmark and Finland. In the 15 years prior to the crisis, government spending and revenue in small advanced economies had been consistently trending down.

Source: IMF World Economic Outlook, April 2018; Landfall Strategy Group calculations

A3.21 On monetary policy, most small advanced economies do not have an independent policy. Many are part of the Eurozone or have chosen to peg/fix against another currency (such as Denmark and Hong Kong). The view of many small countries is that the relative stability and credibility of these arrangements beats the benefits of flexibility and that actual power and flexibility is heavily constrained in any event.

A3.22 Of those countries that do run their own monetary policy (Switzerland, Singapore, New Zealand, Norway and Sweden), there is recognition that although a national exchange rate can provide a buffer against shocks (which has recently benefited Norway, for example), small economies are deeply exposed to external events and there are therefore limits to the extent of genuine monetary policy independence available. As a result, small country central banks have from time to time been challenged by over-valued exchange rates, low
(or negative) interest rates, and booming property prices. But none have succumbed to a crisis.

A3.23 We return to this issue in part C of this report, on monetary policy and financial regulation.

**Strategic Coherence**

A3.24 The discussion above notes the common themes in high-performing small advanced economies. However, there is no single policy agenda, and small countries choose to compete in a variety of ways. For example, Sweden successfully follows a high tax, high wage, innovation-based model, whereas Hong Kong pursues a low tax, light regulation model with an emphasis on world-class infrastructure and leveraging its proximity to China. These models are very different, but both have generated consistently strong economic outcomes.

A3.25 So, small country performance is less about the policy specifics and more about the way in which these policies are packaged for the specific context – that is, it is about the strategic coherence of policies. Although the specific ways in which small countries compete vary according to context, the notion of deliberate strategies to position themselves is a common theme. In many small countries, there will be a clear sense of the national value proposition and the basis on which they compete in the global economy.

A3.26 Small countries have created a more positive, supportive external environment over the past few decades. But at least as important, they have responded appropriately to the changing global environment. The strong performance of small countries is largely a matter of deliberate choice and management. It is those small advanced economies that have positioned themselves most appropriately for the challenges and opportunities of globalisation over this period that have prospered. In contrast, those countries that did not engage with, and respond to, these global forces did not fare well.

A3.27 One dimension of this positioning is a deliberate development of key strengths in the economy that provide distinctive competitive advantages. These can be ‘horizontal’ factors, such as tax, physical location, human capital, business environment, or infrastructure. Or it could be more ‘vertical’ in nature, organised around key sectors or clusters. Most successful small advanced economies will have a limited number of deep clusters. These clusters of economic activity often provide the focus for a coordinated approach to policy and are made most effective when headquarters functions are present in the economy.

**Implications for Scotland**

A3.28 This discussion draws on the small advanced economy policy experience to provide a perspective on how Scotland might implement a small economy policy approach to generate stronger economic outcomes.
A3.29 Scotland is a modern, developed economy with generally high quality policy settings. The challenge for Scotland is that many of these policies are set for a large economy (the UK), not a small economy like Scotland, and are not directly aimed at strengthening the competitiveness of the Scottish economy in a way that reflects the Scottish context and needs.

A3.30 The experiences of high-performing small economies help to illustrate the types of strategic policy choices that Scotland could consider and how it could develop a distinctive competitive position in a challenging, competitive global economy.

A3.31 These policy insights can be organised around the three broad themes: (i) strengthening policy foundations; (ii) building competitive advantage, often organised around sectors or clusters of economic activity; and (iii) upgrading policy approaches to economic risk and resilience.

**Strengthening Policy Foundations**

**i) Macroeconomic Policy**

A3.32 Small advanced economies have made fiscal prudence a strategic priority. From Ireland to Denmark, Finland and New Zealand, small advanced economies continue to make concerted efforts to restore fiscal sustainability. This is a clear priority for Scotland. We present a credible plan for fiscal policy, with supporting fiscal institutions as a central element of a growth strategy for Scotland in part B. Without credible fiscal policy and financial sustainability in the public and private sectors, no economic strategy is likely to deliver on its goals.

A3.33 Small advanced economies also provide lessons for monetary policy arrangements in Scotland. We return to this in part C.

A3.34 While in general, macro policy is best seen as an important enabling factor, for Scotland this is a strategic imperative – both substantively and for credibility.

**ii) Productivity**

A3.35 Strengthening productivity performance and cost competitiveness is a common priority across small advanced economies – and should be for Scotland as well. The UK’s level and growth of labour productivity has fallen below the EU average. Acting to raise productivity is a critical element of sustaining higher rates of GDP growth in Scotland, as in other small economies.

A3.36 In general, firms and sectors exposed to international markets converge to high levels of labour and capital productivity because they face greater competitive pressures to do so; if they do not become productive on a world scale they will likely go out of business. The priority then is to raise productivity in the domestic (or non-tradables) sectors, such as retail,
wholesale, construction and public services. These domestic sectors are large parts of the economy where much of the employment growth has been over the past few decades.

A3.37 Productivity in domestic sectors is a critical input to the competitive position of export sectors (and increasingly so, given slow growth externally), as well as contributing to inclusive growth through higher wages in these sectors (to reflect improved productivity).

A3.38 In Scotland, as in most other small advanced economies, improvements in productivity will come in myriad small advances, but a few major reforms are necessary to make that process feasible – most obviously in allowing dedicated policies to operate in the areas where productivity increases would bring the most benefit, to encourage capital (total factor) productivity or repair the current investment rate deficit. Much of this action is likely to be in quite detailed industry-specific areas. To identify the opportunities, many economies have established agencies such as a Productivity Commission or economic development bodies. These independent institutions are mandated to undertake research, gather data, identify opportunities for productivity improvement (particularly in domestic sectors), and make recommendations to government.

A3.39 Countries such as Denmark and Norway have established short-term commissions, staffed with independent experts, which have now reported to the government. In New Zealand, a permanent Productivity Commission was established in 2010 that undertakes a rolling series of reviews on specific sectors and issues (including extensive public and stakeholder engagement). These Commissions are seen to have been effective.

A3.40 Establishing a Productivity Commission in Scotland, along similar lines, to identify opportunities for productivity improvement would be useful. Adopting a fixed-term model, as in Denmark or Norway, would be an easy way to start – with an option to establish a more permanent institution as in New Zealand, if appropriate.

iii) Growth Infrastructure

A3.41 Policy foundations extend to other elements of the overall business environment, such as the quality of human capital, physical and digital infrastructure, capital markets, market access, and so on. Scotland starts from a strong position on many dimensions. But ongoing work will be required to ensure that Scotland remains competitive and productive on an international scale.

A3.42 Priorities include the nature of on-going market access from Scotland to the UK and the EU; ensuring that investments are made to adapt the workforce to changing demands; digital infrastructure; international connectivity and so on. How these are prioritised and sequenced should be informed by the specific areas in which Scotland wants to be distinctive.

A3.43 Countries such as New Zealand and Ireland have generated strong GDP growth rates by raising population. This may lead to limited improvements in per capita income or
productivity in the short-term, but would be a powerful source of growth for Scotland in the long term, as discussed later in this report.

Building Competitive Advantage (‘Growth Engines’)

A3.44 Strong, high quality policy foundations are a necessary but not sufficient condition for growth. It is not simply a matter of moving to policy ‘best practice’ but making a deliberate choice about how to use policies to position the economy.

A3.45 For example, some small counties have built successful growth models based on economy-wide strengths. Examples of this are Singapore, Hong Kong and Ireland, offering low tax rates, strong human capital and market access (to Asia and the EU respectively) and good infrastructure. Other economies have emphasised a growth model that builds on existing strengths and capabilities in key clusters – and where access to foreign capital is a supporting element (for example, the Nordics, Switzerland and the Netherlands).

A3.46 Ireland and Singapore have been remarkably successful economic growth stories, based largely around FDI attraction. Scotland also does well in attracting FDI (relative to other parts of the UK).

A3.47 Scotland is more likely to benefit from following a standard small economy growth model of building on existing strengths and capabilities which are far more substantial, at least on the face of it, than countries like Ireland began with on their growth policy journey.

A3.48 The instructive examples are countries such as Denmark, Finland, Sweden, the Netherlands and Switzerland. These successful small advanced economies have well-established clusters (with dense linkages) and successful, internationally-oriented firms.

A3.49 Another reason for deliberately building on existing strengths and capabilities is Scotland’s economic geography. It is important to build strong clusters that are ‘sticky’ in Scotland, and that can attract and retain labour and capital against the gravitational pull of London and the South East. On the other hand, proximity to London may offer opportunities in making a more cost effective Scottish location more attractive.

A3.50 One near-term priority should be to identify the existing strengths and capabilities in the Scottish economy and assess how to support their growth, across all policy areas. These could include the energy sector (including renewables), food and drink, tourism, financial services, science and innovation, digital industries, biotech, education and so on, which are already the focus of economic development policy in Scotland.

A3.51 The decision on priorities should inform the strategic design of economic policy (for example, the emphasis and focus of R&D spending, infrastructure, human capital, the use of tax and spending priorities etc.). Policies in these areas should be designed to support the key areas of strength in the Scottish economy.
A3.52 In addition to existing strengths, it is also be appropriate to think about building new strengths: for example, in the digital economy. This is an area where many other small advanced economies are very active – on the basis that this plays to their strengths.

A3.53 Building growth is an area where there is major potential for Scotland to make improvements. The UK has a standard large economy approach to policy with little focus on industrial policy, and historically, Scotland has not had the full set of policy levers to do anything different.

**Advanced Small Open Economies – Case Studies**

**Ireland**

**Key performance statistics**

- GDP per capita (2016): $62,562
- GDP growth rate (average since 2000): 4.6%
- Population growth (change since 1980): +37.1%
- Participation (jobs as % population, 2016): 43.5%
- Productivity (GDP per hour worked, PPP): $95.8

A3.54 Ireland has been one of the most rapidly growing developed economies over the past few decades on the back of a highly successful FDI-driven model (attracted by low corporate taxes, EU membership, and access to English-speaking human capital). Ireland was hit hard through the crisis as a consequence of the bursting of the property bubble and the subsequent bail out of the banks. But the basic structure of the economic model remains intact, and Ireland is recovering quickly with record amounts of FDI as well as an improving fiscal position. FDI into Ireland has made a major contribution to the domestic economy, although there are fewer examples of home grown strength. Greater effort is now being placed on supplementing the FDI-driven model with a focus on domestic strengths – through measures such as investing in research and innovation, skills, as well as enterprise policy. Ireland is also adapting to the prospect of a hard Brexit, and is diversifying its exposure to the UK economy.

A3.55 During the work of the Sustainable Growth Commission, its members have interacted with huge numbers of organisations and individuals, in Scotland and further afield, who offered to provide their perspective. This has provided an opportunity to gain a behind the scenes insight into what has driven stories of success elsewhere.

A3.56 One of those was the experience of Ireland as it recovered from the financial crisis. As well as necessary actions to deal with the financial crisis itself and then to secure macroeconomic stability, Ireland embarked on formulating a new economic strategy, planning for less reliance on inward investment and more on indigenous growth, as set out in its Action Plan.

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26 Source: IMF World Economic Outlook and OECD.Stats Productivity
for Jobs. The insight that encouraged that development was that as a small country in a global economy, it would require only small global market shares in a few areas.

A3.57 As one of those that provided their insight to the Commission said: “we realised that with a global outlook, we weren’t really constrained by the size of the market because we couldn’t possible produce all of product x that the world might need. So the challenges were different, they were about working out what we wanted to be good at and then investing so that we could build the skills and expertise to be good at it. We just needed to think about what Ireland could produce that the rest of the world might want.”

A3.58 This lesson also applies to Scotland. As a country of just over 5 million people in a world of 7 billion, Scotland needs to be globally competitive in just a few niche areas to secure economic success. In this context, being globally competitive means achieving high productivity, in particular in sectors where the markets are global rather than local.

New Zealand

Key performance statistics²⁷

- GDP per capita (2016): $38,345
- GDP growth rate (average since 2000): 4.6%
- Population growth (change since 1980): +51.8%
- Participation (jobs as % population, 2016): 52.0%
- Productivity (GDP per hour worked, PPP): $49.9

A3.59 New Zealand reformed its economy extensively in the 1980s and early 1990s, which placed it on a stronger footing. It has performed well over the past 20 years, including in the post-crisis period, with growth rates frequently above 3%. However, a significant portion of this growth has been due to growth in hours worked (low unemployment and high participation rates, favourable demographics, and very strong rates of net migration – markedly over the past few years). The economy is still based on exploiting natural resources, through agriculture and tourism, and its productivity performance is low. But this growth model has worked effectively, and uses options that are available to Scotland – notably migration. Investments in digital infrastructure and enterprise policy are also supporting a growing high growth firm community.

A3.60 Productivity theory and evidence, policy analysis, and the New Zealand context suggest that a number of factors are critical for improving New Zealand’s productivity growth, as set out in analysis for the New Zealand Treasury²⁸.

A3.61 The basis for robust productivity growth rests on a stable and certain macroeconomic platform and on the quality of New Zealand institutions. A stable macroeconomic

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²⁷ Source: IMF World Economic Outlook and OECD.Stats Productivity
²⁸ Source: New Zealand Treasury (April 2008), Putting Productivity First
environment, underpinned by well-designed fiscal and monetary policies, provides the base required for economic agents to make decisions, to invest, innovate and undertake new ventures, with the certainty that their returns will not be undermined by a weaker future economy.

A3.62 Quality institutions, such as the structure of property rights and the existence of well-functioning markets, are a prerequisite. The quality of institutions is a central explanation of the differences in income and growth rates among countries. Institutions provide a basis for many of the drivers of productivity. For example, secure property rights are a prerequisite for investment in capital and innovation.

A3.63 Macroeconomic stability and sound institutional arrangements provide the core on which individuals and firms can plan and invest. Effective microeconomic policies are also necessary to create a business environment that rewards enterprise and innovation and provides the resources and flexibility for firms to identify economic opportunities and to move to take advantage of them.

A3.64 While many factors impact on productivity, evidence suggests that skills, innovation and investment are particularly important in determining productivity performance. In addition, given New Zealand’s reliance on the primary sector, the sustainable management of natural resources is important in meeting both economic and environmental objectives. These factors do not impact on productivity in isolation, but are interrelated; advances in one area will alter the returns and incentives for activity under the other drivers of productivity. Ultimately, it is the entrepreneur who combines these factors of production, new ideas, skills and capital, in order to drive productivity growth.

A3.65 Human capital accumulation is important for productivity in its own right, and also has a key role in innovation and technological progress. Evidence is becoming increasing clear that a large proportion of the differences in GDP per capita growth between countries can be explained by differences in human capital achievement. Education and training have been emphasised as central to the accumulation of knowledge and ideas; higher skills foster greater levels of innovation and entrepreneurship and increase the ability of the economy to absorb, implement and adapt ideas generated by others. The appropriate skill mix in part depends on a sector’s distance from the technology frontier, with a decision on whether to create innovation or to absorb and adapt knowledge from abroad. Skill formation is a cumulative process over the life course. The greatest returns come from improving the quality of education in the early years but this needs to be maintained by ongoing quality in later years.

A3.66 Advances in knowledge, new products and processes and organisational technologies are central to long-run growth; this progress occurs through innovation and decisions made at the firm level about how capital and labour are combined to make output through the entrepreneurial process. Technological progress is, in part, determined by the level of investment in innovation, capital and skills. Innovation and knowledge spill overs, whereby
the discovery or demonstration of a technology is adopted by a wider set of firms, are increasingly considered to be highly important for productivity growth. The rate of return to society from R&D activities is typically in the order of 90 to 100 per cent, well above the private return of 20 to 30 per cent.

A3.67 Firm turnover drives productivity growth. New firms seek out and develop new profitable ventures: well-performing firms grow and increase their market share and poorer-performing firms exit the market, and their resources are reallocated to more productive uses. The OECD suggests that this turnover results in up to 50 per cent of a country’s labour productivity growth. Creative destruction requires a business environment that supports enterprise and innovation. Entrepreneurs drive this creative destruction because of their role in demanding factor inputs, determining the balance between factors, and driving the efficiency with which they are combined.

A3.68 Regulatory and economic frameworks that encourage sustainable investment over time, and quick responses to emerging resource constraints and new opportunities to invest in natural resources are critical for productivity. As environmental considerations may constrain growth in some sectors, it will become increasingly important that the frameworks for managing environmental constraints are consistent with resources being applied in their most productive use. An increased scarcity of natural resources combined with rising concern for the natural environment also indicates that good management of natural resources will be critical for future economic success. However, it is important to note that sustainable natural resource management need not be at the cost of economic growth. Growing environmental pressures can be managed in such a way as to achieve both environmental and economic goals.

A3.69 From this consideration of the process of economic growth, five broad drivers of productivity emerge. These drivers provide a useful way to assess and develop policies to improve the productivity performance of New Zealand, and all are useful as a framework for increasing productivity in Scotland. In summary, they are:

- **Enterprise** – Entrepreneurs identify and realise new market opportunities, create investment opportunities and drive innovation.

- **Innovation** - Innovators generate, adopt and adapt new ideas and create investment and entrepreneurial opportunities.

- **Skills** – Skills enhance labour’s contribution to growth, improve the economy’s ability to innovate and adopt new ideas and increase investment opportunities.

- **Investment** – Investment improves and enlarges the capital stock, is an input in the entrepreneurial process and increases the returns to skill acquisition.

- **Natural Resources** – Sustainable resource management increases the opportunities and mitigates the risks associated with the increasing cost and declining availability of
natural resources and with consumers’ growing demand for environmentally sustainable products.

Finland

<table>
<thead>
<tr>
<th>Key performance statistics&lt;sup&gt;29&lt;/sup&gt;</th>
</tr>
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<tbody>
<tr>
<td>• GDP per capita (2016): $43,169</td>
</tr>
<tr>
<td>• GDP growth rate (average since 2000): 2.4%</td>
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<tr>
<td>• Population growth (change since 1980): +15.0%</td>
</tr>
<tr>
<td>• Participation (jobs as % population, 2016): 44.6%</td>
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<tr>
<td>• Productivity (GDP per hour worked, PPP): $57.9</td>
</tr>
</tbody>
</table>

A3.70 After a deep recession in the early 1990s following the collapse of the Soviet Union, Finland’s innovation-driven growth model has generated strong growth rates – frequently above 4% in the 15 years prior to the crisis. Finland has one of the highest R&D/GDP spending ratios in the world, which began to ramp up from the mid-1990s. And there was a strong policy focus on human capital, good macro policy, regional integration into Europe, and social cohesion. The shocks to hit Finland over the past several years have caused significant economic costs and will require significant structural reform to restore competitiveness. But Finland’s strong fundamentals remain intact, and good progress is being made. Current areas of focus are creating an entrepreneurial economy, structural reform and fiscal consolidation, and strengthening international connectivity (including Asia).

Sweden

<table>
<thead>
<tr>
<th>Key performance statistics&lt;sup&gt;30&lt;/sup&gt;</th>
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</thead>
<tbody>
<tr>
<td>• GDP per capita (2016): $51,165</td>
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<tr>
<td>• GDP growth rate (average since 2000): 2.4%</td>
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<tr>
<td>• Population growth (change since 1980): +20.2%</td>
</tr>
<tr>
<td>• Participation (jobs as % population, 2016): 49.1%</td>
</tr>
<tr>
<td>• Productivity (GDP per hour worked, PPP): $61.4</td>
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</tbody>
</table>

A3.71 Sweden has consistently out-performed Scotland over the past 15 years – and in a particularly pronounced way over the past few years, when it has been a stand-out performer in the small advanced economy group. Sweden has a strongly competitive export sector, with successful multinational firms, high levels of labour productivity, as well as good social outcomes. Growth rates have consistently been above 4% since 1995, and

<sup>29</sup> Source: IMF World Economic Outlook and OECD.Stats Productivity
<sup>30</sup> Source: IMF World Economic Outlook and OECD.Stats Productivity
above 3% over the past few years. Strong export growth has been a key contributor to this recent growth – together with a strong start-up scene, with firms like Spotify.

Denmark

<table>
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<th>Key performance statistics</th>
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</thead>
<tbody>
<tr>
<td>GDP per capita (2016): $53,744</td>
<td></td>
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<tr>
<td>GDP growth rate (average since 2000): 2.4%</td>
<td></td>
</tr>
<tr>
<td>Population growth (change since 1980): +11.4%</td>
<td></td>
</tr>
<tr>
<td>Participation (jobs as % population, 2016): 49.8%</td>
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</tr>
<tr>
<td>Productivity (GDP per hour worked, PPP): $70.4</td>
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</tbody>
</table>

A3.72 Denmark has high levels of per capita income on the back of a productive economy – supported by successful multinational firms (Maersk, Vestas, Carlsberg and others) – as well as strong labour market outcomes.

A3.73 Indeed, one of Denmark’s most notably policy characteristics is ‘flexicurity’, which combines highly flexible labour markets (an ability to hire and fire) with a well-developed social insurance scheme and active labour market policy, which provides support for people to find their next job. This scheme has contributed to a flexible economy, as well as an efficient allocation of risk within the economy.

A3.74 Denmark invests heavily in research and innovation: for example, renewable energy has received substantial support (and is now an important export sector), and Industry 4.0 is an area of substantial policy activity (seen as an opportunity to maintain Denmark’s industrial base, by making manufacturing feasible in a high wage, high cost economy).

Model for Scotland: the Next Generation Growth Model

A3.75 These small country experiences show a range of policy approaches: each have been successful in their own way. But context is important for success. And the other feature of the successful small economy experience is the strategic coherence of the policies: they are internally consistent and supportive of the overall direction. The implication for Scotland is that an explicit choice needs to be made in terms of what sort of policy model is appropriate (and what this means in terms of policy choices).

A3.76 Broadly speaking, there are three small economy archetypes that can be distinguished:

- the Ireland/Singapore model: low tax, light touch regulation, with an economic model based on attracting FDI (and providing a platform to an adjacent large market)

31 Source: IMF World Economic Outlook and OECD.Stats Productivity
Part A: Raising the Potential & Performance of the Scottish Economy

- The Nordic model: higher tax, higher cost (wages), flexible labour and product markets, supported by very high productivity firms and workers
- the NZ model: moderate taxes, skilled population, resource endowment plus tourism, a little peripheral to markets

A3.77 For Scotland, although it has been successful at attracting FDI (and should work to continue to do so), it seems unlikely that it can successfully operate an Ireland/Singapore model – Ireland has strong first mover advantage, Scotland has a challenging fiscal situation that would make it difficult to deliver aggressive tax cuts, and it would involve a very substantial set of changes to the overall economic policy mix. Moreover the ability to continue to compete, for example on lower corporation tax, must be questioned as countries seek to co-operate to ensure that multi-nationals are paying appropriate levels of tax. That said, any country ought to be acutely aware of the competitiveness of its taxation mix alongside its policy offer especially with regard to neighbouring economies. There will be both opportunities and challenges to be navigated from this.

A3.78 The Nordic model is clearly attractive, but is challenging. It rests on a particular social model, a high and broadly-shared stock of human capital, and high levels of productivity. Substantial, longer term improvements to Scotland’s productivity performance would be required to move towards such a model but the ambition must be to reach such a standard.

A3.79 New Zealand has generated reasonably strong rates of GDP growth – on the back of strong migration and labour market performance, as well as growth in agriculture and tourism. It has also significantly improved economic management, which has made its economy more resilient and flexible.

A3.80 The lesson here is that no one existing model can simply be replicated. A Scottish growth model which learns from other successful nations, builds on Scotland’s strengths and understands our own circumstances will be successful.

A3.81 Taken together, this is a model that seems to fit the Scottish context – and is achievable given Scotland’s current set of economic policies. A hybrid of the best of Denmark, Finland and New Zealand as a broad strategy with the best of other countries taken where relevant.

A3.82 So the proposed Scottish next generation growth model, applies the lessons from each of these models that best fits with Scottish circumstances, needs and opportunities. The key features of the recommended Scottish include:

- **Innovation-focused**: a focus on innovation to boost productivity, building on the globally competitive university sector (learning from the Nordic model, in particular Finland);
- **Competitive location for international investment**: an openness to foreign direct investment (like Ireland), but competing not on labour costs or tax incentives, but on access to markets and to the highly skilled workforce and university sector;
• **Exploiting Scotland’s resource endowment**: recognition that there are opportunities for Scotland based on its resource endowment, in particular in energy, food and drink and in tourism;

• **Export-orientated**: based on further development of the Scottish brand proposition to the benefit of industries initially focused on Scotland’s natural resources (like New Zealand), but also on innovative companies in growth sectors, emerging from the focus on innovation (like Denmark and Finland);

• **Migration-friendly**: Scotland’s population structure means that it is imperative the working age population grows much more than is currently projected and that can be achieved by welcoming migrants (as all the benchmark economies have done, New Zealand and Ireland in particular);

• **Flexible labour markets combined with fair and progressive work and active employment policies**: fair labour markets combining flexibility with high standards can help to make Scotland a competitive location for indigenous and international investment and ensure that the growth sectors can attract the skilled workers they need. But (as Denmark has shown) if combined with a matching generous system of unemployment benefits and active employment policies so that those leaving jobs can quickly find other suitable opportunities, this does not need to lead to job insecurity;

• **Maintaining a highly skilled workforce with transferable skills**: flexible labour markets and a focus on innovation mean that significant investment in skills, for young people and those already well established in their careers is necessary so that the workforce is highly skilled and has skills that can be transferred between sectors (like in New Zealand and Denmark);

• **Taxation as a tool for economic development**: the innovation and skills offer that Scotland can provide, together with the natural resource endowment, means that there is little sense in competing as a low cost or low tax location. However, the taxation system can be used to support the economic strategy (for example, to attract people and investment);

• **Inclusive growth at the heart of the strategy**: all of the features described above are supportive rather than conflicting with placing inclusive growth at the heart of Scotland’s economic strategy (as has been the case in the Nordic model). This also means working in partnership with business and the trade unions to ensure a sustainable and supportive economic model;

• **Quality of life as an asset and objective**: under-lying all of the above must be a recognition that the objective of the model should not be economic growth for its own sake but that the purpose of the model is to provide a good quality of life for everyone who lives in Scotland.
A3.83 We recognise that there are tensions between some of these features. However, the case studies of benchmark small advanced economics have shown that such a mix is possible. This will require regular review and refinement to make sure that some features of the model don’t begin to dominate others. All of this requires a collaborative approach to policy design and implementation, as discussed further below.

A3.84 We recognise though that such a model recommendation requires broad debate and that many politicians and policymakers and analysts will have a different view. That we would even have such a debate would be a significant advance on the content and conduct of our debate over recent decades. However, in the end, it would be to the very significant advantage of the country if broad agreement on strategic direction could be agreed. Given the relatively moderate nature of the main political parties, this must be possible, as we come on to discuss on population and migration below. For all the sound and fury of the Scottish debate, we believe we have a quality and moderation in our political culture that has the potential to deliver the leadership the country required.

Collaborative Approach to Meeting Growth Aspirations

A3.85 The central lesson to take from both the lessons from successful small advanced economies and from the engagement exercise is that a successful economic strategy needs to embrace all areas of public policy and so consist of hundreds of policy measures.

A3.86 Some of the key measures that will make a difference are set out in this report. However, we are living in a fast changing world and the opportunities and threats that exist in one, five or ten years’ time will be different to those that exist now. Scotland therefore needs an institutional framework that allows government, business and others to work together collaboratively, at a strategic level, to identify the emerging opportunities, agree the actions necessary to realise them and move swiftly to implementation.

A3.87 One of the main lessons to take from the small advanced economies relates not to what they do in terms of economic strategy but to how they do it.

A3.88 They have a strategic coherence, a consensus on what the long term objectives should be, and structures in place to ensure that there is a broad collaborative effort to identify new opportunities and threats and to implement the strategy. That needs to involve government, business, trade unions and other social partners and wider civic society working together, in collaborative structures, for the common purpose of improving the welfare and quality of life of people living in Scotland.

A3.89 There can sometimes be mistrust between business and government and part of that can be a view in the business community that the electoral cycle will encourage governments to make spending commitments that appeal to voters in the short term rather than spending that generates long term growth (and therefore provides the taxation revenues required to fund spending and borrowing commitments).
A3.90 This relationship between government and business and trade unions and other social partners can be transformed by a collaborative approach to economic policy making, based on analysis of practice of what happens in small successful advanced economies such as Denmark. There are also examples of this approach in larger successful advanced economies, notably in Germany (where the collaboration is often at the sub-national or regional level) and at the city level, notably Chicago.

A3.91 There are existing structures in place in Scotland that allows the Scottish Government to consult and engage with business and others and the scale of Scotland means that it can be easier for businesses to approach government to highlight an opportunity or a problem that needs to be addressed.

A3.92 These structures have their place, but what we are proposing here is a more active collaboration, where government, business and others co-design the economic strategy and commit to implementing it together. It was apparent during the consultation programme undertaken by the Commission that many representative groups have a good understanding of the opportunities that existing in their sector and how they can contribute to the overall national economic strategy. There are some good examples of joint working already in Scotland, including some of the sector based groups that are co-chaired by government and business leaders.

A3.93 Capturing and implementing these ideas requires more than consultations and lobbying. It requires joint strategy and working groups, institutional arrangements such as that used by the Productivity Commission in Denmark, covering both overall strategy (covering all areas of public policy, not just economic development policy) and the development of action plans for implementation.

A3.94 A collaborative approach to policy making means that government, business and other representatives of society work together on the development of policies and integrated strategies designed to exploit competitive advantages. This approach is consistent with both Christian Democrat and Social Democrat traditions in European politics.

A3.95 Integration of policy can also lead to better outcomes that take a more holistic and longer-term view of the costs and benefits of policy change. For example, an energy policy that was informed by economic development objectives as well as costs, security of supply and environmental impact may prioritise the commercialisation and growth of new sectors with export potential.

A3.96 In addition to a more strategic decision making process and the integration of policy, a collaborative approach also reduces the chances of policy shocks that businesses had not been expecting.

A3.97 Both the process of developing a comprehensive strategy and the role of the strategy of providing an overarching framework for public policy will deliver a range of benefits. These will include:
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- a framework that coherently sets out the needs, opportunities and preferences of Scotland;
- a long term perspective on priorities and strategic objectives, above and beyond the political cycle (at least in the many areas where there is a degree of consensus);
- a framework that provides the long term stability sought by investors who wish to understand and manage the risks associated with investing;
- a mechanism to prioritise scarce resources on the challenges and needs identified as strategic priorities. These include public sector resources as well as human, natural and technological resources;
- a mechanism for the integration of policy since the strategy will provide the framework within which more detailed policies and sector based strategies can be developed; and
- the process of developing and reviewing strategy encourages a regular review of the progress that is being made and benchmarking against and learning from the best.

A3.98 The collaborative approach means that business expertise is brought to bear in identifying the opportunities. It also means that the private sector is aware of and understands the rationale behind the long-term strategy, providing the confidence that is required to stimulate the significant private sector investment that will accelerate economic growth.

Key Recommendations

A3.99 National Economic Strategy: The creation of an overarching national economic strategy that (as far as is possible) focuses on long term goals and secures broad cross partisan and sectoral support should be the central goal of growth policy. This is and of itself a necessary but not sufficient factor for success. Growth goals: The Strategy should include globally ambitious growth goals, to i) First 10 years: catching up with the small advanced economies average growth rate (currently 2.5%) (ii) Years 10 to 25: closing the GDP per capita gap with the small advanced economies (with period of 3.5% growth) (iii) maintaining a GDP per capita position in line with the top half of the small advanced economies group.

A3.100 Our recommended starting point for a Next Generation Economic Model for Scotland is based on learning the lessons from small advanced economies and applying them intelligently to Scotland’s circumstances, needs and opportunities. Drawing on all 12 small advanced economy case studies we are especially drawn to a hybrid of Denmark, Finland and New Zealand. Features of that model include: quality of governance; long term cross partisan strategy, a focus on innovation, being a competitive location for international investment, exploiting Scotland’s resource endowment, an export-orientation, migration-friendly, where flexible labour markets combine with fair and progressive work and active employment policies, maintaining a highly skilled workforce with transferable skills, using taxation as a tool for economic development but not competing as a low tax location,
placing inclusive growth at the heart of the strategy and viewing quality of life as both an asset and objective.

A3.101 **Delivering Cross-Partisanship and Collaboration:** A cross-partisan collaborative approach to policymaking against the long-term national strategic framework should be institutionalised. Direct engagement across sectors, business representative, employee representative and other policy groups should be institutionalised to ensure that the national economic strategy remains a vital and dynamic part of policymaking.

A3.102 **Identifying comparative advantage and strategic priority sectors:** while we are leery of the idea of ‘picking winners’ a clear choice should be considered in identifying and promoting those areas (rather than particular firms) in which we judge the Scottish economy to have sustainable comparative advantage. The process of selecting strategic priorities should be a key output.

A3.103 **Productivity Commission.** We recommend the establishing of a Productivity Commission in Scotland, to identify opportunities for productivity improvement would be useful. Adopting a fixed-term model, as in Denmark or Norway, would be an easy way to start – with an option to establish a New Zealand style Productivity Commission model if appropriate.
A4 THE IMPERATIVE OF POPULATION GROWTH

- Scotland has recently been transformed from a nation suffering from population decline to a country benefitting from net immigration for the first time in our recent history. Positioning ourselves with an outward focus will both increase opportunities for the next generation of Scots born here and ensure we continue to attract talent.
- Given the demographic structure of Scotland, migration is critically important to population growth and also productivity performance. IMF evidence suggests a 1 per cent increase in the share of migrants in the adult population can increase productivity by 3 per cent long term.
- Scotland must continue to attract people in order to increase our working population and our overall population. Migration will account for all of Scotland’s population growth over the projection period 2016-2041. Maintaining immigration is essential otherwise the number of people working and paying taxes will fall. The economic activity and employment rates of those born outside of the UK are higher than those in the rest of the Scottish population.
- There are around 429,000 resident in Scotland people who were born outside of the UK, 8.1% of Scotland’s total population. London has the highest share of its population born outside of the UK (38.3%).
- The contribution of non-UK born citizens to the Scottish economy is estimated at approximately £12 billion per year.
- The 429,000 Scottish residents who were born overseas are associated with £4.3 billion of government revenue, including income tax and national insurance contributions. Government spending associated with Scottish residents who were born overseas stood at £3.0 billion. This suggests a net contribution to Scotland’s public purse of £1.3 billion per year. The Polish community alone is a net contributor of circa. £250 million.
- We estimate that approximately £1.1 billion in exports in 2015-16 was attributable to overseas students studying in Scotland. Each student from outwith the EU generated £26,811 in exports for the Scottish economy in 2015-16 and each student from within the EU generated £14,812. However, given that much of the spending of students is consumer spending in Scotland, like tourism exports these figures are not fully reflected in reported export statistics.
- Overseas students in Scotland also make a net positive contribution to the UK Exchequer of around £2,500.
- Policy should prioritise Scotland’s rankings in the main world competitiveness league tables and related trade-offs considered and agreed for long term policy.
- The attraction of economic migrants (from identified target groups) should be one of the top priorities of Scottish Government economic policy. Policies are recommended to remove barriers provided in UK policy and to incentivise talent to come to Scotland.
Tone and message matter every bit as much as policy specifics, the whole country must market itself as a welcoming home for new talent and overseas citizens already based here. We should seek to be the most talent friendly country in the world.

Population Growth and Benefits Of Migration

A4.1 During the twentieth century the growth in the population of Scotland slowed down and then the actually began to fall towards the end of the century. This was driven by falling birth-rates, in common with most advanced countries, exacerbated by emigration from Scotland as (usually) young people left in search of economic opportunities and the failure to attract sufficient immigrants.

A4.2 As discussed earlier in this report, population levels, alongside participation in the economy and productivity, is a key driver of economic growth. It would be a mistake to see population growth as a reflection of underlying growth solely as the growth can in and of itself create new demand and activity. After decades of static population levels in Scotland while other advanced economies have grown as both as a cause and consequence of good economic performance, in this century Scotland has become a country of net migration. With Brexit, the end of free movement within Europe and UK Government immigration targets, this could change, to the serious detriment of the Scottish economy (and Scotland’s fiscal position).

A4.3 Population trends are also linked to productivity trends, which magnifies the economic effects. Recently published research on productivity trends by the IMF notes that immigration plays an important role in population growth, accounting for about half of working-age population growth in most advanced economies between 1990 and 2010. Migrants tend to be younger and more economically active than the existing population. The research also shows that immigration has a sizeable effect on productivity, finding that a 1 percent increase in the share of migrants in the adult population increases labour productivity by up to 3 percent in the long term, through both higher human capital and improved total factor productivity. The mechanisms for that were highlighted in Chapter 6, but require investment in plant and innovation as well as skills.

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32 IMF (April 2017), Gone with the Headwinds: Global Productivity
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Figure 4.1 – Projected Working-Age Population and Productivity Gains from Immigration

Panel A. Working-Age Population Under No Migration, 2025–30 Average vs. 2013 (Percent change)

Panel B. Effect of Increase in Migrants Share on Productivity (Percent change per 1 percentage point increase)


Note: Data labels in Panel A use International Organization for Standardization (ISO) country codes. Estimated effect of migration is based on a two-stage least squares approach, where the migration share is instrumented using a gravity-type model of bilateral migration flows. See further details in Appendix A3 and Jaumotte, Kolokotsa, and Saxena (2015).

Source: IMF (April 2017), Gone with the Headwinds: Global Productivity

A4.4 This can be demonstrated by the positive contribution that those moving to Scotland from elsewhere are making to the Scottish economy.

A4.5 As discussed in the previous chapter, Scotland’s population has grown since devolution, following decades of static or declining population.

A4.6 The structure of the Scottish population is also forecast to change, with a 28% increase in the number of pensioners forecast over the next 25 years, but only a 1% increase in the working age population.

A4.7 All advanced economies will face challenges associated with ageing populations (and so there are economic opportunities associated with products and services that help address these challenges). However, the distinctive challenge that Scotland faces is related not so much to the increase in the number of pensioners (the UK as a whole is forecast to see a 33% growth in the number of pensioners over the next 25 years) but from the limited growth forecast for the working population (the 1% for Scotland compares to an 11% increase forecast for the UK).

A4.8 This demonstrates the imperative to increase Scotland’s population, in particular its working age population.

International Citizens

A4.9 This section sets out the contribution international migration has made to Scotland’s economy and public finances. The contribution of migrants was measured using the latest

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33 National Records of Scotland (August 2017), Scotland’s Population The Registrar General’s Annual Review of Demographic Trends
available labour market data and an economic model made publicly available by the Scottish Government.

A4.10 The measures shown in this report does not fully reflect the wider social contributions made by Scottish residents who were born outside of the UK. Furthermore, these figures should be viewed as a snapshot of the contribution of migrants to Scotland. Once the UK leaves the European Union (EU), the dynamics of migration flows between Scotland and the rest of the world are likely to change significantly.

A4.11 This section of the report is based on analysis undertaken by 4-consulting and adopts a similar approach to that used in 4-consulting’s report on EU migration which was submitted to the Scottish Parliament last year.

**Those Born in Other Countries Living in Scotland**

A4.12 It is difficult to measure the number of people living in Scotland who were born outside of the UK and their social and economic contribution. An ONS research paper outlined the differences in international migration estimates based on tax records and migration surveys (ONS, May 2016).

A4.13 This report uses data from the latest Labour Force Survey (LFS) to extend the Scottish Government’s Input-Output tables and economic impact model to estimate the likely contribution made to Scotland’s economy. As noted above, this measure does not reflect the wider social contributions made by Scottish residents who were born outside of the UK.

A4.14 The LFS includes questions on the country of birth of those living in Scotland. The latest data available from the Quarterly LFS is shown in Table 4-1 below covering the period January to March 2016. The figures taken from the LFS are based on a survey and are estimates.

A4.15 There are around 429,000 people who were born outside of the UK accounting for around 8.1% of Scotland’s total population, shown in Table 4-1. London has the highest share of its population born outside of the UK (38.3%).
Table 4-1: Proportion of Residents Born in Other Countries (000s)

<table>
<thead>
<tr>
<th>Country or Region</th>
<th>Born Outside of the UK</th>
<th>Total Resident Population</th>
<th>Population Share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EU Countries</td>
<td>Rest of World</td>
<td>Total</td>
</tr>
<tr>
<td>London</td>
<td>1,043</td>
<td>2,277</td>
<td>3,320</td>
</tr>
<tr>
<td>South East</td>
<td>484</td>
<td>680</td>
<td>1,164</td>
</tr>
<tr>
<td>West Midlands</td>
<td>234</td>
<td>482</td>
<td>716</td>
</tr>
<tr>
<td>East of England</td>
<td>317</td>
<td>399</td>
<td>716</td>
</tr>
<tr>
<td>East Midlands</td>
<td>241</td>
<td>264</td>
<td>505</td>
</tr>
<tr>
<td>North West</td>
<td>312</td>
<td>385</td>
<td>697</td>
</tr>
<tr>
<td>Yorkshire</td>
<td>199</td>
<td>306</td>
<td>505</td>
</tr>
<tr>
<td>South West</td>
<td>204</td>
<td>242</td>
<td>446</td>
</tr>
<tr>
<td>Scotland</td>
<td>209</td>
<td>220</td>
<td>429</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>106</td>
<td>34</td>
<td>140</td>
</tr>
<tr>
<td>North East</td>
<td>56</td>
<td>103</td>
<td>159</td>
</tr>
<tr>
<td>Wales</td>
<td>100</td>
<td>80</td>
<td>180</td>
</tr>
<tr>
<td>UK</td>
<td>3,505</td>
<td>5,473</td>
<td>8,978</td>
</tr>
</tbody>
</table>


A4.16 The figures shown in Table 4-1 are similar to those published by the ONS earlier this year in the report Population of the UK by Country of Birth and Nationality: 2015 (ONS, August 2016). This report included data from the Annual Population Survey (APS) showing that 13.3% of the UK’s total resident population in 2015 were born outside of the UK.

A4.17 Table 4-2 shows labour market indicators for all those aged 16 or over living in Scotland. Of those born in non-UK countries around 232,000 were in employment. The economic activity and employment rates of those born outside of the UK are higher compared to the rest of the Scottish population. The unemployment rate for those born in non-UK countries is higher reflecting a higher tendency to actively seek work.
Table 4-2: Scottish Labour Market Indicators by Country of Birth (000s)

<table>
<thead>
<tr>
<th>Labour market indicator</th>
<th>Born outside of UK</th>
<th>Rest of the Population</th>
<th>Population (Aged 16+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In employment</td>
<td>232</td>
<td>2,343</td>
<td>2,575</td>
</tr>
<tr>
<td>Total population</td>
<td>429</td>
<td>4,861</td>
<td>5,291</td>
</tr>
<tr>
<td>Economic activity rate</td>
<td>65.8%</td>
<td>62.1%</td>
<td>62.4%</td>
</tr>
<tr>
<td>Employment rate</td>
<td>61.1%</td>
<td>58.4%</td>
<td>58.6%</td>
</tr>
</tbody>
</table>


A4.18 The figures shown in Table 4-2 are influenced by students. Of the 429,000 people living in Scotland that were born in other countries 48,000 (aged 16 or over) were in full-time education. Excluding those in full-time education (who also make a significant economic contribution to Scotland), the labour market outcomes for those born outside of the UK included an economic activity rate of 70.3%, an unemployment rate of 5.5% and employment rate of 66.1%.

Employment by Industry

A4.19 Table 4-3 sets out the share of workers born outside of the UK in each industry and the share of workers in each industry accounted for by those born outside of the UK.

A4.20 Nearly one third (31.8%) of all workers in Scotland, born outside of the UK, work in the public administration, education and health sectors, and they account for around one in nine workers (11.1%) in the distribution, hotels and restaurants industry.

Table 4-3: Industry of Main Job in Scotland, Those Born Outside the UK (000s)

<table>
<thead>
<tr>
<th>Industry</th>
<th>Employment</th>
<th>Share of all non-UK born workers</th>
<th>Share of industry workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing (C)</td>
<td>20</td>
<td>8.5%</td>
<td>9.7%</td>
</tr>
<tr>
<td>Construction (F)</td>
<td>10</td>
<td>4.3%</td>
<td>5.7%</td>
</tr>
<tr>
<td>Distribution, hotels &amp; restaurants (G,I)</td>
<td>61</td>
<td>26.6%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Transport &amp; communication (H,J)</td>
<td>17</td>
<td>7.3%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Banking and finance (K,L,M,N)</td>
<td>34</td>
<td>14.8%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Public admin, education &amp; health (O,P,Q)</td>
<td>73</td>
<td>31.8%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Other industries (A,B,D,E,R,S,T,U)</td>
<td>15</td>
<td>6.6%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Total</td>
<td>232</td>
<td>100.0%</td>
<td>9.0%</td>
</tr>
</tbody>
</table>


NOTES: Standard Industrial Classification (SIC) 2007 sections A to U noted in brackets
A4.21 Those born outside of the UK account for 8.1% of all people living in Scotland but a higher share of the workforce (9.0%). If full-time students are excluded then those born outside of the UK account for 8.5% of all workers in Scotland.

A4.22 The pattern of industrial employment shown in Table 4-3 is markedly different in Scotland compared to other parts of the UK. For example, nearly one third of London’s construction jobs were accounted for by those born in other EU countries.

A4.23 The pattern of industrial employment in Table 4-3 can be shown in terms of wages paid to employees in their main job. Table 4-4 shows the share of employee wages for those born outside of the UK accounted for by each industry and the share of employee wages accounted for by those born outside of the UK within each industry.

A4.24 Around 9.2% of employee wages in Scotland are paid to those born outside of the UK. This share rises to 15.0% in distribution, hotels & restaurants or more than one in every seven pounds paid to workers in the industry. Workers born outside of the UK account for more than one in every six pounds paid in wages within Scotland’s manufacturing industry.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Share of all non-UK born workers</th>
<th>Share of industry workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing (C)</td>
<td>15.8%</td>
<td>17.3%</td>
</tr>
<tr>
<td>Distribution, hotels &amp; restaurants (G,I)</td>
<td>16.7%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Transport &amp; communication (H,J)</td>
<td>5.4%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Banking and finance (K,L,M,N)</td>
<td>20.9%</td>
<td>11.8%</td>
</tr>
<tr>
<td>Public admin, education &amp; health (O,P,Q)</td>
<td>29.0%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Other industries (A,B,D,E,F,R,S,T,U)</td>
<td>12.3%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>9.2%</td>
</tr>
</tbody>
</table>

**SOURCE:** Quarterly Labour Force Survey (Jan-Mar 2016)

**NOTES:** Standard Industrial Classification (SIC) 2007 sections A to U noted in brackets

A4.25 Within each industry, where the share of wages is higher (Table 4-4) than the share of employment (Table 4-3) this may be explained in part by the number of hours worked by those born outside of the UK. If full-time students were excluded then those born outside of the UK would account for 9.0% of wages.

A4.26 Scotland has the highest average hourly gross hourly pay outside of London for those born in other EU countries. This suggests EU workers are engaged in higher value added (more competitive) activities in Scotland compared to many other parts of the UK.
Economic Contribution

A4.27 Scotland’s Input-Output Tables (July 2016) are used to produce macroeconomic models to simulate the economic impact of public policy. The tables include the most detailed breakdown available of income from employment by industry sector. Two approaches were used to estimate the overall income from employment for workers born outside of the UK. Firstly the overall share of employee income (9.2%) shown in Table 3.2 was applied to the measure of income from employment from the Input-Output Tables to estimate income from employment for workers born outside of the UK.

A4.28 The additional components of Gross Value Added (GVA) are ‘taxes less subsidies on production’ and ‘gross operating surplus’. Income from employment is by far the largest component of GVA in Scotland. If the remaining components of GVA were also distributed using the same shares as for income from employment then an estimate of the contribution towards Scotland’s GVA can be produced.

A4.29 Using the overall share of employee income (9.2%) the contribution of those workers born outside of the UK is £11.6 billion (in 2016 prices). The latest Input-Output tables are shown in 2013 prices and GVA was adjusted to 2016 prices using HM Treasury deflators.

A4.30 The second approach uses the employee income share for individual industries, shown in Table 4-4. This approach has the virtue of making more use of the data contained in the economic model and may better reflect the structure of the Scottish economy.

A4.31 Where employee income shares were not available for individual industries an estimate was based on the share of employment (summarised in Table 4-3). The second approach suggests the contribution of those workers born in other EU countries is £12.4 billion (in 2016 prices) accounting for 9.8% of the Scottish economy.

A4.32 These figures should be viewed as a snapshot of the contribution of workers born in other countries rather than the likely impact of any policy changes. For example wages, migration flows and employment levels are likely to adjust to policy changes.

A4.33 The wages paid to workers are a primary input but they also contribute to final demand. It may be more appropriate to apply forward linkage multipliers to wages showing how the inputs from workers help support sales to final demand markets. The development of economic models and multipliers is discussed in the Scottish Government’s methodology guide.

A4.34 The industrial pattern of employment and income suggests workers born in other countries play a disproportionate role in supporting tourism markets (including hotels and restaurants) and export markets (manufacturing). It is not unreasonable to suggest that the role of these workers in Scotland is focused more on international markets than in the rest of the UK.
Government Revenues and Expenditure

A4.35 The Government Expenditure & Revenue Scotland (GERS) publication identifies 24 categories of revenue ranging from income tax to fuel duties. Based on the data shown in the Tables in the earlier sections of this chapter it is reasonable to assign some tax revenues on the basis of the share of Gross Value Added (GVA) attributed to workers born outside of the UK.

A4.36 The GERS estimates of revenue from income tax, national insurance contributions, corporation tax (excluding the North Sea) and VAT were allocated on the basis of 9.8% of Scotland’s GVA attributed to workers born outside of the UK.

A4.37 VAT was also allocated on the basis of the GVA share as income is likely to reflect expenditure. However this share was adjusted downwards as expenditure is likely to arise from much wider sources of income aside from employment. These will include the state pension which people born outside of the UK as less likely to draw upon.

A4.38 It is difficult to estimate the likely impact on expenditure of people born outside of the UK and how different spending patterns would generate VAT revenues. The economy share of 9.8% was therefore reduced by 10% to give an effective share of 8.8%, this is closer to the population share of 8.1%.

A4.39 Other tax revenues were allocated on a per capita basis including gross operating surplus, fuel duties, council tax, tobacco duties, alcohol duties, vehicle excise duty, air passenger duty and betting and gaming duties. This was based population share of 8.1% shown in Table 4-1 and Table 4-2.

A4.40 Other taxes were excluded as it less than clear that there is a logical link between revenues and the economic activity of workers born outside of the UK. For example climate change levy and landfill tax. Table 4-5 shows the tax revenues associated with those living in Scotland born outside of the UK. Total revenues stood at £4.3 billion in 2015-16.
Table 4-5: Tax Revenues Associated With Those Born outside UK (2015-16)

<table>
<thead>
<tr>
<th>Tax revenue</th>
<th>Value (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income tax</td>
<td>£1,191</td>
</tr>
<tr>
<td>VAT</td>
<td>£990</td>
</tr>
<tr>
<td>National insurance contributions</td>
<td>£914</td>
</tr>
<tr>
<td>Gross operating surplus</td>
<td>£308</td>
</tr>
<tr>
<td>Corporation tax (excluding North Sea)</td>
<td>£307</td>
</tr>
<tr>
<td>Fuel duties</td>
<td>£191</td>
</tr>
<tr>
<td>Council tax</td>
<td>£172</td>
</tr>
<tr>
<td>Tobacco duties</td>
<td>£96</td>
</tr>
<tr>
<td>Alcohol duties</td>
<td>£81</td>
</tr>
<tr>
<td>Vehicle excise duty</td>
<td>£37</td>
</tr>
<tr>
<td>Air passenger duty</td>
<td>£22</td>
</tr>
<tr>
<td>Betting and gaming duties</td>
<td>£18</td>
</tr>
<tr>
<td><strong>Total revenues</strong></td>
<td><strong>£4,326</strong></td>
</tr>
</tbody>
</table>

**SOURCE:** GERS and 4-consulting calculations

A4.41 A similar approach was taken in allocating expenditure. The GERS publication identifies 17 categories of expenditure ranging from health to transport. Based on the data shown in the Tables in the earlier sections of this report it is reasonable to assign some spending on the basis of the population share (8.1%) of those born outside of the UK living in Scotland.

A4.42 Accounting adjustments set out in GERS were excluded for both expenditure and revenue. Two further expenditure items were excluded; defence spending and public sector debt interest. These areas of expenditure were excluded on the basis that there is not a clear link between the population of those born outside the UK and spending on defence and debt interest.

A4.43 The population share was adjusted for three areas of expenditure including health, education and training and social protection. The LFS asks a series of questions around health including whether people have health problems, how long the health problems are expected to last and whether health problems are likely to limit the kind of work that people can do.

A4.44 Across a range of health questions those born outside of the UK living in Scotland were less likely to suffer from health problems. The share ranged from 5.1% to 5.3% of those with health problems, using a range of different health problem questions. This may partly reflect demographics.
A4.45 The LFS shows that more than one quarter (28%) of those born outside of the UK living in Scotland are in their thirties (aged 30-39) compared to just 11% of people born in the UK living in Scotland. Of those living in Scotland born outside of the UK only 8% are aged 65 or over compared to 19% of the rest of the Scottish population. A share of 5.3% was applied to health expenditure.

A4.46 Demography also plays a role in determining social protection expenditure. This includes the state pension, housing benefit and social care for the elderly. Those born outside of the UK account for around 2% of those receiving a state pension in Scotland, this was the largest component of social protection spending in Scotland.

A4.47 The state pension share (2%) is broadly in line with the age profiles of those living in Scotland born in and outside of the UK. A share of 5.3% was applied to social protection expenditure based on the weighted spending on the state pension, housing benefit and social care for the elderly.

A4.48 A share of 5.7% was applied to education which takes into account that those born outside of the UK account for 5.5% of school age children (those aged under 16). Spending associated with schools accounts for the largest part of education spending.

A4.49 This share was adjusted upwards to take into account spending associated with university tuition fees (based on the latest Audit Scotland report on higher education). EU students were estimated to account for around 12% of students for whom tuition fees are paid for by the Scottish Government.

A4.50 Spending associated with those born outside of the UK is set out in Table 4-6 below:
Table 4-6: Spending Associated With Those Born outside UK (2015-16)

<table>
<thead>
<tr>
<th>Spending</th>
<th>Value (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social protection</td>
<td>£697</td>
</tr>
<tr>
<td>Health</td>
<td>£645</td>
</tr>
<tr>
<td>Education and training</td>
<td>£456</td>
</tr>
<tr>
<td>Transport</td>
<td>£261</td>
</tr>
<tr>
<td>Public order and safety</td>
<td>£230</td>
</tr>
<tr>
<td>Recreation, culture and religion</td>
<td>£116</td>
</tr>
<tr>
<td>Public and common services</td>
<td>£113</td>
</tr>
<tr>
<td>Housing and community amenities</td>
<td>£110</td>
</tr>
<tr>
<td>Environment protection</td>
<td>£100</td>
</tr>
<tr>
<td>Enterprise and economic development</td>
<td>£84</td>
</tr>
<tr>
<td>International services</td>
<td>£68</td>
</tr>
<tr>
<td>Agriculture, forestry and fisheries</td>
<td>£68</td>
</tr>
<tr>
<td>Science and technology</td>
<td>£40</td>
</tr>
<tr>
<td>Employment policies</td>
<td>£18</td>
</tr>
<tr>
<td>EU Transactions</td>
<td>£17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>£3,025</strong></td>
</tr>
</tbody>
</table>

SOURCE: GERS and 4-consulting calculations

A4.51 Table 4-7 summarises total taxes, spending and the net balance associated with those born outside of the UK living in Scotland.

Table 4-7: Spending 2015-16

<table>
<thead>
<tr>
<th>Spending</th>
<th>Value (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total taxes</td>
<td>£4,326</td>
</tr>
<tr>
<td>Total spending</td>
<td>£3,025</td>
</tr>
<tr>
<td><strong>Total taxes minus total spending</strong></td>
<td><strong>+£1,302</strong></td>
</tr>
</tbody>
</table>

Migration and Population Trends

A4.52 The National Records of Scotland (NRS) produces a range of population projections based on different scenarios. The most recent population projections are shown over 25 years with a starting point of 2014.
A4.53 The main (principal) projection shows Scotland’s population rising from 5.35 million in 2014 to 5.51 million by 2024 and continuing to grow to 5.7 million by 2039. Over 90% of the increase in population up to 2024 is projected to arise from continuing inward net migration to Scotland.

A4.54 NRS also publish variant projections including high and low migration scenarios. A scenario is also provided with no migration and where the projected change in the level of population is due to natural change (the difference between births and deaths).

A4.55 There difference between the scenarios where there is no migration (natural change only) and the high migration scenario is projected to be around 754,000 people over the 25 year period. Additionally, a scenario of natural change results in a much older population with a larger share of the population of retirement age.

A4.56 The NRS also provide long term population projections over 60 years. At the end of the 60 years the high migration scenario shows the Scottish population standing at 6.8 million compared to 4.3 million in the natural change scenario, a difference of around 2.5 million. The economic performance gap between those two scenarios would be very significant indeed.

**Origin of Migrants**

A4.57 The number of people born outside of the UK living in Scotland is shown in Table 4-8 by the top five countries of birth. Poland accounts for one in five people (20%) living in Scotland who were born outside of the UK.

<table>
<thead>
<tr>
<th>Country of Birth</th>
<th>Resident Population</th>
<th>Share of Population Born Overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>87,000</td>
<td>20%</td>
</tr>
<tr>
<td>United States</td>
<td>26,000</td>
<td>6%</td>
</tr>
<tr>
<td>Germany</td>
<td>22,000</td>
<td>5%</td>
</tr>
<tr>
<td>Republic of Ireland</td>
<td>22,000</td>
<td>5%</td>
</tr>
<tr>
<td>India</td>
<td>21,000</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>429,000</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

*Source: Quarterly Labour Force Survey (Jan-Mar 2016)*

A4.58 The sample size was too small to allow estimates to be made for some of the impacts shown in this report for each country of birth. As an approximate guide the share of the population born overseas could be used to estimate the likely impact.
For example, those born in Poland and living in Scotland may be associated with £865 million of taxes, make a net contribution of £260 million to the public purse and £2.5 billion in GVA.

**Conclusion on International Citizens**

There are around 429,000 people living in Scotland who were born outside of the UK, accounting for around 8% of Scotland’s total population. Those born in other countries but currently living in Scotland are more likely to be economically active, more likely to be in work and more likely to look for work.

Around one in every eleven workers (9%) in Scotland was born overseas. Migrant workers are most strongly represented in Scotland’s hospitality and manufacturing sectors. However, there are more workers born overseas working in the public sector (73,000) than in manufacturing (20,000).

Around 9% of the total value of employee wages in Scotland is paid to those born other countries. The higher share of employee income may be explained in part by those born in other countries working longer hours.

Using an economic model and underlying data published by the Scottish Government the economic contribution of workers born in other countries was estimated to be around £12.4 billion in Gross Value Added (GVA) each year. This accounts for 9.8% of Scotland’s economy.

These figures should be viewed as a snapshot of the contribution of workers born in other EU countries rather than the likely impact of any policy changes. For example wages, migration flows and employment levels are likely to adjust to policy changes.

The industrial pattern of employment and income suggests Scottish workers born overseas play a disproportionate role in supporting Scotland’s tourism markets and export markets. The role of workers from other countries in Scotland is focused more on international markets compared to the rest of the UK.

The 429,000 Scottish residents who were born overseas are associated with £4.3 billion of government revenue, including income tax and national insurance contributions. Government spending associated with Scottish residents who were born overseas stood at £3.0 billion. This suggests a net contribution to Scotland’s public purse of £1.3 billion.

**International Students**

The global market for international students has grown significantly over the last few decades, with Scotland and the UK as a whole having been very successful in attracting overseas students. In the academic year 2015-16, approximately one in five students enrolled in Scottish higher education was from outside the United Kingdom. Of these
overseas students approximately three in five were international students from outside the European Union and two in five were students from within the European Union. Figure 4-2 shows the number of students enrolled in Scottish higher education institutions by domicile in 2015-16.

Figure 4-2 – Students enrolled in Scottish higher education institutions by domicile, 2015-16


A4.68 The number of students worldwide enrolled in tertiary level education outside their country of origin has greatly increased since 1999. The UNESCO Institute for Statistics (UIS) estimates that this has more than doubled from around 2 million in 1999 to 4.6 million in 2015. Scotland, therefore, attracted more than 1.1% of the global total number of international students, which far exceeds Scotland’s 0.07% share of the global population. The UK performed equally well, attracting 9.5% of worldwide international students, second only to the US at 19.7%.

A4.69 International students are of great academic, economic and cultural importance to the Scottish higher education sector and the country more broadly. Students from out with the European Union are subject to tuition fees, whereas students from within the European Union are entitled to have their fees paid by the Students Awards Agency for Scotland (SAAS).

A4.70 The tuition fees that are paid by international students enrolled at a Scottish university are a direct transfer into the Scottish economy and therefore make a positive contribution to Scotland’s (or the UK’s) balance of trade with the rest of the world. Similarly, the money
that overseas students also spend throughout the year is also a direct transfer into the Scottish economy from the rest of the world. By adding together these sources of income it was estimated that approximately £1.1 billion in exports in 2015-16 was attributable to overseas students studying in Scotland. The contribution that overseas students make to the balance of trade can also be expressed in per capita terms.

A4.71 Each student from out with the EU generated £26,811 in exports for the Scottish economy in 2015-16 and each student from within the EU generated £14,812.

A4.72 However, given that much of the spending of students is consumer spending in Scotland, like tourism exports these figures are not fully reflected in reported export statistics.

A4.73 Overseas students in Scotland also make a net positive contribution to the UK Exchequer. In 2015-16 a typical overseas student in Scotland accounted for approximately £7,500 in taxation revenues and consumed around £5,000 in public services. This gives a net fiscal benefit of around £2,500.

A4.74 However, restrictions to the post-study work visa for international students limits the potential fiscal benefits. The tightening of immigration controls over the past few years has severely limited the number of international students who remain in Scotland after graduating. As a result of this, Scotland is losing out on the tax revenues associated with the additional earnings of some of these international students who would otherwise have stayed in Scotland.

A4.75 International higher education is becoming an increasingly competitive market, with countries around the globe actively seeking to attract more international students to their own universities. This is happening at the same time as the UK continues to restrict international graduates’ post-study work opportunities, and include overseas students within a wider ambition to significantly reduce the levels of net migration. The success of Scotland’s universities in attracting overseas students should not automatically be assumed to continue in the current context. Reducing or removing the current restrictions to international students will help to maintain Scotland’s success in attracting overseas students, benefiting Scotland’s economy and public finances in the coming years.

Attracting Investors, Entrepreneurs and Talent to Scotland

A4.76 Few Scottish families have been untouched by the loss of sons, daughters, nieces, nephews and other family members to emigration. It has been a perpetual drain on our economy. Often those leaving have been attracted by both the welcome and economic incentives available elsewhere. They have been the pioneers of the new world. It is time for Scotland to learn the lessons of how to attract the best and brightest to create a modern, dynamic society and economy. We need to have more pioneers in our own country.

A4.77 We also want to tap into the goodwill being shown in so many ways by people from other parts of the UK. We know some wish to move to Scotland and bring their talents to find a
more secure, outward looking and progressive home. They will find a ready welcome in Scotland.

A4.78 There should be six priority groups for Scotland to attract from an economic perspective:

- Investors, wanting to come here to invest in creating jobs and opportunities and enjoy the benefits of a welcoming and vibrant society.
- Entrepreneurs wanting to harness the talents of our universities, colleges and skilled population to create the businesses of the future.
- The highly skilled who will bring much needed expertise to help further improve our productivity and growth.
- Returning Scots wanting to bring their skills and talents to help build the new Scotland.
- People from the rest of the UK who wish to bring their skills and talents to Scotland and be part of building a progressive, outward looking nation.

A4.79 This by no means is intended to restrict anyone. Family ties with Ireland, for example, continue to provide a rich source of mobility in both directions. These 5 priorities are meant as just that, initial areas of marketing focus.

International Government and Multi-national organisations

A4.80 In addition there should be a coordinated and professional engagement with the full range of foreign governmental representatives (diplomatic, and cultural) and the full range of international organisations to seek to locate teams, functions and headquarters in Scotland. With the correct positioning, professional engagement to ease decision making transition there could be a strategic effort to attract many more organisations and people to base themselves in Scotland both facing into the developing Scottish system and market and also as a place from which to work with the rest of Europe and the world.

A ‘Come to Scotland’ Package to welcome talent

A4.81 Often, the biggest and most profound changes in economies are not driven by tinkering with economic policy, but by major political and social choices. So it should be in Scotland.

A4.82 A key requirement is to completely break from the xenophobic rhetoric so prevalent in the UK as a result of the debate surrounding the EU referendum, and the domination of a narrow and inward-looking immigration debate. This ranges in extremes but even the milder nods in the direction (dog whistling) create severe discord and economic self-harm.

A4.83 Just as generations of Scots have helped build Australia, Canada, New Zealand and many other nations, so too must Scotland offer the best of an open and welcoming society to those wishing to become new Scots in a new Scotland. Such a cultural outlook will have very positive economic and social consequences.
Currently the UK has a very harsh series of measures in place that present significant barriers to attracting the type of individuals who could do so much to help us build a new Scotland. Scotland must make its own policies, to suit our own people and build our own future. A ‘Come to Scotland’ package would include:

### Investors

A4.85 There has been only a trickle of investors in recent years attracted to the UK. In part, this is due to the current UK requirement of investors from outwith Europe to have a minimum of £2 million readily available for investment in British business, and £10 million if you wish to permanently settle after two years. So, if you only have, say, between £250,000 to under £2 million available, neither you nor your investment is welcome on a visa, and if less than £10 million you are not welcome to stay.

A4.86 Yet in the Scottish economy dominated by small and medium sized companies, the increased level of investment funds available from, say, an additional 1,000 people bringing on average an additional £1 million each for investment in Scotland would increase investment funds by £1 billion pounds which through investment would create much more than £1 billion in economic value to the Scottish Economy. Scotland therefore should welcome investors with as low as possible an investment threshold of capital to invest in Scotland, and should consider granting investors an easy route to permanently settle here and invest in Scottish businesses. The exact amount should be consulted on to ensure that unintended consequences are contained but with the initial aim of agreeing a threshold that is a small fraction of the current UK level. Consultation should begin at £75,000.

### Entrepreneurs

A4.87 Individuals with great new business ideas wanting to come to Scotland at present to create new businesses and tap into our network of universities and colleges also face barriers placed in their way by the UK Government. Such barriers for non-European entrepreneurs include having a minimum of £50,000 to invest in their start up, and proof they can sustain themselves within Scotland from their own additional funds. The rejection rate of those who had the £50,000 available has been as high as 70% in recent times and is typically over 50%.

A4.88 Scotland could do three things to ensure we attract the businesses of the future. First, allow entrepreneurs up to six months in Scotland working with bodies such as Scottish Enterprise before having a final detailed business plan. Secondly, in light of the fact many indigenous Scottish entrepreneurs start out with next to nothing, drop the £50,000 limit to, a much lower threshold which can be consulted upon to ensure that unintended consequences are contained. Third reduce the excessive visa and other costs to entrepreneurs to bring such costs in line with normal rates.

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34 Source: UK Government ([www.gov.uk/tier-1-investor](http://www.gov.uk/tier-1-investor))
Highly skilled – easing the cost of transition

A4.89 We must remember that each immigrant worker is an emigrant from his or her own land. Just as skilled emigrants from Scotland often received some economic incentives, so Scotland must look to providing competitive incentives to attract the best and the brightest. This could take a number of forms. An example of one such policy initiative, could be to consider a “transition relief” allowing defined costs of moving and housing in the first year to be set against income tax, with a potential ceiling placed on such relief agreed in consultation to ensure the unintended consequences e.g. on the housing market are contained. The main effects would be firstly financial easing transition costs, and secondly cultural in nature, sending a signal about the type of society Scotland is, welcoming new Scots. This policy should be costed by the Scottish exchequer and advertised with vigour to the rest of the UK and the world. It is anticipated that the net exchequer impact of this policy will be significantly revenue enhancing over a short number of years and marginal in initial costs given it is incremental on relatively low current migration flows.

Visa costs

A4.90 Currently the UK has a complex system of visas and associated administrative requirements that means a family moving to the UK can face charges of many thousands of pounds, and without significant guarantees of long term rights. The current system in the UK would be costly and inefficient for Scotland to mimic. Scotland should set in place a simplified visa system avoiding unnecessary administrative burdens. An immediate project to identify the best and most effective international example should be undertaken and plans made to replicate or improve on it here.

Students

A4.91 Scotland’s universities attract around 50,000 international students, who make a contribution to the economy and a new fiscal contribution whilst they are students, as well as making an important contribution to the diversity and vibrancy of university campuses and the cities and towns in which they are located. However, UK visa restrictions mean that most non-EU students have to leave within 3 months of completing their studies, and the position of students from other EU countries is uncertain given Brexit.

A4.92 Whilst some international students will have the intention of returning to their countries of origin, or to another country on graduation, a substantial proportion would be interested in staying in Scotland, and their knowledge and skills can make an important contribution to addressing the productivity challenges in the Scottish economy (discussed in chapter A6).

A4.93 Changing the visa requirements to allow more international students to stay may well be sufficient to encourage more to do so. However, to ensure that Scotland continues to be a competitive location and in recognition of the contribution already made to the economy and the exchequer, we recommend that international graduates from Scottish universities
that stay and work in Scotland should also be incentivised to do so via the taxation system, for the first three years.

A4.94 Retaining an additional 5,000 international graduates per year would deliver economic and exchequer benefits. Based on average salaries\(^{35}\) of £30,000 and one-third of that paid in the form of taxes on income, within a decade this would deliver an economic contribution of £1.5 billion per year and annual revenues to the exchequer of £500 million.

**Key recommendations**

A4.95 **Population growth:** Targeting a growing population of working age and the attraction of talented migrants should be a top priority of Scottish Government economic policy and marketed vigorously to the rest of the UK and the world. Scotland should seek to be regarded as the most talent friendly country in the world.

A4.96 A new ‘Come to Scotland’ package should be created with a package of incentives including:

- A ‘transition relief’ package of tax incentives to reduce the cost of moving to Scotland, and for graduates of Scottish Universities to stay on should be the headline instrument.
- A reduced capital threshold for investors who are required to provide this
- A reduced investment threshold for business start-ups
- A new visa system benchmarked on the most efficient and easy to use in the world

A4.97 **Marketing of ‘Come to Scotland:*** The marketing of this package and the overall approach should be a major part of the country’s international and UK marketing investment and the communications strategy for the internationally facing Scottish agencies. As far as possible the intention will be to secure cross partisan support for the whole approach which also attracts engagement from our major employers, exporters and universities. The budget should reflect the priority as should the engagement of senior Ministers and officials.

A4.98 **Celebration of the contribution of migrants:** A complimentary programme of internally focused public engagement on the contribution of our migrant and ‘new Scots’ communities should be embedded in the work of the Government, Local Authorities and across Parliament.

A4.99 **International Students and Graduates:** The attraction and retention of international students should be a priority of policy and changes made immediately to alleviate the constraints caused by UK policy. These changes should include both visa changes to allow more students to stay in Scotland long enough to secure employment appropriate to their

\(^{35}\) After 5 years, median graduate salaries in Scotland vary between £19,700 and £48,000, depending on subject (Source: Scottish Government (2017), Graduate Outcomes by University and Subject (LEO data) Scotland)
qualifications and tax incentives for the first three years of employment (in recognition of the social, economic and exchequer contributions already made).

A4.100 **International Government and Multi-national Organisation Strategy**: One of the existing internationally facing elements of the Government or indeed a combined international department or agency should be tasked with creating a strategy for engagement and transitioning of the staff of international governments and multi-national organisations to Scotland. As well as providing a great home for countries and organisations that wish to engage with Scotland the strategy should aim to provide a home for as many international facing organisations in function or headquarter as is possible. A warm welcome should be matched with a professional service to ease transition cost-effectively.
A5 \hspace{1cm} \textbf{PARTICIPATION & INCLUSIVE GROWTH}

- There is an economic as well as moral imperative to improve participation and equality. A long-term cross partisan strategy is required.
- International Monetary Fund and World Economic Forum studies identify a direct relationship between improved inequality and growth.
- In income and gender pay inequality Scotland underperforms many of the benchmark small advanced economies to its economic, social and fiscal disadvantage.
- The direct cost of inequality on the Scotland’s net fiscal position is estimated at more than £6.4 billion per year.
- The Joseph Rowntree Foundation targets a position where less than 10% of the population are in poverty at any one time. This would be a reduction of 50%, if achieved this could mean a saving of £1.6 billion to the Scottish public finances.
- OECD data show that many small advanced economies have gender pay gaps that are less than half that of Scotland. Median full-time workers in New Zealand are paid 94.4% what the median full-time male worker is paid, compared to 83.4% in Scotland.
- If gender inequality in Scotland was reduced to the level of New Zealand, Scottish GDP would grow by £6.1 billion and the net impact on public finances would be a possible positive net exchequer impact of up to £3 billion.
- Regional inequality within Scotland is less stark than within the UK but requires addressing.
- More localised inequality also needs to be addressed, targeted at the groups in society who have faced significant barriers to full participation in the economy, even in times of economic growth. This will require concerted long-term action to ensure that no one is excluded from opportunities that the majority of us take for granted.

A5.1 As noted in chapter A1 Scotland’s performance on the participation component was reasonable relative to the UK in the first decade after devolution but has decline in comparison since. Making an impact on widening participation at all levels of society is a crucial part of creating the sort of modern progressive society most people in Scotland wish to live in.

A5.2 In reflecting on the challenges policymakers face in this area we concluded that an initial and strong benefit will come from understanding and communicating the longer-term benefits of solving the problem. All governments of all parties would like to have more people participating, the problem is not one of intent. However, taking the decisions to allocate risk bearing resource for the long-term on the hardest pressed groups and communities has proven a material challenge for all governments.
A5.3 Once again this points up the need for longer term cross partisan agreement and strategies to be agreed. For many critics of policymakers this can often be seen as putting ‘good money after bad’. As a result, resource shifts to alleviating the symptoms of non-participation in health, crime and social outcomes. This seems both understandable but unsustainable. This is further reinforced by the current package of financial competences for Holyrood which as a result of their restricted nature tends to limit policy options to a narrow approach of making marginal additions to or deductions from the decisions of the UK Government and Treasury. Clearly, a full-range of tax and social security powers would enable the current, and any subsequent, Scottish Government to consider other measures, affecting longer term incentives, behaviour and therefore economic and fiscal outcomes.

A5.4 Inclusive Growth is, of course, one of the four key pillars of the current Scottish Government’s economic strategy and making Scotland a more equally participative society will be an issue for successive governments at Holyrood. Inclusive Growth means that everyone is included in the growth that a country has, regardless of where in the country they live, their gender, ethnicity or socio-economic status.

Inclusive Growth: Growth that combines increased prosperity with greater equity; that creates opportunities for all and distributes the dividends of increased prosperity fairly

(Scottish Economic Strategy 2015)

A5.5 This chapter considers:

- How inequality impacts on growth levels
- The current state of inequality in Scotland
- How government policies can influence inequality.

Inequality and Growth

A5.6 The relationship between the level of inequality in a country and growth in that economy is mixed, however the view that higher growth necessitates higher inequality becomes obsolete under analysis. Some economic theories had considered inequality a necessary driver of economic growth as it increases incentives and each person in the economy is paid in line with their marginal productivity. However, more recent thinking on this debate has highlighted flaws in these theories and suggests that the relationship between economic growth and inequality could be negative. This view marks our starting point.

Organisation for Economic Co-operation and Development

A5.7 The OECD has highlighted inequality as one of the key areas of research and published a summary of their findings in 2014\textsuperscript{36}. This analysis found that the gap between the rich and

\textsuperscript{36} OECD (Dec 2014), “Focus on Inequality and Growth - December 2014”
poor in society is at its highest level in 30 years and that this increase in inequality has significantly curbed economic growth. The main driver for this relationship is that people from disadvantaged social backgrounds are discouraged from investing in their education.

A5.8 The OECD analysed the numeracy scores of adults, as a proxy for human capital, and found that the proportion of individuals whose parents had low levels of education decreases as income inequalities rise. In other words, individuals from lower income brackets are less likely to invest in education, which widens the gap between themselves and those at the top. This analysis\(^{37}\) found that in a society like Scotland, with a Gini coefficient of 0.31 (defined in A5.20) individuals with a low parental educational background would have a numeracy score 4% lower than individuals from the same background in a country with a Gini coefficient of 0.2.

A5.9 In 2105, the OECD published ‘All on Board: Making Growth Happen’\(^{38}\) that called for a multidimensional framework approach for tackling the multidimensional reality of inequality, in particular because rising income inequalities can lead to inequalities in health and educational outcomes being further entrenched in societies. These health and educational outcomes can, in turn, reduce the ability to tackle long term income inequalities.

**International Monetary Fund**

A5.10 In 2011, the IMF published research into the implications of inequality on the rate of economic growth\(^{39}\). This study had three main findings, which were:

- more unequal societies redistribute more;
- lower net inequality is robustly correlated with faster and durable growth, for a given level of redistribution; and
- redistribution appears generally benign in terms of its impact on growth; only in extreme cases is there some evidence that it may have direct negative effects on growth.

A5.11 Countries with higher levels of market inequality may have reduced and less sustained growth as this market inequality drives same redistributive policies that undercut growth. As part of the UK, Scotland has a comparatively high level of market income inequality that is adjusted through Government redistribution programmes.

A5.12 The IMF’s work on inequality has also identified the instability of growth that is based on less equal economies. It found that inequality will amplify the potential for financial crises,

\(^{37}\) OECD (2015) In it together, Why Less Inequality Benefits All
\(^{38}\) OECD (2015) All on Board: Making Growth Happen
cause political instability, reduce educational and investment opportunities for less well-off individuals and reduce the ability of governments to react properly to economic shocks.

**The Price of Inequality**

A5.13 One of the leading thinkers in the impacts of inequality on economies is Nobel-laureate Professor Joseph Stiglitz. In 2013, he published The Price of Inequality\(^\text{40}\) which focused on the drivers and implications of inequality in the USA. In addition to the detrimental impact of market inequality on education and of some redistributive policies, Stiglitz also identifies power structures that are enhanced by unequal societies and therefore builds in incentives for the benefactors of inequality to maintain these systems.

A5.14 Stiglitz highlights the consolidation of wealth and economic power within ‘the 1%’ as a symptom and cause of inequality, particularly through the increase in rent-seeking over the past decades. In particular stagnant wages, despite increased productivity over this time period, is evidence that the share of the benefits of production is not being distributed at source; rather those with the power to retain it are retaining it.

A5.15 The increase in inequality can have both long and short-term implications for growth. In the short term, consolidation of income at the top will result in lower levels of aggregate demand in the economy as top-level earners save a much greater proportion of their income. This increase the slowdowns in employment and recessions. In the long-term, wealth and income consolidation can reduce the levels of public investment in the infrastructure, institutions and individuals required for long-term economic growth. This is a result of detachment of those at the top from the need for such public services. For example, if those in power use the private schooling system, investment in the state schooling systems becomes less of a priority for them. Similarly, for public healthcare or transportation. However, reductions in investment in these areas has serious negative implications for the long-term economic productivity of a country and the incentives for business investment in that country.

**Current Inequality in Scotland**

A5.16 Inequality in Scotland is multifaceted. There currently exist inequalities between the highest paid and the lowest paid, between men and women, between immigrants and those born in the UK, and a number of other determined factors that can define an individual’s life chances. This section considers the current status of:

- income distribution and wealth inequalities;
- gender inequality; and
- regional economic inequalities.

\(^{40}\) Stiglitz (2013) The Price of Inequality, Penguin
Income distribution

A5.17 There are many measures of income inequality in an economy. These are not all correlated and therefore one measures can show inequality decreasing, while others will show inequality in the same economy getting worse over the same period.

A5.18 One of the most common measurement of inequality is the difference in earnings from those at the top of the income bracket and those at the bottom. In Scotland, for full time workers in 2016 the top 10% of earners had an average income of £52,248, while the bottom 10% had an average annual income of £15,675\(^{41}\). Therefore, the top earners had an income 3.33 times greater than the lowest earners. The 90/10 ratio is an indicator of market income inequality and gives a guide on how the rewards of employment are split between the economy but does not include the effects of redistribution by government.

Figure 5-1 – 90/10 Ratio of Full Time Earners in Scotland 2002 - 2016

<table>
<thead>
<tr>
<th>Year</th>
<th>90/10 Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>332%</td>
</tr>
<tr>
<td>2003</td>
<td>329%</td>
</tr>
<tr>
<td>2004</td>
<td>337%</td>
</tr>
<tr>
<td>2005</td>
<td>341%</td>
</tr>
<tr>
<td>2006</td>
<td>346%</td>
</tr>
<tr>
<td>2007</td>
<td>346%</td>
</tr>
<tr>
<td>2008</td>
<td>343%</td>
</tr>
<tr>
<td>2009</td>
<td>338%</td>
</tr>
<tr>
<td>2010</td>
<td>337%</td>
</tr>
<tr>
<td>2011</td>
<td>340%</td>
</tr>
<tr>
<td>2012</td>
<td>339%</td>
</tr>
<tr>
<td>2013</td>
<td>337%</td>
</tr>
<tr>
<td>2014</td>
<td>334%</td>
</tr>
<tr>
<td>2015</td>
<td>334%</td>
</tr>
<tr>
<td>2016</td>
<td>333%</td>
</tr>
</tbody>
</table>

Source: ONS Annual Survey of Hours and Earning

A5.19 Since 2002 the 90/10 ratio in Scotland has not changed drastically, although it did peak in 2006/07 at 3.46. By this measure, the level of income inequality has slowly decreased each year since 2011. Throughout this time period the level of income inequality in Scotland has been lower than that of the UK as a whole. This is not primarily because those at the lower end of the income bracket have earned more, but rather because those at the top have earned less. In 2016 those in the lowest percentile in Scotland earned £285 more than their counterparts in the UK, while those in the top 10 percent earned £3,968 less than the top 10% of earners across the UK.

\(^{41}\) ONS (2016), Annual Survey of Hours and Earning - Resident Analysis 2016
A5.20 The Gini coefficient is another measure that is used to compare income inequality across countries. This enables the level of inequality in Scotland to be put in an international context. A higher Gini coefficient in an economy indicates a higher level of inequality in that country. The latest available data through the World Development Indicators are for 2012. In 2012, the Gini coefficient in Scotland was 31, which was lower than the Gini coefficient for the UK, which was 32.6, due to fewer very high earners in Scotland. However, income inequality is higher in Scotland than in other countries such as Austria, the Netherlands, Belgium and the Nordic countries.

Figure 5.2 - Gini Coefficient in 2012

Fiscal Implications of Income and Wealth Inequality

A5.21 The persistence of income inequality and poverty in Scotland also has a direct effect on the public finances of Scotland. A study by the Joseph Rowntree Foundation\(^{42}\) found that the total costs of poverty in the UK were approximately £78 billion and that approximately 20% of all public expenditure is directed to counteract the detrimental impact that poverty has on the lives of those affected. Based on an approximate population share this would imply that the social costs of poverty in Scotland is equivalent to £6.4 billion. The source of these costs is given in the table below.

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\(^{42}\) Joseph Rowntree Foundation (August 2016), Counting the cost of UK poverty
Table 5-1 – Costs of Poverty

<table>
<thead>
<tr>
<th>Expenditure heading</th>
<th>UK total (£bn)</th>
<th>Scottish population share (£bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute hospital</td>
<td>21.8</td>
<td>1.8</td>
</tr>
<tr>
<td>Primary health care</td>
<td>7.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Public health</td>
<td>1.6</td>
<td>0.1</td>
</tr>
<tr>
<td>Children and families personal social services</td>
<td>5.9</td>
<td>0.5</td>
</tr>
<tr>
<td>Children and families nursery/early years</td>
<td>1.6</td>
<td>0.1</td>
</tr>
<tr>
<td>Adult social care - younger</td>
<td>2.4</td>
<td>0.2</td>
</tr>
<tr>
<td>Schools</td>
<td>10.1</td>
<td>0.8</td>
</tr>
<tr>
<td>16 - 19 education</td>
<td>1.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Higher education</td>
<td>0.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Housing investment</td>
<td>2.7</td>
<td>0.2</td>
</tr>
<tr>
<td>Housing current</td>
<td>1.4</td>
<td>0.1</td>
</tr>
<tr>
<td>Police</td>
<td>5.0</td>
<td>0.4</td>
</tr>
<tr>
<td>Criminal justice</td>
<td>3.9</td>
<td>0.3</td>
</tr>
<tr>
<td>Fire and rescue</td>
<td>0.8</td>
<td>0.1</td>
</tr>
<tr>
<td>Transport - concessions and bus subsidies</td>
<td>0.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Local environmental services</td>
<td>0.9</td>
<td>0.1</td>
</tr>
<tr>
<td>Total public service costs</td>
<td>69.2</td>
<td>5.7</td>
</tr>
<tr>
<td>Knock on effects</td>
<td>8.7</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>Total costs of poverty in UK</strong></td>
<td><strong>77.9</strong></td>
<td><strong>6.4</strong></td>
</tr>
</tbody>
</table>

Source: BiGGAR Economics Analysis

A5.22 The Joseph Rowntree Foundation (JRF) has published a strategy for governments, businesses, communities and citizens\(^{43}\). In this strategy, the JRF lays out a vision for poverty in the UK in which less than 10% of the population are in poverty at any one time. This would be a reduction of 50% compared to the current 13 million people who are in poverty now. Even if only 50% of this target was achieved, assuming savings were proportional to the number of people in poverty, this would result in a saving of £19.4 billion the UK public sector and £1.6 billion to the Scottish public sector.

**Gender Inequality**

A5.23 One of the most important factors in determining an individual’s annual income is their gender. In 2016 the average female worker was paid 65% of the level of the average male worker. There are a number of factors that contribute to this, such as a higher propensity

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\(^{43}\) Joseph Rowntree Foundation (2016), *We can solve poverty in the UK*
for female workers to work part-time. However, even when only full-time workers are considered female employees earn 83% the level of male full-time employees. Both of these metrics have seen improvements since 2002, as male and female pay have slowly converged. At that time the median income of female workers was 58% that of male workers, while full time female workers only earned 74% the level of their male counterparts.

Figure 5.3 - Female median annual pay as proportion male median annual pay

Scotland has a lower gender pay gap than the rest of the UK. However when compared to other small advanced economies, Scotland’s performance does less well. Data from the OECD\textsuperscript{44} shows that many small advanced economies have gender pay gaps that are less than half that of Scotland. Median full-time workers in New Zealand are paid 94.4% what the median full-time male worker is paid, compared to 83.4% in Scotland.

\textsuperscript{44} OECD Employment Database 2014
Part A: Raising the Potential & Performance of the Scottish Economy

Figure 5.4 - Gender pay gap of full time workers

A5.25 The implications for growth in closing the gender gap are significant. Analysis of the Annual Survey of Hours and Earnings (ASHE)\textsuperscript{45} shows that female full-time workers are expected to earn 31.7% of all annual pay in Scotland in 2016. If this was equivalent to the contribution of full-time female employees to the £147 billion Scottish GDP\textsuperscript{46}, then even modest improvements in the gender pay gap could lead to significant increases in national GDP. If full-time female earnings were increased so that the gender pay gap in Scotland was reduced to the level of Sweden, Scottish GDP could be £0.8 billion higher. If it was reduced to the level of New Zealand, Scottish GDP could increase by £6.1 billion.

A5.26 In 2016/17, total Scottish public sector revenues were the equivalent of 38.5% of the onshore economy\textsuperscript{47}. Therefore, an increase in GDP of £0.8 billion could be expected to increase public revenues by £0.3 billion while an increase in GDP of £6.1 billion could be expected to increase public sector revenues by £2.3 billion. At the same time the call on public expenditure could be expected to reduce. And while we haven’t been able to model this precisely it could suggest a total positive net exchequer impact of up to £3 billion other things being equal over time.

\textsuperscript{45} ONS (2016) Annual Survey of Hours and Earnings for Scotland
\textsuperscript{46} Scottish Government (2016), Quarterly National Accounts Q1 2016
\textsuperscript{47} Scottish Government (2017), Government Expenditure & Revenue Scotland 2016-17
Table 5-2 – GVA Impact of Reducing Gender Wage Gap

<table>
<thead>
<tr>
<th>Country</th>
<th>Full Time Gender Wage Gap</th>
<th>Increased GVA in Scotland</th>
<th>Increase Public Sector Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scotland</td>
<td>16.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>15.1%</td>
<td>£0.8 billion</td>
<td>£0.3 billion</td>
</tr>
<tr>
<td>Ireland</td>
<td>12.8%</td>
<td>£2.1 billion</td>
<td>£0.8 billion</td>
</tr>
<tr>
<td>Denmark</td>
<td>7.8%</td>
<td>£4.9 billion</td>
<td>£1.8 billion</td>
</tr>
<tr>
<td>New Zealand</td>
<td>5.6%</td>
<td>£6.1 billion</td>
<td>£2.2 billion</td>
</tr>
</tbody>
</table>

Source: BiGGAR Economics Analysis

Regional inequalities

A5.27 Many of the issues contributing to inequality are national, such as the disparities in the gender pay gap, and are likely to be addressed by Government with national policies. However, as is shown below, the regional inequalities within Scotland are growing and in order to address the issues that contribute to this divergence there will need to be more locally orientated policies and initiatives that address the specific problems of these communities.

A5.28 Inclusive growth means that each area of Scotland is included in the growth of the Scottish economy. Some of the most visible examples of inequality are in the differences in economic performance in the different areas of Scotland. Areas such as Aberdeenshire and Edinburgh have significantly higher level of GVA per head than parts of Ayrshire and Dunbartonshire.

Figure 5.5 - Scottish Regional GVA (2014) and GVA Growth between 2010 and 2014

A5.29 Many of the areas of Scotland with the lowest GVA growth in this period also had a lower than average starting point for GVA per head. The areas with the four lowest growth rates
also have a GVA of less than the national average. This implies they are falling further and further behind. Regions with above average GVA in Scotland were more likely to have above average growth rates as well, similarly, those with lower than average GVA per head are more likely to have experienced lower than average growth rates. Therefore, the regional economic inequalities are growing as economies grow more slowly.

Localised Inequality

A5.30 Localised inequality also needs to be addressed. Even during times of economic growth and high employment, there are some areas where labour market participation has remained stubbornly low. Statistics on deprivation in Scotland\(^{48}\) show that the most deprived 2-3% of localities in Scotland have more than a third of the working age population defined as employment deprived (which includes those on unemployment benefits and on incapacity and disability benefits) compared with a median of 10% (i.e. the absence of employment effects more than three times the people in the most deprived areas compared with what is typical).

A5.31 Improvements to the economy in general are not going to address this issue, which will require long term effort to address the multiple barriers to participation faced by too many people in these communities, in some cases over several generations.

A5.32 Organisations like the Princes Trust and local social economy organisations are already involved in this area and the central lesson that can be learned from their work is that it is localised action that is designed to meet the needs of individuals that is most effective, rather than national schemes. However, what is required at the national level is a commitment to fund such programmes over the long term, beyond the political cycle. This require both cross-party consensus on the need and value of such investment and mechanisms that can provide such funding (we return to this in Part B of the report).

Policy Analysis

A5.33 There is a significant role for Government in reducing inequality and therefore strategic policies are required to get Scotland from where it is to today to where it wants to be. There is no simple solution to the multifaceted nature of inequality however. The OECD has identified eight strategic policies that are likely to reduce income inequality. These are:

- improving the quality and reach of education;
- promoting equity in education;
- reducing the gap between employment protection on temporary and permanent work;
- increasing spending on active labour market policies;

\(^{48}\) Scottish Government (2016), Scottish Index of Multiple Deprivation
Part A: Raising the Potential & Performance of the Scottish Economy

- promoting the integration of immigrants;
- improving labour market outcomes of women;
- fighting discrimination; and
- taxing in a way that allows equitable growth.

A5.34 The current Scottish Government’s economic strategy has the two mutually supportive goals of increasing competitiveness and tackling inequality. To achieve this, it sets out the four key priorities of investment, innovation, internationalisation and inclusive growth. The strategy incorporates the thinking of the IMF, OECD and others described above, that more cohesive economies improve the opportunities, life chances and wellbeing of every citizen. This would not only improve outcomes for individuals and households but be a critical driver of economic performance over the long term.

A5.35 Any Scottish Government with inclusive growth at its core will need to ensure that the policies that are implemented contribute towards this goal. The framework for assessing the future activities of national government in different policy areas may include:

- Fiscal Policy
  - Are the tax policies designed in a way that allows equitable growth?
  - Can we demonstrate how current fiscal policies will deliver increased prosperity and widening participation, but not inequality?

- Industrial Strategy
  - Does it encourage the creation of a range of accessible and flexible job opportunities?
  - Does it reflect the regional inequalities within Scotland?

- Social Security
  - Does it promote active labour market policies that encourage pragmatic early return to work?
  - Does it provide a safety net with a dignified minimum standard of living for all?

- Economic Participation and Fair Work
  - Do these measures help to reduce the gap between employment protection on temporary and permanent work?
  - Do they promote the integration of immigrants and improve labour market outcomes for women?
Do they help to remove barriers to labour force participation and fight discrimination?

- Education and Skills
  - Are these policies designed to improve the quality, reach and relevance of education?
  - Do they promote equity within the education system?
- Community engagement
  - Do the current arrangements enable local communities to identify and tackle issues concerning participation, health and wellbeing?

A5.36 Inequality in Scotland is multifaceted and the persistence of such inequality is detrimental to economic growth and social cohesion. As the policy areas listed above make clear a multi-faceted policy response is required, covering both policy areas current reserved to Westminster and devolved policy, as an integrated, comprehensive strategy.

A5.37 The prevailing thought among leading economists and international economic organisations is that inequality is harmful for the economy by reducing educational incentives, deprioritising investment and public services designed to increase growth, and by enhancing political uncertainty.

A5.38 Inequality in Scotland is evident in terms of gender, income and region. Some measures of gender and income inequality have seen slow improvements over the past two decades. However there is also evidence to suggest that regional inequality is getting more pronounced. The gains from tackling inequality are significant, for example reducing the gender pay gap to be equivalent to that in New Zealand could add £6.1 billion GDP to the Scottish economy.

A5.39 The policies and priorities of the Scottish Government have the potential to reduce the level of inequality in Scotland. Including inclusive growth as one of the four key priorities of the Economic Strategy is a positive step, however more needs to be done to ensure that the multifaceted nature of inequality is addressed across the policy spectrum.

A5.40 The fiscal benefits to successfully tackling the different areas of inequality are significant. The public-sector costs from poverty in Scotland are equivalent to £6.4 billion, therefore reductions in the incidence of poverty could save the Government billions. Reducing the gender pay gap could have a net exchequer impact of around £2.5 billion if the gap was closed to the level of New Zealand and all other factors remained equal.

A5.41 Where long term action is required to deliver benefits that will not be realised for a long time, it can be difficult to secure the scale of investment that is required. The proposals for a Fund for Future Generations set out in part B will be a new source of funding that could be used to target the generational challenges that have constrained the Scottish economy.
A policy challenge should therefore commence on identifying the best programmes to fund with such risk bearing capital for the long term. A competitive approach for funding against identified criteria and overseen by a cross and non-partisan governance structure may assist in securing the long term strategic approach that is required. In Part B, a mechanism for delivering this is discussed.

Participation and Labour Markets

A5.42 The lessons that can be learned from small advanced economies include the observation that they tend to move quickly to address economic threats and pursue opportunities. This has implications for how labour markets should work, to balance the needs of competitiveness in the global economy and security for those in employment.

A5.43 Lessons can be learned from Denmark’s ‘flexicurity’ model, which has achieved political consensus and is accepted by employers, employees and trade unions. There are three main elements to the model: (i) flexible labour market rules for recruitment and dismissal, (ii) the availability of high levels of unemployment benefit, and (iii) active employment policies to ensure everyone has access to employment offers or education. It does not imply a diminution of employee rights and protections and it is notable that Denmark has one of the lowest rates of job insecurity49.

A5.44 This model has delivered a competitive economy, high wages, very low youth unemployment and low structural unemployment in the Scandinavian economies. Employees change jobs regularly, with one-third changing jobs each year and growing sectors of the economy can secure the labour required to deliver growth. The high job turnover is also associated with high productivity since it has facilitated the transfer of skills and know-how between sectors.

A5.45 The shift to such a system over time could have substantial economic and social benefits. Such an approach would require close collaboration between government, employers representatives and trade unions to design a system that will work in Scotland and ensure that each of the related elements are implemented together. This is a good example of the more collaborative approach to policy design and implementation recommended in this report.

Key recommendations

A5.46 A Commission on Gender Pay Equality should be created with a remit to consult and engage across the economy and consider the best policies and incentives to produce a purposeful reduction in the gap with the performance of the best performing small advanced economies, especially New Zealand.

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49 OCED (March 2017), Labour market insecurity in OECD countries
A5.47 **The JRF target of a 50% reduction of poverty to 10%** of the population should be agreed within a stretching but achievable time frame. This policy should be elevated to central strategic importance in the overall strategy and prioritised accordingly in resource allocation.

A5.48 **Long term strategy on participation and inclusion**: agreement should be sought on the central importance of participation and inclusion to sustainable economic growth and a framework set up to oversee long term policy intervention and resource allocation from e.g. The Fund for Future Generations. Whilst inclusive growth is already a policy priority of the Scottish Government, the full powers of independence will provide an opportunity to expand the priority across all policy areas that can contribute, including fiscal policy, industrial strategy, social security, economic participation and fair work, education and skills and community engagement. **Strategic communication on the costs of inequality** should be a priority of government and political strategies. It is important to build a wider public understanding of the realities of the short and long-term costs so that agreement and support can be obtained for longer term interventions.

A5.49 **Labour markets and flexicurity**: Scotland can learn from Denmark and move to a flexicurity model, with flexible labour markets but without the insecurity the UK benefits system promotes. This would be expected to deliver lower unemployment, particularly lower youth unemployment and enhance productivity by stabilising investment incentives. We recommend a consultation of how a move can be made to establish a Scottish flexicurity model.
Part A: Raising the Potential & Performance of the Scottish Economy

A6 PRODUCTIVITY & COMPETITIVENESS STRATEGY

- Increasing productivity growth in the Scottish economy will be crucial and will generate significant economic and social returns.
- There is a widespread view that current economic development arrangements are not adaptable enough to respond quickly to new opportunities for the Scottish economy. Brexit is forecast to worsen productivity.
- All of the approaches to increasing productivity growth require an increase in levels of investment in the Scottish economy, on improved technology, increasing capital intensity, better working practices and policies that encourage the growth of high productivity sectors.
- International competitiveness rankings matter and should be elevated in policymaking, target setting and debate. Agreement should be sought on how Scotland can best achieve the required improvements in relative production costs and prices. One way is through trade and international ownership because that makes domestic output subject to competition on the world markets (instead of just the domestic markets).
- An increase in trade share of GDP equivalent to 1% of GDP can increase productivity in the economy by 0.4%. More specifically, the benefits to labour productivity and how that feeds through to wages are estimated to be 2-3 times as big.
- Access to international markets is essential. The ability to integrate with international supply chains is critical for competitiveness and to attract foreign investment. The discipline of international competition can also help to drive innovation and new ways of working.
- While there are many successful Scottish exporters, Scottish exports are more dependent on a small number of sectors that employ relatively few people.
- The potential Brexit damage to trade relations with Europe – and the risks to trade relations with other countries – means that Scottish dependence on the UK market is likely to grow after Brexit if Scotland remains part of the UK. This narrowing of Scotland’s potential markets will be to Scotland’s material economic disadvantage. That this is seen by some as a case for maintaining the current model strikes us as demonstrating a remarkable lack of concern and ambition.
- Maximising frictionless trade and market access with the rest of the UK and with Europe is of critical importance to the performance of the Scottish economy in the short and long term.
- Increasing overseas exports from 20% of GDP to 40% of GDP would be a reasonable target to set in order to close the export gap with small advanced economy benchmark countries, implying an increase from under £30 billion to more than £60 billion. This could deliver a productivity boost of 8% of GDP and would be expected to generate additional taxation revenues of some £5 billion each year.
• In Scotland, as in most other small advanced economies, improvements in productivity will come in myriad small advances, but a few major reforms would make that process a great deal easier – for example finding ways to encourage capital (total factor) productivity and repair the long standing investment rate deficit.

• Establishing a Productivity Commission in Scotland, to identify opportunities for productivity improvement would be useful, in particular ways in which policies can be used to bring these opportunities to reality in practice. Adopting a fixed-term model, as in Denmark or Norway, would be an easy way to start – with an option to establish a New Zealand style Productivity Commission model.

• The Anholt-GfK Roper Nation Brands Index examines the image of 50 nations. Scotland’s score (61.8) and rank (17th) on the index show that Scotland already has a strong national brand. Across all dimensions, with the exception of exports, Scotland is ranked within the Top 20 countries indicating that there is room for improvement in the exports dimension.

• Digitalisation will continue have an immense impact on the world economy in the coming decades, offering potential in every sector. The digital sector has grown markedly over the past five years and must continue to be a priority growth sector for Scotland, given its potential long-term significance to the wider economy and also to the ability it provides to widen participation and globalisation in a country of Scotland’s geographic position and structure.

• Higher Education Research & Development (R&D) significantly outpaces the UK and EU averages and lags only Denmark, Switzerland and Sweden. Scotland’s university sector is a key comparative advantage for any growth strategy. Internationally Scotland’s scientific outputs Scotland ranks top, and second to the Netherlands in terms of their influence. However, business R&D investment lags significantly behind EU, OECD and UK averages for both the government investment and business sectors. Improving this measure in key to overall productivity growth, higher investment, and strengthening the competitiveness in the Scottish economy.

• Even within countries and industries there can be large gaps between the most productive and others. The diffusion of knowledge is as important as pushing the boundaries of knowledge. Changes in technology resulting from science and innovation accounted for one-third of productivity growth that took place in the UK between 2000 and 2008.

• There is a leading role for the state in the promotion of R&D and innovation. Building on the Scottish Government’s Can Do Innovation Forum, additional initiatives are required to improve commercialisation performance and enhance the role of workplace skills in innovation and the creation of a learning economy.

• Infrastructure is critically important and can deliver significant economic returns on investment. The UK (and Scotland) significantly underperform. The World Economic Forum’s Global Competitiveness Index ranked the UK only 28th in the world on quality of infrastructure. An Infrastructure Commission is urgently required alongside a longer-term commitment to increased investment.
A6.1 The need to increase productivity growth and competitiveness in the Scottish economy is an issue that has been recognised for some time. Over recent years as demonstrated in Chapter A1, Scotland has performed respectably well compared to the UK, but only in the past decade and only in labour productivity. That said the UK overall has a deep-seated problem. But it would be wrong to simply dismiss UK performance and say that Scotland can immediately emulate others more quickly, this has proven the single most difficult economic policy nut to crack for decades and involves a raft of other factors. Moreover the UK record also involves trade-offs against other policy objectives such as the reduction of mass unemployment from the 1980s which means the UK record on productivity is mirrored by relatively low unemployment now; in contrast to say France which has higher productivity in some sectors, low in others, but less flexible markets and hence higher unemployment.

A6.2 However, a number of institutional approaches to economic development have been designed to help boost productivity in the economy. These include:

- Securing foreign direct investment, based on extensive and effective marketing of Scotland in investor markets, initially in manufacturing (with ‘Silicon Glen’ being the most obvious example) and more recently in R&D intensive businesses;
- Efforts to promote entrepreneurship and assist business start-ups to boost the business birth-rate in Scotland, which had lagged many comparator economies, particularly in more industrial areas where large employers had dominated the economy;
- Area-focused physical regeneration to improve the attractiveness of place to people and potential investors;
- Initiatives to increase the economic impact of publicly funded research by increasing the commercialisation of research undertaken in universities and research institutes (for example, by supporting spin-out companies);
- Providing intensive public-sector support to new and young companies thought to have high growth potential;
- Cluster based strategies that have targeted companies and their supply chains in sectors and markets with growth potential where Scotland has existing or potential competitive advantage.

A6.3 The Scottish Government has recently undertaken a review of the economic development and skills agencies and how they interact. The aim of that review has been to ensure that businesses, the workforce, training providers, colleges and universities and young people receive the joined-up support they need.

A6.4 During the engagement process undertaken by the Commission it was clear that the arrangements for economic development support need to be adaptable enough to respond quickly to new opportunities for the Scottish economy – or indeed to threats, such
as that presented by Brexit. Scottish Government analysis\(^50\) estimates that 60% of the negative economic impacts of Brexit on the Scottish economy by 2030 would be associated with restrained productivity growth.

A6.5 While policy evaluations have demonstrated good value for money in public investment, there remains a gap between productivity in the Scottish economy and in the best performing small advanced economies. This alone should be a reason for fresh thinking on the approach taken to economic development in Scotland.

A6.6 There has generally been an assumption in economic policy, particularly macroeconomic policy, that there is a limit on productivity growth and that it is challenging to exceed the long-term trend rates. Below trend productivity growth in most advanced economies since the crisis has even led some (such as American economist Robert Gordon) to argue that economic growth will be slower in the future.

A6.7 However, others, who have looked at the productivity issue from the perspective of companies and individuals have been far more optimistic about the potential to accelerate productivity growth. For example, analysis by Joseph Stiglitz shows that if each business was to target best practice in all aspects of business in the industry they are part of, the potential for productivity growth would be enormous\(^51\). This requires a greater focus on learning by doing, to create a learning economy and a learning society.

A6.8 There is also an important role for industry groups to build stronger networks and to bring businesses together to tackle issues of common interest where collaboration might deliver more than competition. The new Strategic Board overseeing the economic development agencies should consider how the current structures might assist industry groups in this role and how the agencies can respond rapidly to economic opportunities and threats, such as Brexit.

A6.9 We also recommend that a fixed term Productivity Commission is established to identify opportunities for productivity improvement. Whilst not wishing to prejudice the outcome of such a process, there are a number of areas that we can be confident will be important and where action should be taken now. They are set out in the remainder of this chapter, and include:

- Global competitiveness standards;
- Trade and market access;
- Digital infrastructure and skills;

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\(^{50}\) Scottish Government (January 2018), Scotland’s Place in Europe: People Jobs and Investment

\(^{51}\) Stiglitz and Greenwald (2014), Creating A Learning Society – A New Approach to Growth, Development and Social Progress
• Science and innovation;
• Work based skills and learning; and
• Infrastructure.

Global Competitiveness Standards

A Competitive Location

A6.10 There are many rankings that are used by international organisations to measure the comparative advantages of doing business by country. These indices aim to highlight some of the key strengths and weaknesses of economies, so policy makers and investors can react accordingly. In doing so, all indicators aim to quantify, not just the current prospectus for economic development but also the economic development potential for the future.

A6.11 This section considers some of the methods used to undertake such analysis and the countries that perform well in a range of indices. In order to reflect the wide spectrum of ranking indicators, three indices are used in this analysis, which all take different approaches to the measure of competitiveness. The rankings that are considered in this section are:

• Global Competitiveness Report (World Economic Forum)
• Global Sustainable Competitiveness Index (Solability); and
• The Venture Capital and Private Equity Country Attractiveness Index (IESE, University of Navarra)

Global Competitiveness Report

A6.12 The Global Competitiveness Report, produced by the World Economic Forum is, one of the most highly respected global rankings of competitiveness. It considers 12 key pillars that contribute to the overall all score of competitiveness of a country. These metrics range from purely economic to more social orientated indicators. The 12 key pillars are:

• Institutions;
• Infrastructure;
• Macroeconomic Environment;
• Health and primary education;
• Higher education & training;

• Goods market efficiency;
• Labour market efficiency;
• Financial market development;
• Technological Readiness;
• Market size;
• Business sophistication; and
• Innovation.

Table 6-1 shows what each of these pillars measures and the stage of economic development that each would represent. The pillars required for even a basic economy to function, such as Institutions and Infrastructure, are measured to enable comparisons with less developed factor economies. The economies that are highly developed, such as those with the highest rankings, primarily compete over the Business Sophistication and Innovation indicators.

Figure 6.1 - Global Competitiveness Report Metric

Source: World Economic Forum
Part A: Raising the Potential & Performance of the Scottish Economy

A6.14 In these rankings, tax rates do play a role in contributing to the overall competitiveness of an economy. In particular, the effect of taxation on incentives to invest, which forms part of the ‘Goods Market Efficiency’ indicator, and the effect of taxation on incentives to work, which forms part of the labour market efficiency indicator. The complexity of the taxation system can also be one of the problematic factors identified for doing business.

A6.15 The top position in the rankings has been held by Switzerland for the past seven years. This is a result of high level of investment in private sector research and development, research institutions, infrastructure and connectivity. Switzerland also leads the world in labour market efficiency and labour/employer collaboration. However, there are potential risks to Switzerland’s competitiveness and position in the rankings that were highlighted in the analysis. In particular, in 2014 there was a referendum in which the electorate narrowly voted to reduce the level of immigration into the country. The World Economic Forum identifies openness to international talent as a positive driver of growth and therefore the lack of policy certainty regarding immigration may harm Switzerland’s ability to benefit from the global talent pool that drives its economy.

<table>
<thead>
<tr>
<th>Country</th>
<th>Rank</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland</td>
<td>1</td>
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</tr>
<tr>
<td>Singapore</td>
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<tr>
<td>United States</td>
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<td>Netherlands</td>
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<td>5.57</td>
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<tr>
<td>Sweden</td>
<td>6</td>
<td>5.53</td>
</tr>
<tr>
<td>United Kingdom53</td>
<td>7</td>
<td>5.49</td>
</tr>
<tr>
<td>Japan</td>
<td>8</td>
<td>5.48</td>
</tr>
<tr>
<td>Hong Kong SAR</td>
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<td>5.48</td>
</tr>
<tr>
<td>Finland</td>
<td>10</td>
<td>5.44</td>
</tr>
</tbody>
</table>

Source: The Global Competitiveness Index 2016 - 2017

A6.16 The countries ranked in the top ten represent a number of different approaches to economic strategy. This includes countries such as Finland and Sweden, where government spending is equivalent to over 50% of GDP, and Switzerland where Government expenditure is equivalent to one third of GDP54. Additionally, some countries, such as Singapore and Hong Kong have the highest trade to GDP ratios in the world, while Japan and the USA are among the lowest. The comprehensive scope of the metrics

53 The measures for the UK were taken prior to the vote to leave the EU and the WEF notes that this decision is likely to have implications for the future competitiveness of the UK.
involved in the Global Competitiveness Ranking mean that there is no single approach to
economic strategy that has authority of others.

Global Sustainable Competitiveness Report

A6.17 There are other rankings of international competitiveness that take slightly different metrics
into account in order to reflect different priorities. This includes the Global Sustainable
Competitiveness Index (GSCI), which is collated by SolAbility Sustainable Intelligence. The GSCI considers the ability for countries to sustain wealth creation and therefore
considers a wider range of metrics that not only cover how competitive they are currently,
but also how their actions and priorities will impact on their ability to maintain this level of
attractiveness in the future.

A6.18 The GSCI acknowledges that the WEF rankings are most widely respected, however it
highlights that much of the data is taken from surveys of business leaders, rather than from
empirical data. Therefore, there is greater emphasis on measurable and available metrics
in the GSCI analysis to avoid any issues with perception and selection that arise from survey
analysis. The metrics used in this analysis cover five main pillars of sustainable
competitiveness, namely:

- Natural Capital;
- Governance;
- Intellectual Capital;
- Resource management; and
- Social Capital

A6.19 Unlike other measures of international competitiveness, the GSCI does not include the level
of personal or corporate taxation as one of the metrics in its analysis. Instead this analysis
considers the implications for the output of public spending rather than the costs
associated. For example, the GSCI includes measures on the quality of education, quality
of healthcare and environmental protections.

A6.20 The countries that are highest ranked in the GSCI are all in Europe and the top five of these
are all Scandinavian. These countries have abundant natural capital and strong socially
democratic societies that excel in many of the metric that are used to calculate the GSCI
score.

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Table 6-2: Global Sustainable Competitiveness Rankings

<table>
<thead>
<tr>
<th>Country</th>
<th>Rank</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
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<td>Norway</td>
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<td>Denmark</td>
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<td>Slovenia</td>
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<tr>
<td>Switzerland</td>
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<td>Luxembourg</td>
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<tr>
<td>Austria</td>
<td>10</td>
<td>53.8</td>
</tr>
</tbody>
</table>

Source: The Global Sustainable Competitiveness Index 2016

The Venture Capital and Private Equity Country Attractiveness Index

A6.21 The Venture Capital and Private Equity Country Attractiveness Index (VC/PE-I) is designed to give venture capitalists and private equity investors a quick overview as to the comparative strengths of different countries as a destination for investment. There is a stronger emphasis on the operation of the financial markets in this index than in the other competitiveness measures. It also includes the overall size of the economy as a metric, to reflect the size of the domestic market that the investment would enter.

A6.22 The key metric pillars in this system are:

- Economic Activity;
- Depth of Capital market;
- Taxation;
- Investor Protection & Corporate Governance;
- Human & Social Capital; and
- Entrepreneurial Culture & Deal Opportunities.

A6.23 As with the GSCI, the VC/PE-I is based on quantified data from other surveys and analysis, rather than the results of surveys. This enables the inputs to be more objective, compared to responses from individual surveys.

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The index is topped by the United States, followed by the UK. The North American countries perform particularly well with the pillars of ‘Economic activity’, ‘Depth of Capital Market’ and ‘Entrepreneurial Culture and deal opportunities’. However, they are outscored by Western Europe and Australasia for measures related to taxation.

<table>
<thead>
<tr>
<th>Country</th>
<th>Rank</th>
<th>Score</th>
</tr>
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<tbody>
<tr>
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</tr>
<tr>
<td>Switzerland</td>
<td>10</td>
<td>85.7</td>
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</tbody>
</table>

Source: The Venture Capital and Private Equity Country Attractiveness Index 2016

Increasing Scotland’s Competitiveness Rankings

The international competitiveness rankings and how countries are perceived as places to do business are dependent on a wide variety of metrics used and the lens through which the analysis is undertaken. The three indices of competitiveness that are presented in this section are by no means exhaustive, however they do represent a variety of stances that can be taken. In all ranking methodologies, although taxation plays a role in how competitive countries are perceived, it is the wider suite of complimentary attributes that create a competitive business culture. Switzerland is the only country that appears in the top ten of all three rankings.

The Government of an independent Scotland would need to focus on different policy priorities in order to be considered a competitive location by the different indices. Policies that made Scotland more open to talent and trade would support a higher ranking in the WEF’s Global Competitiveness Report, particularly as these factors also contribute to the ability of an economy to innovate which is the main area of competition for highly developed economies. These are all factors that the WEF notes will be adversely affected by the UK’s decision to leave the single market, therefore policies to retain Scotland’s membership of the single market would likely improve its competitiveness ranking in this index.
A6.27 An independent Scottish Government would need to pursue different policy priorities in order to be considered competitive by the GSCI and VC/PE-I. Policies aimed at the long-term cultivation of natural and human resources will result in higher ranking in the GSCI, while policies that protect business interests and financial markets would see a higher ranking in the VC/PE-I. Excelling in both indices may require seemingly contradictory priorities, however as has been shown by Switzerland, success in either does not need to be mutually exclusive.

Engagement of International Companies and Sectors

A6.28 The period of uncertainty with Brexit and its implications and any period leading into or following a potential independence transition should be marked by senior and open dialogue to help organisations achieve opportunities, mitigate risk and regard Scotland as a country with whom it is extremely easy to do business and obtain quick decisions and relevant support.

A6.29 The Scottish Government’s capacity in this regard should be critically assessed and the recruitment considered of senior sector facing Ambassadors ideally drawn from the very top of business leadership with a public service motivation and an operation that seeks to be world class in support. Such an approach can build on and utilise the existing Global Scot network. Clear priorities for engagement in this way include: Financial Services, Science, Innovation & Technology, Construction Infrastructure and Property, Energy, Engineering, and Life Sciences. But the range will require detailed consideration.

Smarter Taxes

A6.30 Section B of this report recommends a review of the tax system beyond the current tax powers held by the Scottish Parliament. One of the principles behind the review recommended is that the system should explicitly support the overall economic strategy, which must include a focus on boosting productivity.

A6.31 Investors and entrepreneurs alike can often face barriers and inequities in the UK tax system. The system needs alignment with the needs of the modern economy. As an example, a measure that could be taken to the advantage of the wider economy, and investors and entrepreneurs whether domestically grown or coming to Scotland as new Scots, could be the following.

A6.32 The UK tax system favours debt, giving tax deductibility for interest on debt. But this has created an uneven playing field for equity investment and creates an incentive to have highly geared businesses. There is a case therefore for considering the introduction of a targeted tax allowance or deduction for equity investment based on a cost of capital calculation. This would be attractive to Scottish family owned businesses that have a higher aversion to debt, and at the same time give more encouragement to equity financing models for new businesses and entrepreneurs, including in hi-tech sectors which are
sometimes considered to be high risk investments by equity funders. It will add a richness to the business investing scene that will assist in underpinning growth.

A6.33 In other words, there are going to be many opportunities for Scotland to incentivise economic growth. Such incentivisation will come from a range of cultural, social, political and economic choices, taken in the interests of the Scottish economy and Scottish people. What must be improved upon is simply mirroring any UK policy that dis-incentivises growth. Small advanced economy benchmarks matter.

**Trade and Market Access**

A6.34 The route to better, higher-paid jobs is productivity growth. That requires innovation in products and in the way businesses work, as well as investment in people and in new technology.

A6.35 The productivity benefits from trade are substantial. On the balance of evidence available, an increase in trade equivalent to 1% of GDP can increase productivity in the economy by 0.4%. More specifically, the benefits to labour productivity and how that feeds through to wages are estimated as 2-3 times this effect.

A6.36 On this basis, in the context of Scotland’s economy, each 1% of GDP increase in trade would be expected to increase GDP by around £600 million and generate additional tax revenues of around £230 million. Becoming an independent country will clearly mean Scotland becoming a more outward looking nation, taking part in various international organisations. Access to international markets is essential. The ability to integrate with international supply chains is critical for competitiveness and to attract foreign investment. The discipline of international competition can also help to drive innovation and new ways of working.

A6.37 While there are many successful Scottish exporters, Scottish exports are more dependent on a small number of sectors that employ relatively few people. There is therefore an enormous opportunity for economic growth based on exporting expansion.

A6.38 Scotland and the rest of the UK have a mutual interest in maintaining a close trade and investment relationship as this benefits both. But if the Scottish economy is to realise its full potential, then we must build stronger direct trade and investment links with other European countries and the rest of the world.

A6.39 Independence and membership of the EU Single Market would create new opportunities for businesses in Scotland to do just that. It would allow Scotland to maintain and further develop the access that is needed to international markets, in the EU and beyond. It would allow a Scottish Government to work at home and in Europe to ensure the right policy framework exists for business and to improve the competitiveness of the Scottish economy. And it would position Scotland as a bridge between Europe and the rest of the UK at a time when many businesses are looking for just that.
A6.40 Consideration of the optimal approach to Brexit is a priority for the Scottish Government at present. Our view is that maximising frictionless trade and market access with the rest of the UK and with Europe is of critical importance to the performance of the Scottish economy in the short and long term. The damage that could be done to the Scottish economy of not achieving such an outcome has been set out in Scotland’s Place in Europe: People, Jobs and Investment, published by the Scottish Government in early 2018.

Scotland’s Export Performance

A6.41 An analysis of Scotland’s export statistics\(^57\) shows that:

- Scotland’s overseas onshore exports were valued at £29.8 billion in 2016, 20% of GDP;
- including the rest of the UK increases Scottish exports to £75.6 billion in 2016; and
- including the most recent data available on oil and gas trade flows (from 2014) would increase exports to more than £90 billion.

A6.42 The high proportion of Scottish exports going to the rest of the UK (61%, excluding oil and gas) should not be surprising since countries typically trade far more with near neighbours who share the same language, land border, single market and have longstanding economic ties. For example, more than three quarters of Canadian exports go to the United States.

A6.43 Scottish exports have been increasing, up by more than 20% since 2010 but are still behind international comparators.

A6.44 Over the last decade or two, there have been changes in the nature of Scottish exports, both overseas and to the rest of the UK. There has been little overall growth in manufacturing exports, with the growth in food and drink exports compensating for the reduction in electronics exports. Service exports have becoming increasingly important.

A6.45 Including oil and gas exports would mean that Scotland’s exports were above average for advanced economies. However, in planning for the long-term it would make sense to treat oil and gas exports as a bonus and to concentrate on a target for exports, excluding oil and gas.

A6.46 There are gaps in the data that are available on Scotland’s trade balance, and on the wider balance of payments position, and these should be addressed so that the evidence is available on which decisions on policy and assessments of its success can be based.

A6.47 If trade with the rest of the UK is included in the analysis, then the Scottish export position benchmarks well with other small advanced economies. However, there is no intrinsic economic reason why Scottish business should be less open to the world than firms in the rest of the UK. If Scotland matched the rest of the UK in overseas exports, this would

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\(^{57}\) Scottish Government (January 2018), Export Statistics Scotland 2016
increase exports by £12 billion, more than 8% of GDP. This both demonstrates the over dependent on an unbalanced UK economy that is growing more slowly over the long term than the global economy and shows the scale of the opportunity.

A6.48 Comparing Scottish exports with other European economies, illustrates the opportunity. Figure 6.2 shows how Scottish exports compare to Portuguese, Danish and Irish exports. These countries are a similar size to Scotland and they each have a large neighbour that is a major export destination – Spain in the case of Portugal, Germany for Denmark, and the UK for Ireland. Figure 6.2 shows that Scotland is much more dependent on its big neighbour than any of these other countries. Scotland’s dependence on its big neighbour looks excessive when compared to these countries.

Figure 6.2 - Scottish exports compared with other countries, per cent of GDP

Source: ONS, Scottish Government, Eurostat, CSO, Statbank, Pordata

A6.49 Scotland also looks to have untapped potential when it comes to exporting to the rest of Europe and beyond also looks weak in comparison. Ireland exports 33.6 per cent of GDP to the rest of the EU (excluding the UK) compared to 8.4 per cent for Scotland. Ireland exports 42.1 per cent of GDP to the rest of the world, compared to 11.2 per cent for Scotland.

A6.50 For Scotland, whisky alone accounts for about a quarter of Scottish goods exports. While the sector is undoubtedly an export success story, it directly employs just 10,800 people.
A6.51 The UK market is clearly important for the Scottish economy and will remain so regardless of Scotland’s constitutional future. But the record of other countries demonstrates the scale of international opportunities.

A6.52 Ireland’s example of export and economic growth is particularly instructive (Figure 6.3). Between 1977 and 2017, Irish exports grew significantly, driving overall economic growth. Access to European as well as UK markets, meant that Irish exports to the UK continued to grow significantly but there was much more rapid growth in exports to the rest of Europe, meaning that Ireland’s exports to the UK were 62% in 1977 and 26% in 2017.

Figure 6.3 – Trends in Irish Economic Growth and Dependence on UK Exports

Source: CSO and OECD

A6.53 Even a much more modest export growth target than that achieved by Ireland would deliver significant impacts. Increasing overseas exports from 20% of GDP to 40% of GDP would be a reasonable target to set, when set in context of other small advanced economies. This implies an increase from under £30 billion to more than £60 billion.

A6.54 As well as the direct impacts on economic performance, such an increase would also be expected to boost productivity in the economy. Given that 0.4% productivity growth is associated with each 1% of GDP increase in exports, such an increase in exports could deliver a productivity boost of 8% of GDP (£12 billion in current terms) and this would be expected to generate additional taxation revenues of some £5 billion each year.
The risks from Brexit

A6.55 Brexit means that future access to the EU market is now uncertain. The UK Government has said that it wants to leave the single market, leave the EU customs union and end the free movement of EU citizens in the UK. Instead, the UK Government wants to base the future economic relationship with the EU on a free trade agreement. Negotiating the withdrawal from the EU and the future relationship will be difficult. The outcome is uncertain, creating risks for business.

A6.56 The EU has made clear that there can be no better relationship with the EU than from membership of the EU. Leaving the regulatory perimeter of the EU and shedding the obligations of membership, such as free movement of people, must come at a price in the ease of access to the single market. The European Commission has set out the options facing the UK if the UK Government insists on sticking to its red-lines. These amount to a “Canada-style” free trade agreement or reversion to WTO terms. Both will carry a heavy economic cost, with services in particular suffering. These costs have been set out in the Scottish Government publication: Scotland’s Place in Europe: People, Jobs and Investment.

A6.57 In the services sector businesses are likely to lose some of their existing rights to trade (passporting) or invest across EU borders. They may find they become subject to the vagaries of national licensing regimes when the UK loses the protections provided by membership of the single market. In some sectors, such as financial services, companies may need to relocate some of their operations inside the EU if they are to continue serving EU customers.

A6.58 Access to EU markets is also a driver of foreign investment and so there is a risk to Scotland of both domestic and foreign investment.

A6.59 It will take many years before we know the full extent of the damage to the trade and investment relationship between the UK and the EU, because it will take many years before a new relationship is fully negotiated and implemented. But it is clear that the relationship will suffer, making it harder for Scottish businesses to internationalise.

A6.60 Brexit also creates risks for Scotland’s trade relationship with the rest of the world. Scotland currently benefits from the trade deals the EU has with some 50 countries around the world, including South Korea, South Africa, Turkey, Switzerland and Mexico. The EU has recently concluded a trade deal with Canada and is close to concluding a deal with Japan.

A6.61 When the UK leaves the EU these trade agreements will no longer apply to the UK. The UK Government has said it wants to ‘transition’ existing EU agreements to UK agreements. This is unlikely to be straightforward. Some aspects of trade deals, such as import quotas, cannot be transposed and a deal that is attractive with the EU may look unbalanced when applied to the UK. This makes renegotiation inevitable. With goodwill that may be possible. But it is unlikely to be smooth and will take time. Legislative processes in other countries could
be slow and complicated, for example by requiring governments to consult widely before concluding a trade agreement.

A6.62 The damage to trade relations with Europe – and the risks to trade relations with other countries – means that Scottish dependence on the UK market is likely to grow after Brexit if Scotland remains part of the UK.

Access to Markets and Minimising Friction

A6.63 Scotland’s economic interests will be best served maximising frictionless trade and ensuring access to UK, EU and wider global markets.

A6.64 An independent Scottish Government would be able to use the full range of economic policies to improve the openness of the Scottish economy and the competitiveness of Scottish business.

A6.65 These include financial sector policies, taxation, employment laws, foreign policy and immigration rules. These policies are currently controlled by the UK Government and in ways that often fail to address the needs and comparative advantages of the Scottish economy. For example, the increasingly restrictive British immigration policy is damaging the international competitiveness of the Scottish higher education sector.

A6.66 A Scottish Government with its own trade focussed diplomatic network, would be able to ensure that the full range of government assets, including diplomatic resources, are available in the export markets that matter most to Scottish business around the world.

A6.67 The Scottish Government would also be able to respond to the needs of potential foreign investors. The European countries that have been most successful in attracting inward investment are those whose governments understand the needs of investors and respond to them. This means aligning the full range of policy tools at the disposal of national and local government, including industrial, transport, fiscal and R&D policies.

A6.68 The UK Government would have a strong interest in maintaining a trading relationship with Scotland that is as open and frictionless as possible. Scotland is the 2nd biggest trading partner for the rest of the UK. In 2015 Scotland imported over £50 billion from the rest of the UK, which is more than the whole of the UK exports to any other country except the United States and over three times as much as the whole of the UK exported to China. The rest of the UK had a surplus in the trade relationship with Scotland of £5.2 billion in 2015.

A6.69 Brexit would mean that the trade relationship with an independent Scotland would change, but it would remain strong. It is wrong to suggest that Scotland would have to choose between the two markets. But to enjoy the best access to both markets Scotland must be positioned in the EU single market.
A6.70 The case for and main features of an export based growth strategy have been set out before, including in a report by N-56\textsuperscript{58}. These recommendations remain valid and are set out here.

A6.71 Export growth is driven by competitiveness, of which productivity growth is a major component. Therefore, the best policies to promote export growth are those that enhance the productivity of exporters and potential exporters, such as investment in infrastructure, research and development and education. In addition, an exports-based growth strategy will require targeted fiscal policies in those sectors where Scotland has existing strengths and potential. Therefore, export growth should be more prominent in Scotland’s economic strategy.

A6.72 The wide range of policies required to stimulate productivity growth can be seen in best practice strategies from elsewhere. For example, the Danish Globalisation Strategy consists of 350 policy measures under 14 areas of focus. As can be seen in Figure 6-4, 8 of the 14 areas of focus are concerned with education, three with research and innovation and one each with interaction with other countries, entrepreneurship and a collaborative approach to implementing the strategy.

\textsuperscript{58} N-56 (February 2015), Export Based Growth – Global Competitive Advantage from the Scottish Brand
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A6 Productivity & Competitiveness Strategy

Figure 6-4 – Focus Areas in the Danish Government’s Globalisation Strategy

World top performing primary and lower secondary school system
All young people should complete a general or vocational upper secondary education programme
A coherent education system and professional guidance
At least 50 per cent of young people should complete a higher education programme
Education and training programmes with a global perspective
World top level short-cycle and medium-cycle higher education programmes
World top level universities
More competition and better quality in public sector research
Good framework conditions for companies’ research, development and innovation
Stronger competition and greater openness and transparency to strengthen innovation
Strong interaction with other countries and cultures
More high-growth start-ups
Everyone should engage in lifelong learning
Partnerships to promote the implementation of the Globalisation Strategy
Inclusive Growth: Growth that combines increased prosperity with greater equity; that creates opportunities for all and distributes the dividends of increased prosperity fairly

Source: Danish Government, Progress Innovation and Cohesion, May 2006

A6.73 Learning from Denmark, education and innovation will be important elements of an export-based strategy for Scotland, building on existing strengths. However, the starting position for Scotland’s new strategy is different from Denmark’s globalisation strategy. For example, Scotland already has world leading universities and high levels of participation in higher and further education, although continued investment will be required to maintain this position as others seek to compete.

A6.74 Conversely, Scotland’s infrastructure, including global connections for people and goods, has been held back by lower levels of investment than Denmark’s and so requires greater attention. The opportunity associated with Scotland’s geographic position to develop hub airport services and international freight ports would lower the barriers to export for Scottish businesses that are not currently exporting.

A6.75 While there may be a gap in trade levels between Scotland and competitor economies, there are some sectors of the economy that have achieved significant success in export markets and from which lessons can be learned. These include the whisky industry and more recently other food and drink such as salmon, as well energy services, precision measurement, digital industries, life sciences, education and tourism.
A6.76 A common feature of these sectors is that they rarely distinguish between domestic and export markets, seeing their markets as global. In the case of whisky, entrepreneurs such as Johnnie Walker travelled to sell his product in all markets to which ships sailed and in oil and gas, supply chain companies that grew in Scotland as the North Sea has grown have followed their customers to wherever there has been oil to discover and extract.

A6.77 These successes help to demonstrate the potential benefits from a cooperative approach to policy making as recommended by N-56, since such a process would involve inviting representatives from those sectors to share their experience with others.

A6.78 The policy package required to support an exports-based growth strategy will therefore require a number of elements, including:

- establish a Ministry for Trade and Foreign Affairs to oversee a new and heavily integrated approach to trade, investment and economic diplomacy;
- build a new embassy and consular network with economic diplomacy as its core purpose and with the ability to help harness and direct all of Scotland’s international activity;
- retain the link between internationalisation and wider business support through the enterprise networks but with increasing emphasis on, and incentivisation of, growing the number of domestic firms engaged in exporting activity;
- establish a stronger, better funded inward investment agency with an independent and high level Board including representatives of indigenous and investor business communities;
- direct more resources to trade and internationalisation activities recognising that comparator countries spend more on supporting exports, attracting inward investment and promoting tourism than Scotland currently does; and
- provide financial support mechanisms for exporting businesses e.g. export credit guarantees that are at least as generous as those provided in comparator nations.

A6.79 This is a distinctive strategy for the Scottish economy; however, it would require divergence from the UK’s economic strategy, with its high reliance on the financial services sector in the City of London.

A6.80 Scotland has global comparative advantage in a number of fast growing sectors. Scotland has a worldwide reputation for producing premium food and drink products. In 2016, exports of these products amounted to around £5.5 billion. Following the successful examples of whisky and, more recently, salmon, the food and drink sector also has the potential for export growth.

A6.81 Universities can continue to grow their competitiveness in the international education market, based on the reputation of Scottish education. Five Scottish universities rank
amongst the top 200 universities in the world, which means Scotland has the second highest number of top performing universities per capita.

A6.82 The tourism sector supports almost 181,500 jobs, contributes more than £3.0 billion to the Scottish economy each year and earns £1.2 billion in exports. Scotland’s history and environment provides a competitive advantage in the tourism sector that is impossible for other countries to replicate.

A6.83 These and other sectors provide a large number of opportunities for the Scottish economy but Scotland cannot expect to be dominant in any of these global markets at the macro level. However, with globalisation a small country like Scotland can perform well economically by developing niche competitive advantages.

A6.84 A number of factors will play a role in supporting Scotland to achieve export growth. Expanding exports will be dependent on maintaining access to global markets. In addition, successful Scottish exporters have demonstrated the importance of sales and distribution networks. There may be potential to reach agreements for large companies to work with small and medium sized companies in export markets, as well as a role for government agencies to assist businesses to establish new distribution channels, particularly in emerging markets. This is an area that Germany excels at, government agencies and companies working collaboratively, pooling expertise and sharing costs, to create hubs in new markets, which help to build trust and confidence in these markets, and help to introduce new exporters to the established networks of more experienced exporters.

A6.85 Developing sales and distribution networks also requires the necessary skills to be available. Although English is increasingly the language of international business, businesses which do most to respect and understand the culture of the countries in which they operate, including language are likely to do better. An export-based growth strategy will therefore require that skills gaps in sales and languages are addressed.

A6.86 The development of a national brand can also assist businesses in export markets, since it provides a foundation on which they can build their own brand, if they choose to. The Anholt-GfK Roper Nation Brands Index examines the image of 50 nations. Scotland’s score (61.8) and rank (17th) on the index show that Scotland already has a strong national brand. Across all dimensions, with the exception of exports, Scotland is ranked within the Top 20 countries indicating that there is room for improvement in the exports dimension.

A6.87 The small country case studies of New Zealand and other countries highlight the benefits of being able to invest behind a specific brand – and particularly one that is supported by a coherent policy approach. Other lessons that can be drawn from these case studies include the necessity of a realistic and authentic national brand. The focus therefore should be on generating outcomes, not simply investing in marketing or PR. This is important because the branding efforts need to be consistent and sustained and to be linked to policy settings. The development of a national brand for Scotland is an initiative that should be developed by collaboration between government and business. This is an area where
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VisitScotland has developed expertise and so would be the obvious choice to lead this activity.

A6.88 In summary:

- export growth should be more prominent in Scotland’s economic strategy, since it is associated with productivity growth and improved economic performance;
- continued access to global markets is critical;
- the potential to reach agreements for large companies to work with small and medium sized companies in export markets, as well as a role for government agencies to assist businesses to establish new distribution channels, particularly in emerging markets, should be explored;
- an export-based growth strategy will require that skills gaps in sales and languages are addressed; and
- a realistic and authentic national brand should be developed for Scotland, building on existing initiatives and learning from best practice elsewhere, particularly New Zealand. This is an initiative that should be developed by collaboration between government and business, perhaps led by VisitScotland.

A6.89 The investment in marketing and communications behind Scotland’s reputation internationally is very significantly below that achieved by other countries including Benchmark small advanced economies. In 2015 Ireland invested £27 million, New Zealand £72.3 million and Norway (2014) £68 million compared to Scotland at c£6 million \(^{59}\). We recognise the recent progress made in this area, welcome the Scotland is Now initiative. While recognising all financial constraints it is clear that if a longer term invest and return perspective was analysed that an improvement in spend here would significantly enhance the economic and therefore exchequer returns.

**Digital Opportunity**

A6.90 A report produced by SCDI\(^{60}\) concluded that the benefits of digital connectivity “must be transformational, not incremental” and recommended that Scotland should be a nation of “Digital Pioneers, Digital Champions and Enthusiastic Explorers”.  

A6.91 The report highlights the potential for digital technologies and digitally-enabled business models to boost productivity in the Scottish economy. However, it also notes that, while Scotland is developing a world-class digital infrastructure, this investment will only achieve its full worth through world-leading utilisation and that increasing Scotland’s productivity

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\(^{59}\) Figures from VisitScotland research  
\(^{60}\) Scottish Council for Development and Industry (2016), Digital solutions to the productivity puzzle
will require leadership and action at a national level but also in all the businesses across the economy.

A6.92 The economic risks and opportunities include:

- Businesses: those that do not become fully digitally engaged are likely to fall victim to competition from digital disruption and those at the leading edge of digital use are likely to gain significant market advantage as the world becomes increasingly digitally engaged;
- Public services: those that do not become fully engaged face an unaffordable future while bodies at the leading edge of digital use will be best-placed to meet the needs of society;
- People: all of this depends on population-wide digital access and skills.

**Digital Sector**

A6.93 Scotland has a rapidly growing and diverse digital technologies sector employing over 80,000 people, with more than 1,500 businesses**, spanning from software development, to games design and production, to data management and analytics, and to telecommunications.**

A6.94 There are a host of thriving digital technologies companies originating in Scotland, including for example, Skyscanner, SmarterGridSolutions, LogicNow, FanDuel, and FreeAgent. As well as outstanding FinTech companies such as Nucleus.

A6.95 Digitalisation will continue have an immense impact on the world economy in the coming decades, offering potential in every sector from financial services, to retail, to energy and to marketing. Digital technologies are presenting firms with the opportunity to develop and expand former business models to provide new revenue, markets and value-producing avenues. The digital sector has grown markedly over the past five years and must be identified as a priority growth sector for Scotland, given its potential long-term significance to the wider economy and also to the ability it provides to widen participation and globalisation in an country of Scotland’s geographic position and structure.

A6.96 The global drivers, as identified by Scotland-IS include data science, the “internet of things”, robotics, automation, virtual and augmented reality, health informatics, digital public services and mobile-first e-commerce. The challenges in this environment are the expected massive discontinuity in employment and that only flexible, fast-moving businesses will survive.

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61 Figures provided to the Commission by Scotland-IS
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Digital Skills

A6.97 Scotland’s expanding technology sector is increasing the demand for digital skills. A considerably boosted supply of talented and creative individuals is pivotal to the continued growth of the digital technologies sector. Scotland, like much of Europe, already confronts a skills shortage that is limiting the sector’s potential for growth. The skills shortage has been aggravated over time by gender imbalance, with women only accounting for approximately 26% of the industry and few holding senior roles or board positions. Digitalisation across the entire economy is further fuelling the demand for digital skills, with many non-technology sectors now requiring digital specialists. All this demand means that over time most jobs will need a deeper understanding of and capability in digital technologies.

Digital Infrastructure

A6.98 Scotland’s Economic Strategy recognises that digital technologies are “increasingly critical in the day-to-day operations of businesses and households across Scotland”. An important component of the government’s economic strategy is the commitment to develop and deliver world class digital infrastructure across Scotland by 2020.

A6.99 Connectivity is the central underpinning of a digital economy, and ultimately also of society as a whole. Substantial headway has been made in delivering broadband across Scotland, but there is yet considerable progress to be made to attain world class digital infrastructure by 2020. The rate of technological innovation continues to raise the benchmarks for acceptable levels of connectivity. The Scottish Council for Development and Industry recommends that after existing programmes are implemented, the minimum target should be to deliver ultrafast broadband at 500Mbps and 5G by 2025, and 1Gbps for key economic locations where there is market demand.

Economic Impacts of Digitalisation

A6.100 Productivity, and its rate of growth, is a key indicator of the strength of an economy, and increasing productivity is considered as being vital to long term economic growth. Technological progress, which leads to increases in productivity in the long run, is one of the principal determinants of economic growth and higher living standards. Over the last several decades, the development and dissemination of new information and communications technology (ICT) has been one of the central drivers of productivity growth, and this trend is likely to continue. Since the global financial crisis in 2007/08, productivity growth in the UK has been particularly weak, and has consistently been underperforming in relation to expectations, and has been called the ‘productivity puzzle’. It is probable that a component of this is the weak implementation of innovation in the UK, especially digital technologies.

A6.101 Digitalisation is the strategy and process of adopting recent technologies in IT to develop business models that provide new revenue and value-producing opportunities.
Digitalisation has vast long term economic and social benefits, as well as enhancing public and private sector activity and productivity. A report in 2015 for the Scottish Futures Trust by Deloitte investigated the economic and social impacts of enhanced digitalisation in Scotland\textsuperscript{62}. For the report, the Scottish Futures Trust defined three digitalisation outcome scenarios that may evolve in Scotland by 2030, based on analysis undertaken by the Department of Culture, Media and Sport. Scenario 1 was defined as an incremental improvement in digitalisation; scenario 2 was defined as Scotland developing world class digitalisation by 2030; and scenario 3 was defined as Scotland becoming a world leader in digitalisation by 2030. A summary of the results is shown in Table 6-4. Given the remarkable impact on taxation revenues if a longer-term view is taken on the use of public resource for investment the case for this investment to be borne now should be compelling.

Table 6-4: Economic Impact of Enhanced Digitalisation in Scotland by 2030

<table>
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<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
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<td>GDP</td>
<td>£4 billion</td>
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<td>GDP per capita</td>
<td>£750</td>
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<tr>
<td>Business Creation</td>
<td>3,000</td>
<td>4,500</td>
<td>6,000</td>
</tr>
<tr>
<td>Job Creation</td>
<td>40,000</td>
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<tr>
<td>Exports</td>
<td>£0.8 billion</td>
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</tr>
<tr>
<td>Tax Revenues</td>
<td>£1.3 billion</td>
<td>£3.2 billion</td>
<td>£4.5 billion</td>
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Source: Deloitte (2015), The economic and social impacts of enhanced digitalisation in Scotland

Science and Innovation

Research and Development Investment

A6.102 Research and development (R&D) is central to the growth of a modern knowledge based economy, as it enables new discoveries to be made that will drive future innovation. Investment in R&D is widely recognized as a key driver of economic growth and has been adopted by the European Commission as one of five interrelated headline targets for the EU to achieve by 2020. The Europe 2020 strategy aims to improve conditions for innovation, research and development, with the objective of increasing combined public and private R&D investment to 3% of GDP.

A6.103 Gross Expenditure on R&D (GERD) encompasses R&D undertaken by Higher Education (HERD), Business Enterprise (BERD), Government (GovERD) and Private Non-Profit (PNP) sectors. In 2015, Scotland’s GERD spending (excluding PNP) was 1.46% of GDP; this is lower than for the EU as a whole, which was 1.95% of GDP. It is also significantly lower than for the OECD average, which was 2.4% of GDP (Figure 6-5).

\textsuperscript{62} Deloitte (2015), The economic and social impacts of enhanced digitalisation in Scotland
Scotland’s comparatively low levels of gross R&D expenditure can be attributed to very low levels of Business Enterprise R&D expenditure. In 2015, BERD expenditure in Scotland amounted to 0.6% of GDP, in contrast to 1.23% for the EU28 and 1.65% for the OECD. Figure 6-6 demonstrates the differing levels of BERD expenditure across the OECD, showing that Scotland is in the upper fourth quartile among the OECD nations.
A6.105 There is, however, a far greater contribution made towards R&D activity by the higher education sector in Scotland. In 2015, Higher Education R&D in Scotland amassed to 0.75% of GDP, which was 13.6% of the UK total. This far exceeds the EU28 and the OECD, which were 0.45% and 0.43% respectively. Figure 6-7 demonstrates the varying quantities of HERD expenditure across the OECD, showing that Scotland is in the first quartile, behind only Denmark, Switzerland and Sweden.
R&D and Productivity

A6.106 The analysis set out above shows how successful small advanced economies tend to invest heavily in R&D, suggesting that there are potential economic benefits from increasing R&D investment.

A6.107 The positive effects of R&D on productivity has been demonstrated. For example, recent analysis by the IMF shows that, if advanced economies were able to increase private R&D by 40 percent on average, they could increase their GDP by 5 percent in the long term. Given the R&D spending is less than 2 percent of GDP in most advanced economies, this would represent a substantial return on investment. The same IMF analysis also shows positive social returns to public sector investment in R&D.

Universities and Growth

A6.108 There is no doubt that Scotland’s university sector is internationally competitive and a source of economic growth.

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63 IMF: April 2016 Fiscal Monitor
Five Scottish universities (Edinburgh, Glasgow, St Andrews, Dundee and Aberdeen) are ranked in the top 200 universities in the world\textsuperscript{64}, which means that only Luxembourg has more leading universities per capita than Scotland.

The sector is also highly productive in terms of both the quantity and quality of the science outputs. Analysis undertaken by Elsevier for the Higher Education Funding Council for Wales\textsuperscript{65} found that Scotland was top for peer-reviewed scientific publications per year per researcher and was second to the Netherlands for research citations per researcher (a measure of the influence of the findings). In terms of productivity, Scotland was second for both publications and citations per million dollars of government investment in R&D.

University impact on the economy is frequently understood either in terms of purchasing power effects of staff and students, or in terms of company formation (spin-outs and start-ups) and other indices of commercialisation of university IP (patents, licences), or both.

However, the impacts are wider than that. Some universities are at the leading edge of research that shapes the development and applications of new technologies. Big data technologies, with applications in the life sciences (human, animal and plant), the transition to a low carbon economy, financial services, creative and leisure industries, the internet of things, robotics and artificial intelligence, public services delivery are all examples of strengths in Scottish universities.

Additionally, universities at the leading edge of research typically communicate that leading edge in their teaching, producing graduates conversant in the theory, practice and application of new technologies. A number of Scottish universities have a global reach, drawing in and developing outstanding talent from around the world as well as from Scotland and the rest of the UK.

The mix of university R&D and the supply of graduate talent has one effect in commercialisation activity. FanDuel is one example – initially a University of Edinburgh student start-up that has ballooned into unicorn status.

But there is a much wider effect. The mix of R&D pipeline and graduate skills can become an attractor for entrepreneurship and inward investment (e.g. the Engage, Invest, Exploit venture funding conference has attracted over £300 million to the Scottish economy in the last few years). The tech sector in Edinburgh is an example which combines a dynamic tech start-up scene (e.g. CodeBase) with established and now high-value companies (FanDuel, Skyscanner, Rockstar North), and local offices of global tech giants (Amazon, Microsoft, IBM, with Intel and Huawei also now developing Edinburgh operations). That tech sector would

\textsuperscript{64} Times Higher Education World University Rankings (September 2016)

\textsuperscript{65} Elsevier Analytical Services (2016), International Comparative Performance of the Welsh Research Base
not be there without world class university research in computer science and the skilled graduates it produces.

**Productivity and Innovation**

A6.116 As producers of highly-skilled graduates and postgraduates, generators of world-class research and development and located at the centre of industry clusters, universities contribute to economic growth. In recent years a number of influential economists have published works that set out a theoretical and empirical case for the role that high level skills and innovation play in both boosting economic competitiveness and addressing inequality in society.

A6.117 In the late 1950s Robert Solow published papers that showed that it was not the savings rate or increases in the factors of production (labour and capital) that determined the long-run growth rate, but increases in productivity. In the early 1960s Kenneth Arrow published papers on research and development and on learning by doing, which showed that almost all economic growth could be accounted for by innovation, both new ideas emerging from research and improving productivity through learning by doing during the process of production itself.

A6.118 Building on this, the Nobel prize winning economist Joseph Stiglitz\(^\text{66}\) has argued that productivity is the result of learning and consequently, a focal point of policy should be to increase learning within the economy. The observation is made that even within countries and within industries there can be large gaps between the most productive and the others. This means that the diffusion of knowledge is as important as pushing the boundaries of knowledge. Moreover, since productivity growth is what drives growth in the economy, this indicates that there is considerable scope for higher rates of economic growth. As an illustration of this, of the productivity growth that took place in the UK between 2000 and 2008, nearly one third was attributable to changes in technology resulting from science and innovation\(^\text{67}\).

A6.119 The scale of knowledge and innovation that takes place is also important because there are dynamic effects that come into play. New knowledge and innovation (the diffusion of knowledge) are both based on the foundations of prior knowledge and high levels of investment in knowledge and innovation give rise to an accelerating pace of innovation. In contrast, cutting levels of investment in knowledge and innovation, will mean that the pace of innovation slows because underinvestment compounds over time.

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A6.120 In summary, knowledge and innovation are fundamental to economic growth, since it is productivity growth that drives economic growth and productivity growth is in turn driven by knowledge and its diffusion (innovation).

Knowledge and Human Capital Creation

A6.121 The two fundamental activities of universities are the creation of intellectual and human capital. Universities contribute to knowledge creation through the basic and applied research that is undertaken. The most influential technologies today and the technologies of the future arise out of this research. Universities also provide high quality graduates for the labour market which in turn increases the innovation potential of the economy, as well as leading to productivity gains for the economy.

Transfer of Existing Knowledge and Technological Innovation

A6.122 Over and above these fundamental activities universities also work to transfer existing knowledge throughout the economy through their interactions with businesses such as through consultancy and workforce training, which increases productivity and business innovation. Universities are also a vital source of technological innovation through the commercialisation activities that they undertake such as spin-out companies and intellectual property licensing.

Knowledge Infrastructure

A6.123 Universities also have a role to play in the production of knowledge infrastructures, which largely arise due to positive agglomeration effects. As an example, many research institutes, and companies choose to locate in close proximity to research intensive universities in order to benefit from informal knowledge sharing as well as frequent face-to-face contact with academics involved in research. It is for this reason that cities with universities also have large numbers of associated knowledge infrastructures such as research institutes and science parks, which can ultimately develop into knowledge clusters.

Provision of Leadership

A6.124 Many universities play an important leadership role regionally and nationally, through their involvement in the advisory boards of private, public and non-profit organisations. This ensures a coordinated economic development approach helping to match skills with regional needs and vice versa.

Social Environment – The University Ecosystem

A6.125 Finally universities can have a number of impacts on the local environment. The staff and student base provided by the universities undoubtedly contributes to the overall vibrancy of the cities they are located in.
In addition to adding to the quality of the local environment, universities contribute to the attractiveness of a region as a knowledge centre. This wider role of universities in underpinning the economy is something that should not be overlooked. Universities provide a space for discussion and create connections between academia, students and companies that would not otherwise exist and therefore foster an environment for innovation. This creates clusters of people, which lead to the creation of entire university ecosystems, which in turn draw more people.

The further impact of the university ecosystem is that it makes these regions the most attractive places to invest and universities are, as a result, vital to drawing inward investment.

Universities are major drivers of knowledge and innovation. This is fundamental to economic growth, since it is productivity growth that drives economic growth and productivity growth is in turn driven by knowledge and its diffusion (innovation).

Maximising Economic Contribution of Universities

There are opportunities to further leverage the economic contributions of the Scottish universities, by forging closer links between universities and businesses and between universities and the providers of long term ‘patient’ risk capital, to build the next generation of R&D intensive high growth companies. Opportunities must also exist with the small and medium sized enterprises that dominate the Scottish economy.

This is an area where Scotland has already been a pioneer. For example, the Interface programme which matches small businesses that have never worked with universities before with appropriate research teams, has been copied in other countries, most recently in Estonia. However, there is a need and an opportunity to scale up such activity, involving many more businesses. This was the subject of a the Growing Value Scotland Taskforce, set up by the National Council for Universities and Business, which reported last year.

That work confirmed that there was a strong need for a major uptake of innovation by firms in Scotland and a clear appetite for a step change in the way business-university collaboration is driven.

The recommendations included a review of innovation and support for business, a new innovation funding system, addressing the innovation capacity of businesses in Scotland, greater visibility of research undertaken, recognition for the different approaches to innovation taken in different sectors, using fiscal powers to ease business access to risk capital and providing the graduate talent required to realise the opportunities.

We recommend a central role for Universities in Scotland’s growth strategy and an immediate review of the policies that are required to help them maximise their contribution.

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Innovation and Role of the State

A6.134 There is a long-running and widely held perception that Scotland is good at the process of discovery and invention but not so good at realising their commercial and economic benefits. In fact the track record of the Scottish universities compared with international benchmarks is good. That said, improving Scotland’s track record on commercialising scientific and technological breakthroughs to create companies of scale, based in Scotland, would have significant positive economic impacts.

A6.135 The interaction between government and business in innovation and entrepreneurship has been important in terms of historic economic performance and could be even more important in the future. This is an area that has often been ignored in policy making which focuses on creating conditions for growth that is limited to institutions, macroeconomic management and infrastructure. However, this is also an area where policy makers in several countries are currently examining and considering changes.

A6.136 Professor Mariana Mazzucato (a member of the Scottish Government’s Council of Economic Advisors) has reviewed some of the most significant technological breakthroughs, in pharmaceuticals to the internet and some prominent innovative companies, including Apple, and demonstrates how many of the risks taken in the commercialisation of the products, as well as in the research and development, were taken by public sector organisations.

A6.137 The global technology giants of today have developed and commercialised technology that emerged from publicly funded research programmes. However, they also received public investment in commercialisation and in their early growth phases. In the US companies such Apple, Compaq and Intel were supported with funding from the Small Business Innovation Research (SBIR) scheme. Indeed, Silicon Valley has benefitted from the vision of the public sector as well as targeted investment.

A6.138 Mazzucato argues that the role of the state is and should be beyond investing in infrastructure and demand to expand production when the private sector freezes in a downturn and that there is a role in promoting and funding high risk, high reward innovation.

A6.139 She identifies an opportunity for the public sector to invest in innovation in the green economy, as a route to recovery from the current economic crisis. The observation for the global economy is that emerging markets cannot follow the resource and energy intensive path of the past due to limited resources and the brake of global warming. The development of green technologies will therefore find market opportunities and can deliver both economic growth and sustainable development. However, such an approach will

69 Mariana Mazzucato (2013), The Entrepreneurial State: Debunking Public vs. Private Sector Myths
require both a long-term effort and policy consistency (which she argues has not been the case in the UK).

A6.140 This approach requires the public sector to take a more active role than in correcting market failure; the role includes shaping and creating new markets. Rather than “crowd-out” private investment, the public sector can “dynamise-in” the private sector by creating the vision, mission and plan for innovation.

A6.141 Other areas for action that are worth consideration include:

- supporting private sector R&D; however, if R&D tax credits are used they should be focused on supporting R&D workers, as in the Netherlands, rather than R&D spend (which is more problematic to define);

- setting up an innovation fund, paid for by royalties from successful commercialisation, which can be re-invested in future technologies. This could be achieved by attaching conditions to loans and grants where royalties are paid when profits rise above a threshold (in a similar way as conditions for student loans);

- direct investment in technology companies, by state investment banks (a model that is common in Germany, for example);

- avoiding innovation policies that would not result in profits arising from innovation being re-invested in innovation (such as the UK’s preferential tax treatment of profits arising from patents); and

- additional investment in public agencies with a remit for near market research (such as InnovateUK in the case of the UK), investing directly in research through agencies, using the US model of the Defense Advanced Research Projects Agency and, more recently, the Advanced Research Projects Agency – Energy.

A6.142 While some of the policy recommendations represent savings to the taxpayer, rather than costs, in an environment such as Scotland, where the objective would be to make a step change in innovation, it is likely that a net investment will be required. However, there is payback from that investment. For example, the Brazilian State development bank, BNDES, which has been investing in innovation in both cleantech and biotechnology, made a return on equity in excess of 20% in 2010. There are also benefits to the taxpayer from the additional taxes associated with the economic growth stimulated.

A6.143 The focus of the public sector should build on investment in the research base, providing the long-term patient finance required to bring new technologies to market. While it must be accepted that there will be failures as well as successes (since innovation is high risk), the successes can pay for the failures, providing mechanisms are in place for the public sector to share in the proceeds of success.
The approach is already being debated by politicians in several European countries (for example, in the Netherlands, Denmark and Norway) and by the European Commission where it is consistent with the Horizon 2020 strategy of delivering smart and inclusive growth. Scotland might be the ideal place to take these policy lessons on board, given the strength of the academic research but the failure to grow and retain companies of scale in Scotland.

Twenty years ago, Scottish Enterprise undertook a ‘commercialisation inquiry’ that considered Scotland’s track record in research and development and in commercialisation. That process led to a number of new programmes and investment including the expansion of technology transfer offices, the development of science parks, co-investment schemes (focused mainly on seed and early stage capital), programmes to link businesses with universities, proof of concept funds to assist academics with commercially promising ideas and R&D funding programmes for small companies. Many of these programmes have been replicated in other European countries, where Scotland and the UK are considered to be leaders in innovation and policies to realise economic benefits from the academic research base.

The development of a new economic strategy for Scotland presents an opportunity to re-open the commercialisation inquiry to assess the lessons that have been learned over the last 20 years and what action is now required to make the next step in transforming Scotland into an innovation economy. These actions are likely to focus on how to provide long term, patient funding for high growth technology companies. Securing investment may require direct investment by the public sector as well as leveraging in private sector investment. The public sector investment could be from state investment banks, learning from the model that has been successful in Germany.

The taxation system can also encourage the provision of long term, patient capital. The returns to the taxpayer from such investment are possible in the form of financial returns from successful companies and economic returns from the growth that is generated.

There are other countries that Scotland can learn from in this area, Finland being the most obvious example. During the 2014 referendum campaign, comparisons were made between Scotland and Finland and a commitment was made to establish an Innovation Agency in an independent Scotland, based on the Tekes model in Finland. This is a proposal worthy of being re-examined.

**Work Based Skills and Innovation**

The focus of innovation policies should not be entirely on science and technology. As Professor Ewart Keep has previously identified\(^\text{70}\), innovation and inclusion is more likely to be realised when people have more discretion and control at work and learning is built into

\(^{70}\) Working Together Review (2014), Progressive Workplace Policies in Scotland
what people do, not as a one off. Kee’s analysis shows that in the UK only around one third of people work in Discretionary Learning jobs.

A6.150 The characteristic of a discretionary learning environment include:

- confidence and trust in managers and colleagues;
- learning from experience, positive or negative;
- discussing and reviewing learning opportunities; and
- giving and receiving feedback without blame.

A6.151 Discretionary learning is prevalent when businesses don’t simply embrace a competitive strategy based on the delivery of standardised, low specification goods or services, but rather believe that workers at all levels in the organisation can contribute to innovation. As a result leaders organise work and management systems in ways that facilitate this objective.

A6.152 The challenge for Scotland is how to enable more organisations to develop and embed business strategies and leadership and management skills which drive innovation by creating an inclusive, development working environment in which people are given the full opportunity to contribute and participate. This requires a different approach to leadership and management than that which has served a top down, shareholder led model over recent decades, as set out in the 2014 Working Together Review.

A6.153 The Fair Work Convention has highlighted the benefits of the partnership approach in which employers and employees work together with shared interests. Scottish Enterprise, Highlands and Islands Enterprise and Skills Development Scotland, along with the recently rebranded Remarkable (formerly Investors in People Scotland) are already developing and implementing approaches drawing on international models of good practice. This should not compete with the range of private sector provision which is available for employers, but should lead the way in challenging some of the existing orthodoxies and perceptions about what “good leadership” means in a 21st century knowledge based economy.

A6.154 Everyone, in every job in Scotland has a contribution to make to our future prosperity. An economy in which people are developed to their full potential in meaningful jobs will be more successful than one in which significant numbers of people feel under-valued, or where their skills aren’t used to best effect, and where they feel disengaged from the purpose of their employer.

A6.155 This goes way beyond the mantra that “our people are our greatest asset”. We need to move on from thinking of employees as “assets” or “human resources” and more of being real people and individuals, with each person capable of being developed to their full potential, and whose well being is directly impacted by the way work is organised and the quality of interactions with colleagues and leaders.
A6.156 That can be a cornerstone of a progressive strategy which not only supports economic growth, but enables outstanding public service.

Infrastructure

A6.157 While economic growth in an advanced economy depends on productivity growth, driven in turn by human capital and innovation, the foundations required for growth include infrastructure that meets the needs of a changing economy. The Economist newspaper has described infrastructure as: “The economic arteries and veins; roads, ports, railways, airports, power lines, pipes and wires that enable people, goods, commodities, water, energy and information to move about efficiently.”

A6.158 Empirical evidence from the OECD\(^71\) has concluded that investment in network infrastructure can boost long-term economic growth in advanced economies as a result of the effect of the capital investment and because of its impact on economies of scale, network externalities and competition enhancing effects. The UK Government’s National Infrastructure Plan\(^72\) identifies a number of specific ways that investment in infrastructure can increase productivity, by enabling businesses to:

- sell products to customers more efficiently (e.g. through quicker and cheaper transport of goods, services or data, or lower costs of production);
- produce higher value products, including new intellectual capital (e.g. through improved facilities for research and innovation); and
- access larger markets (e.g. through improved links between production centres and ports/airports or through internet sales).

Benefits of Infrastructure Investment

A6.159 The Civil Engineering Contractors Association (CECA) recommends that investment in infrastructure should be maintained at least at 0.8% of GDP. For Scotland that would be £1.2 billion per annum and given the historic under-investment in infrastructure, there may be a case for substantially higher levels of investment over 5-10 years.

A6.160 To put this in some context, the new Queensferry Crossing, the biggest ever infrastructure project in Scotland is budgeted at around £1.4 billion, with construction taking place over a five-year period. The M74 extension in Glasgow cost almost £700 million.

A6.161 CECA estimates that the cost to the UK economy of failing to increase infrastructure investment back to the levels more typical for advanced economies (0.8% of GDP) could

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\(^71\) Balazs Egert, Tomasz Kozluk & Douglas Sutherland (March 2009), Infrastructure and Growth: Empirical Evidence, OECD Economics Department Working Paper 685

\(^72\) HM Treasury (2011), National Infrastructure Plan
be an annual loss to the economy of some £90 billion by 2026. Scotland’s share of that loss could be at least £7.5 billion per annum.

A6.162 However, investment in infrastructure generates both immediate economic impacts and a sustained contribution to economic growth. CECA estimates that each £1 billion in infrastructure investment:

- increases GDP by £1.3 billion as a result of economic multiplier effects (e.g. associated supplies for the construction and the knock-on benefits from construction employment); and
- increases overall economic activity by £2.8 billion, by creating a competitive environment for business.

A6.163 An increase in economic activity of this scale would be expected to generate tax revenues by £1 billion.

A6.164 The role of infrastructure could be even more important to the future of the Scottish economy than in the past. The growth and economic dominance of London is not an isolated phenomenon; other large global cities have grown, taking advantage of agglomeration effects, where businesses and people clustering together deliver economies of scale from network effects to drive economic growth. If Scotland is to compete in such a global environment, the role of infrastructure in connecting the main cities and towns, physically and virtually, becomes more important.

**Approach to Infrastructure Investment**

A6.165 Decisions on infrastructure investment in the UK and in Scotland tend to be made on a case-by-case basis. There are well-developed processes in place to prepare and assess cases for investment. These include, for example, the Scottish Transport Appraisal Guidance (STAG) system of appraising transport projects.

A6.166 A STAG appraisal is prepared when Government funding, support or approval is required for transport projects. The STAG appraisal system is comprehensive and claims to be objective-led rather than solution-led, that is, designed to start with a definition of the transport problem rather than a pre-conceived solution.

A6.167 However, the starting point for such analysis is the current transport system and a set of objectives for changing it. Moreover, in most cases the STAG is undertaken by or commissioned by the local authority or transport authority promoting a project and so a STAG appraisal that identifies an alternative solution to the proposed project would be rare.

A6.168 An alternative approach would be more strategic, taking the national economic strategy as the starting point and identifying the investments required in pursuit of the objectives set out. It seems likely that such an approach would generate a long list of projects, far in excess of the capital funding likely to be available. However, the advantage of an approach which
takes the national economic strategy as a starting point is that projects are not accepted or rejected for funding; rather they are prioritised in a long-term programme, with projects that will do most to facilitate economic growth given the highest priority.

A6.169 The example of the process used in Ireland shows how such a strategic approach to infrastructure investment can work.

**Ireland’s National Development Plan**

A6.170 While Ireland’s infrastructure challenges were far greater than those of Scotland, the approach that was taken is a useful case study for the delivery of significant improvements within one generation. Anyone who lived, worked or visited Ireland in the 1980s or even in the 1990s as “Celtic Tiger” economic growth rates were being delivered, will remember long and frustrating journeys between the major cities and towns. Ireland now has a motorway network and has invested in rail and other public transport capital, such as the bus fleet.

A6.171 In most countries, infrastructure projects are assessed on a project-by-project basis, sometimes based on cost benefit analysis cases and sometimes on political priorities. Infrastructure plans are often published, but these are often summaries of previously announced spending priorities.

A6.172 A more strategic approach has been taken in Ireland with the first National Development Plan (NDP), published in 1999, covering the seven-year period 2000-06. The NDP also served as the Operational Programme document for prioritising European funding with €1.42 billion of the €26 billion of investment from the EU regional development and cohesion funds. The plan set out a range of proposed spending priorities covering national roads and public transport, environmental infrastructure, sustainable energy, housing and health facilities, in order to meet a number of objectives:

- maintaining sustainable national economic and employment growth;
- the consolidation and improvement of Ireland’s international competitiveness;
- fostering balanced regional development; and
- promoting social inclusion.

A6.173 A second NDP covered the period 2007 to 2013, was bigger in scale (setting out €187 million of infrastructure investment) and wider in scope, covering economic infrastructure (transport, energy, environment and ICT), enterprise, science and innovation (investment in the R&D base, foreign direct investment, indigenous business development, tourism and rural development), human capital (skills development, modernising schools and higher education), social infrastructure (housing, health, justice, culture and sport) and social inclusion (pre-school education, social and economic participation, older people, people with disabilities and local and community development).
A6.174 The advantage of the approach taken by Ireland is that infrastructure investment can be prioritised based on economic and social policy priorities. The NPD also provided a mechanism for achieving a broad consensus across the political spectrum and in wider society, including businesses and trade unions.

A6.175 The development of the NDP involved extensive consultation, in particular with the social partners (the Government, representatives of industry such as the Irish Business and Employers Confederation and the Construction Industry Federation, trade union representatives the Irish Congress of Trades Unions, the voluntary and community sector) as well as research into Ireland’s economic and social needs and opportunities and evaluations of the previous NDP.

A6.176 Another feature of the NDP was the integration of different measures. So, for example, a regional dimension focused more per capita resources in the Border, Midland and Western (BMW) region and ensured that the transport and other infrastructure was in place to service greenfield industrial sites which were the focus of inward investment promotional activities.

Scotland’s Infrastructure Needs

A6.177 While the Irish approach to infrastructure planning has been highlighted as an example, the position of Scotland's infrastructure is not comparable with the situation faced by Ireland in the late 1990s, which, for example, still had a road network that predated the acceleration of Irish economic growth and was constraining further growth.

A6.178 However, the business leaders who have contributed their views to N-56 believe that Scotland has less well developed infrastructure than many of its competitors and the analysis presented earlier shows how UK investment in infrastructure has been in long term decline.

A6.179 In the context of the Scottish economy, there are two types of infrastructure investment that could drive economic growth.

A6.180 The first applies to any advanced economy and consists of infrastructure investment that facilitates productivity growth. This would include:

- physical infrastructure such as transport and information and communications technologies (including net generation access broadband) which can deliver better market access and efficiency gains; and
- investments that might be expected to deliver innovation and technological advance (such as investment in the R&D base).

A6.181 Such priorities would need to be well integrated with Scotland’s economic strategy. So, for example, if renewable energy continued to be a priority, then infrastructure priorities should include electricity grid development (including investment in grid technologies, the domestic grid and international grid connections).
The second would be based on an assessment of any particular opportunities that might exist given Scotland’s particular circumstances.

**Infrastructure Needs and Business Opportunities**

Airport and port services are two areas where Scotland’s geographical location presents opportunities that are worthy of further examination.

One potential project could be the development of hub airport services, in the same way that other small advanced economies including Denmark, Finland and, Iceland have done. Scotland is particularly well placed geographically to be a European hub for links to North America.

An increase in international air connections with Scotland would also have the advantage of addressing the concerns of business leaders and the tourism industry about air links to London and other global business and population hubs.

Scotland is well placed for air transport links between North America and Europe. However, Edinburgh airport, with 9.8 million passengers in 2013 was Europe’s 42nd busiest airport and Glasgow, with 7.4 million passengers in 2013 was the 59th busiest. To put this in context, the four busiest air hubs in Europe in 2013 were London Heathrow (72.4 million passengers), Paris Charles de Gaulle (62.3 million), Frankfort (57.5 million) and Amsterdam (52.6 million).

While it might not be realistic for Scottish hub airports to compete with the busiest hubs in Europe, the development of Copenhagen airport demonstrates what might be possible. With 24.1 million passengers in 2013, it was Europe’s 16th busiest airport. It is the hub for Scandinavian Airlines (SAS) and for Norwegian and has flights operated by most European airlines and other international carriers. Passenger numbers have increased from 17 million in 1998 and there are plans to increase to 40 million. The airport is well connected by road and rail to Copenhagen and the rest of Denmark and, via the Oresund Bridge, to Sweden.

Another example of an airport development that has taken advantage of its geographic position, despite a limited domestic market, is Iceland’s Keflavik International Airport. While it only has 2.8 million passengers a year, the population of Iceland is only 300,000 and the development of hub services has allowed regular flights to both North American and European cities, reducing Iceland’s peripheral disadvantages.

There may also be an opportunity for Scotland associated the increasing use of the Northern Sea Route linking the Pacific and Atlantic, north of Norway and Russia (as an alternative to the Suez Canal).

While hub airport services and an international freight port would provide services to Scottish businesses and residents, their feasibility will depend on securing a share of European and global markets.
A6.191 The development of hub services at Scottish airports and of improved sea freight services would lower the barriers to exporting for Scottish companies and could also help to ease the congestion at the London airports, particularly Heathrow.

**Transport Links within the UK**

A6.192 Transport links between Scotland and the rest of the UK will continue to be important since the rest of the UK is an important market for Scottish firms (and Scotland is the second largest ‘export’ market for rest of UK firms, after the United States).

A6.193 The development of High Speed Two (HS2) rail links could improve these links, and deliver significant economic benefits for Great Britain (the business case\(^{73}\) puts the net benefits of phase one and phase two at £70 billion, and possibly as high as £99 billion). However, the majority of the wider economic impacts will be delivered when HS2 moves into phase two, north of Birmingham.

A6.194 However, the planning of the project has assumed that the construction will start in London; consideration should be given to also constructing connecting high speed services from Scotland. This would improve transport connections between Scotland and Northern English cities as well as with London. There would also be environmental benefits associated with reduced demand for short haul air services.

**Internal Infrastructure Priorities**

A6.195 Global trends such as the growth of global cities, taking advantage of agglomeration effects, also means that road and rail infrastructure that improves access between Scotland’s centres of population will become increasingly important to competitiveness, to facilitate the development of critical mass in key economic clusters.

A6.196 However, planning should avoid focusing on connecting the rest of Scotland with the capital since that could lead to the economic dominance of the economy by one city, in the same way as has happened in the UK as a whole. Given the distribution of the Scottish economy a networked approach is more appropriate than a ‘hub and spokes’ centralisation of activity.

A6.197 It is not the role of this report to identify individual projects. Indeed, the recommended approach to infrastructure planning is that it should be driven by the priorities set out in the economic strategy. This has not always been the case for transport planning in Scotland. For example, the Scottish railway franchise has only recently had tourism issues added as one of the requirements of the bidding process.

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\(^{73}\) Department of Transport (October 2013), The Economic Case for HS2
Funding Model for Infrastructure

A6.198 The Scottish Government’s Infrastructure Investment Plan shows capital investment of between £2.1 billion and £2.7 billion per year over the period to 2029-30. This includes social infrastructure (health, schools, further and higher education, culture, housing, regeneration, justice and sport) as well as economic infrastructure (transport, digital, energy, water and environment).

A6.199 As discussed earlier, CECA recommends that investment in (economic) infrastructure should be maintained at least at 0.8% of GDP and there may be a case for substantially higher levels of investment over the next 5-10 years to address historic under-investment in infrastructure. It seems unlikely that this will be possible under current capital budgets.

A6.200 However, investment in infrastructure need not be entirely funded from public sector sources. By definition, the benefits of infrastructure are long term and so there is merit in also spreading costs out over time.

A6.201 One potential model would be Scottish Infrastructure Bonds, which could be offered to international bond markets and as domestic savings products. The long-term nature of infrastructure projects is a good fit with the increasing need for long term savings products that will increasingly be required as the ageing population structure increases the need to save to fund pensions.

A6.202 The feasibility of such a model for Scotland should be examined, since it has the potential to both address the need for pension and saving reforms and expansion and the need to invest in infrastructure to facilitate acceleration of economic growth. The model may require taxation treatment that promotes the long-term savings that would be required to encourage take-up.

Infrastructure Commission

A6.203 The case for greater investment in infrastructure is a powerful one. However, the returns on such investment could vary greatly depending on the decisions that are made on the priorities for investment. These can be difficult decisions, since they require view to be taken on technological change as well as future demand (for example, will cable based broadband or next generation mobile be the dominant internet infrastructure of the future and should planning trunk road investment take account of the potential for autonomous vehicles in the future).

A6.204 While certainty is never possible, the likelihood of making the right judgments on infrastructure priorities can be increased by putting in place the institutions to undertake the horizon scanning and research to inform such judgements.
A6.205 There is also merit in recognising that these are long term decisions and so there is a need for advice that looks beyond the current infrastructure constraints and short term opportunities, and beyond the political cycle.

A6.206 An Infrastructure Commission should be established to provide this strategic advice, based on a research programme, to align investment with long term economic development aspirations.

**National Investment Bank**

A6.207 We very much welcome that the latest Programme for Government included a commitment to the creation of a National Investment Bank. We suggest that it is critical that in creating this the model should accommodate longer term risk bearing investments. The participation of the bank with other investors on projects such as life sciences, technology, science innovation, energy innovation where the public sector can play an important role. Similarly, the bank can help leverage investment into housing and other infrastructure and participate alongside other long term investors to the benefit of the broader economy. We also encourage that this policy move is considered alongside a more comprehensive review of policy in this area and the organisations and structures that deliver it from local government to national agencies. The Scottish Futures Trust is well established and well placed to lead this work.

**Conclusion**

A6.208 This chapter has considered the key areas of focus we judge to be important for boosting Scotland’s productivity and competitiveness. We have avoided a specific sectors strategy and as a result, there are, of course, many specific industrial policy actions that could be further considered. We have therefore identified the 6 specific areas of focus: global competitiveness standards; trade and market access; digital infrastructure and skills; science and innovation; workplace skills and learning and infrastructure. This is not the last word, but we hope it provides priorities for focus and action that can deliver the most substantial and tangible benefits from policy.

A6.209 Every bit as important as these initiatives is choosing what government can cease to do, resource and prioritise and our final recommendation in this section is for the economic strategy to contain a ‘Stop’ programme to ensure focus and efficient use of resource.

**Key Recommendations**

A6.210 **Frictionless borders and market access:** Securing frictionless borders with the rUK and EU should be a top strategic priority of the Scottish Government. Brexit places a material risk on Scotland's access to export and import markets and the free movement of people, capital, goods and services and must therefore be resisted vigorously. The alternative will be a severe reduction in living standards, growth and employment levels. Scotland has more at stake than most small nations in the coherence of the process of fair global
integration. The lessons of the Scottish enlightenment and history since must be kept front of mind by all.

A6.211 **Competitiveness rankings:** Improving the rankings of Scotland in the main competitiveness rankings should be a core long-term aim of economic policy and the trade-offs involved considered and solutions agreed for the long term.

A6.212 **Competitive Business Taxation:** As part of the review of taxation recommended in Part B we recommend that the impact of business taxation on growth performance is carefully assessed. We are interested in the potential to tailor the Dutch R&D tax credit scheme, enhance incentives for longer term equity investment and improve capital allowances. While we do not consider that competitive use of profit taxation (corporation tax) is an optimal strategic tool, we do recommend that the headline rate of corporation tax should not rise above the level prevailing in the rest of the UK. As with all taxation the impact of the overall structure on both the tax base and revenue generation should be carefully assessed to ensure the more effective system is deployed.

A6.213 **Engagement of International Companies and Sectors:** organisational capacity should urgently be designed and recruited to create and support sector facing business Ambassadors, building on and increasing the prominence of the Global Scots network. This is intended to create a world class dialogue and engagement with those major companies located in Scotland or considering investing in a presence in Scotland to ensure opportunities are maximized and risks mitigated.

A6.214 **Improved data and analysis:** There are gaps in the data that are available on Scotland’s trade balance, and on the wider balance of payments position which should be addressed in the short so that the evidence is available on which decisions on policy and assessments of its success can be based. This is an immediate priority.

A6.215 **Infrastructure Commission:** An Infrastructure Commission should be established to provide strategic advice, based on a research programme, to align investment with long term economic development aspirations. This should engage across sectors to seek a national agreement on the long-term priorities and plan. A significant increase in annual investment should be costed and the best means of delivering it identified. If 0.8% of GDP is identified as a go-ahead optimal steady state by some, there is a strong case for a significant increase in this in the short to medium term to ensure catch up in digital and physical infrastructure which will further carry economic benefits that could secure the ‘pay-back’ to investment in due course.

A6.216 **An Export Growth Strategy** should be created urgently in consultation with the main exporting sectors, companies and potential exporters especially in smaller companies. The aim of this strategy must be to dramatically increase the value of exports overall and to diversify the source of export income very considerably as countries such as Ireland have achieved in recent decades. The promotion of Scotland’s exports should be a central part
of the marketing effort of the country alongside migration encouragement. Measures could include the following elements:

- establish a Ministry for Trade and Foreign Affairs to oversee a new and heavily integrated approach to trade, investment and economic diplomacy;
- build a new embassy and consular network with economic diplomacy as its core purpose and with the ability to help harness and direct all of Scotland’s international activity;
- retain the link between internationalisation and wider business support through the enterprise networks but with increasing emphasis on, and incentivisation of, growing the number of domestic firms engaged in exporting activity;
- establish a stronger, better funded inward investment agency with an independent and high level Board including representatives of indigenous and investor business communities;
- direct more resources to trade and internationalisation activities recognising that comparator countries spend more on supporting exports, attracting inward investment and promoting tourism than Scotland currently does; and
- provide financial support mechanisms for exporting businesses e.g. export credit guarantees that are at least as generous as those provided in comparator nations.

**A6.217 National brand strategy:** The development of a national brand and campaign is critical to support broader export. Increasing Scotland’s position in the Anholt-GfK Roper Nation Brands Index is a useful benchmark. Resourcing of national brand strategy: The investment in marketing and communications behind Scotland’s reputation internationally must be review urgently and benchmarked against the scale and effectiveness of Ireland, New Zealand and Norway, which would imply a ten-fold increase in resourcing. A longer-term view of risk and reward should be central to the judgement on the investment level and major exporters engaged to enhance the overall offer.

**A6.218 National Digitalisation 2030 Strategy:** a core focus on growth strategy must be the adoption of the target to become a world leader in digitalisation by 2030, building on the Scottish Government’s Digital Strategy. A report by Deloitte for the Scottish Futures Trust suggests this could deliver £13 billion to GDP, 175,000 jobs, £2.5 billion in exports and £4.5 billion in tax revenues. The Scottish Futures Trust should be asked to create this strategy immediately identifying the measures required, the role of government and the collaboration needed by the private and other sectors.

**A6.219 Universities Growth Strategy Review:** We recommend a central role for Universities in Scotland’s growth strategy and an immediate review of the policies that are required to help them maximise their contribution. This should be led by a combination of academic, investment, business and policymakers.
A6.220 **Government Led Innovation Review**: There should be a policy review to assess the impact of previous interventions and to identify the policy requirements to close the R&D gap, improve the commercialisation performance and identify the role of workplace skills in innovation and the creation of a learning economy. Tax measures such as a Dutch-style R&D tax credit scheme and need for a innovation agency such as Finland’s Tekes should both be subject of feasibility studies.

A6.221 **Top 5 Strategic Development Projects**: at any one point in time we recommend that the Scottish Government, Local Authorities and Economic Development agencies should combine to select the top 5 strategic sites for urgent economic development and devote leadership effort and resource to fast-track them. These are likely to be in or around the main cities where the anticipated return on investment is greatest and likely to unlock greater economic activity. The focus of these projects is likely to combine infrastructure, transport and commercial property and residential development in some combination. The Infrastructure Commission could lead the process of selection and oversee delivery. Hub airport development and the opportunity for a freight hub could be specific opportunities to investigate further.

A6.222 **Scottish National Investment Bank**: We support the creation of the SNIB and recommend that the bank participates with other investors on long-term risk bearing projects requiring equity investment and return. We further recommend that this policy move is considered alongside a more comprehensive review of policy in this area and the organisations and structures that deliver it from local government to national agencies. Close co-ordination with the British Business Bank and its investment priorities would make sense short, medium and long term as would an equivalent dialogue with the Irish Government.

A6.223 **Housing and Growth**: A target should be set for all tenures of housing construction to align to broader migration and population strategy and the development of the planning process. In particular all options should be considered to ensure the investment is made in high quality housing that is far more affordable at all levels than at present. Housing should be seen as an integral part of economic and competitiveness strategy.

A6.224 **Stop Strategy**: It is a relatively simple task to identify more tasks, resources and initiatives that any organisation must engage to improve its performance. It is far more difficult to ensure it stops doing peripheral activity or less impactful work. As part of the economic strategy it is critical that this is a work stream that is prioritised and resourced under senior leadership and governance.
A7  PART A: SUMMARY OF MAIN RECOMMENDATIONS

A7.1 Throughout the report a number of recommendations are made. We encourage all of these to be considered immediately in terms both of what can be achieved now. Where greater policy responsibilities are required (such as in migration or taxation) the UK Government should be approached and co-operation sought for policies that would benefit Scotland’s performance long-term.

1. **National Economic Strategy**: The creation of an overarching national economic strategy that (as far as is possible) focuses on long term goals and secures broad cross partisan and sectoral support should be the central goal of growth policy. This is and of itself a necessary but not sufficient factor for success. **Growth goals**: The Strategy should include globally ambitious growth goals, to i) First 10 years: catching up with the small advanced economies average growth rate (currently 2.5%) (ii) Years 10 to 25: closing the GDP per capita gap with the small advanced economies (with period of 3.5% growth) (iii) maintaining a GDP per capita position in line with the top half of the small advanced economies group.

2. **Next Generation Economic Model**: A national debate should be commenced on the model we seek for the long-term. Choosing matters and the manner of choosing helps determine the sustainability of the choice, since the central lesson from the success of small advanced economies is that they have achieved consensus about long-term priorities and have a collaborative approach to pursuing those priorities. Our recommended starting point for that national debate, is based on learning the lessons from benchmark small advanced economies and applying them intelligently to Scotland’s circumstances, needs and opportunities. The features of that model (leaning especially on the lessons of Denmark, Finland and New Zealand) include: quality of governance, long-term cross partisan strategy, a focus on innovation, being a competitive location for international investment, exploiting Scotland’s resource endowment, an export-orientation, migration-friendly, where flexible labour markets combine with fair and progressive work and active employment policies, maintaining a highly skilled workforce with transferable skills, using taxation as a tool for economic development but not competing as a low tax location, placing inclusive growth at the heart of the strategy and viewing quality of life as both an asset and objective.

3. **Delivering Cross-Partisanship and Collaboration**: A cross-partisan collaborative approach to policymaking against the long-term national strategic framework should be institutionalised. Direct engagement across sectors, business representative, employee representative and other policy groups should be institutionalised to ensure that the national economic strategy remains a vital and dynamic part of policymaking.
4. **Identifying comparative advantage and strategic priority sectors**: while we are leery of the idea of ‘picking winners’ a clear choice should be considered in identifying and promoting those areas (rather than particular firms) in which we judge the Scottish economy to have sustainable comparative advantage. The process of selecting strategic priorities should be a key output of the process identified in (2) and (3).

5. **Productivity Commission**. We recommend the establishing of a Productivity Commission in Scotland, to identify opportunities for productivity improvement would be useful. Adopting a fixed-term model, as in Denmark or Norway, would be an easy way to start – with an option to establish a New Zealand style Productivity Commission model if appropriate.

6. **Frictionless borders and market access**: Securing frictionless borders with the rUK and EU should be a top strategic priority of the Scottish Government. Brexit places a material risk on Scotland’s access to export and import markets and the free movement of people, capital, goods and services and must therefore be resisted vigorously. The alternative will be a severe reduction in living standards, growth and employment levels. Scotland has more at stake than most small nations in the coherence of the process of fair global integration. The lessons of the Scottish enlightenment and history since must be kept front of mind by all.

7. **Population growth**: Targeting a growing population of working age and the attraction of talented migrants should be a top priority of Scottish Government economic policy and marketed vigorously to the rest of the UK and the world. Scotland should seek to be regarded as the most talent friendly country in the world.

8. **A new ‘Come to Scotland’ package** should be created with a package of incentives including:

   - A ‘transition relief’ package of tax incentives to reduce the cost of moving to Scotland, and for graduates of Scottish Universities to stay on should be the headline instrument.
   - A reduced capital threshold for investors who are required to provide this
   - A reduced investment threshold for business start-ups
   - A new visa system benchmarked on the most efficient and easy to use in the world

9. **Marketing of ‘Come to Scotland’**: The marketing of this package and the overall approach should be a major part of the country’s international and UK marketing investment and the communications strategy for the internationally facing Scottish
agencies. As far as possible the intention will be to secure cross partisan support for the whole approach which also attracts engagement from our major employers, exporters and universities. The budget should reflect the priority as should the engagement of senior Ministers and officials.

10. **Celebration of the contribution of migrants**: A complimentary programme of internally focused public engagement on the contribution of our migrant and ‘new Scots’ communities should be embedded in the work of the Government, Local Authorities and across Parliament.

11. **International Students and Graduates**: The attraction and retention of international students should be a priority of policy and changes made immediately to alleviate the constraints caused by UK policy. These changes should include both visa changes to allow more students to stay in Scotland long enough to secure employment appropriate to their qualifications and tax incentives for the first three years of employment (in recognition of the social, economic and exchequer contributions already made).

12. **International Government and Multi-national Organisation Strategy**: One of the existing internationally facing elements of the Government or indeed a combined international department or agency should be tasked with creating a strategy for engagement and transitioning of the staff of international governments and multi-national organisations to Scotland. As well as providing a great home for countries and organisations that wish to engage with Scotland the strategy should aim to provide a home for as many international facing organisations in function or headquarter as is possible. A warm welcome should be matched with a professional service to ease transition cost-effectively.

13. **A Commission on Gender Pay Equality** should be created with a remit to consult and engage across the economy and consider the best policies and incentives to produce a purposeful reduction in the gap with the performance of the best performing small advanced economies, especially New Zealand.

14. **The JRF target of a 50% reduction of poverty to 10%** of the population should be agreed within a stretching but achievable time frame. This policy should be elevated to central strategic importance in the overall strategy and prioritised accordingly in resource allocation.

15. **Long term strategy on participation and inclusion**: agreement should be sought on the central importance of participation and inclusion to sustainable economic growth and a
framework set up to oversee long term policy intervention and resource allocation from e.g. The Fund for Future Generations. Whilst inclusive growth is already a policy priority of the Scottish Government, the full powers of independence will provide an opportunity to expand the priority across all policy areas that can contribute, including fiscal policy, industrial strategy, social security, economic participation and fair work, education and skills and community engagement. **Strategic communication on the costs of inequality** should be a priority of government and political strategies. It is important to build a wider public understanding of the realities of the short and long-term costs so that agreement and support can be obtained for longer term interventions.

16. **Labour markets and flexicurity**: Scotland can learn from Denmark and move to a flexicurity model, with flexible labour markets but without the insecurity the UK benefits system promotes. This would be expected to deliver lower unemployment, particularly lower youth unemployment and enhance productivity by stabilising investment incentives. We recommend a consultation of how a move can be made to establish a Scottish flexicurity model.

17. **Competitiveness rankings**: Improving the rankings of Scotland in the main competitiveness rankings should be a core long-term aim of economic policy and the trade-offs involved considered and solutions agreed for the long term.

18. **Competitive Business Taxation**: As part of the review of taxation recommended in Part B we recommend that the impact of business taxation on growth performance is carefully assessed. We are interested in the potential to tailor the Dutch R&D tax credit scheme, enhance incentives for longer term equity investment and improve capital allowances. While we do not consider that competitive use of profit taxation (corporation tax) is an optimal strategic tool, we do recommend that the headline rate of corporation tax should not rise above the level prevailing in the rest of the UK. As with all taxation the impact of the overall structure on both the tax base and revenue generation should be carefully assessed to ensure the more effective system is deployed.

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