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The background of the entire page is a silhouette of a construction site against a light blue sky. A large tower crane is on the left. In the center and right, there are multiple levels of steel scaffolding and structural frames. Silhouettes of construction workers are scattered across these levels. A large, leafy tree silhouette is positioned on the right side, partially overlapping the scaffolding. At the bottom left, the silhouette of an excavator is visible.

# UK GROWTH

*A New Chapter*

The logo for the Centre for Economic Performance features two yellow triangles pointing towards each other, one on the left and one on the right, framing the text.

CENTRE for ECONOMIC  
PERFORMANCE



*Spinnaker Tower, Gunwharf Quay, Portsmouth, Hampshire, England, United Kingdom, Europe*

# A blueprint for growth in 2017 and beyond

## Jobs and skills

In a world of rapidly changing technologies and labour markets it is essential to develop systems of lifelong learning to promote greater security and adaptability for workers. Britain's tax system should be reformed to support companies' investment in skills. At present the tax system tilts the economy in favour of self-employment over employee status, and towards investing in buildings and machines over staff. Tax reforms for the self-employed and a skills and training tax credit system are recommended. Boosting skills and wages in this way is key to supporting inclusive growth.

## Industrial strategy

The government is right to focus here but there are gaps between this vital area and monetary, fiscal and competition policy. Industrial strategy decisions should be based on a new British State Aid law, clear operational rules and competitive tendering, independent oversight, and statutory publication of the analysis supporting decisions. The new industrial strategy should include an overarching plan on infrastructure, innovation and tackling shortages at all skill levels – including a focus on particular demographic groups.

## Openness

The UK's long-standing commitment to openness should be maintained as the UK forges new relationships with the EU and rest of the world. Britain's strength is in services, and two-thirds of the country's trade is with the US and EU. Negotiations must focus here: a trade deal with the US is needed, as is a new EU trade agreement with a "services passport" at its core. The UK must continue to engage strongly in international institutions for trade, investment, aid and public goods. Visa reforms must ensure that the UK's skills shortages do not intensify.

## Finance and growth

Despite the overall strengths in the UK's financial services sector, there are longstanding issues in the provision of finance to innovative firms and for infrastructure projects. Government should launch a set of financial reforms based on promoting access, competition and long-termism in finance. Reforms should focus on improving access to finance for businesses and innovation, including flexible regulation of challenger banks, increased support for the FinTech sector, improving incentives for equity investment, a boosted role for the British Business Bank and a new infrastructure bank.

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# Executive Summary

**The UK Economy is at a critical juncture. Leaving the EU creates economic challenges that necessitate widespread policy change. But this also generates an opportunity to tackle some of the long-standing challenges which have resulted in the UK's productivity lagging behind our major competitors. Decisions made in the next year will have a lasting impact on the UK's economic trajectory for years to come. If the government gets these decisions right, the economy will be more productive, more equitable and more environmentally sustainable.**

**The LSE Growth Commission belongs to a long-standing tradition of engagement between research, business and policy-making which has been the hallmark of the LSE since its foundation. The report draws on evidence and analytical arguments to make a range of concrete policy recommendations affecting labour markets, industrial strategy, trade, immigration and finance. Together they form a blueprint for growth which should command support across the political spectrum.**

The UK faces a number of growth challenges in the coming years. The issues outlined in the first report of the LSE Growth Commission concerning the UK's chronic underinvestment in skills, infrastructure and innovation remain. The economy is growing, but this is largely accounted for by increases in employment rather than productivity. In the long run productivity is what drives prosperity, but the UK lags behind its peers with UK workers around 30% less productive on average than their counterparts in the US, Germany and France. Improving our productivity performance therefore must be central to government's economic strategy.

Much has changed since our first report was published in 2013, most notably the result of the UK's referendum on EU membership. As Brexit becomes a reality and the UK begins to define a new relationship with the EU and the rest of the world, many of the assumptions behind the UK growth strategy of the past quarter century are open to debate. The UK has relied heavily on skilled

migrant labour as a means of plugging the deficiencies of the education and training systems. At the same time, the strength of the higher education system has attracted some of the best global talent. The UK's commitment to open markets and trade has been underpinned by its membership of the Single Market which provides the basis of a competitive environment for firms and has opened up market opportunities for UK-based businesses. Although the contribution of the financial sector to the UK's success over the quarter century leading up to the financial crisis has often been exaggerated, it remains one of the UK's core strengths. Further, the business services sector, and the services sector more broadly, have played a key role in generating UK growth.

The Brexit vote and a general rise of anti-globalisation sentiment in the US and other Western democracies have brought into sharp relief the importance of ensuring that the benefits of economic growth are distributed across society. The evidence points to the importance of technological change, not only in creating job opportunities for some, but also disrupting them for others, a process which deserves closer attention from policy makers than it has received in the past, if more inclusive growth is to be realised.

In addition to the evolving political and economic landscape at home, a range of international developments have implications for UK growth. The world economy has been slow to pick up after the financial crisis and the view that the industrialised world is entering a period of "secular stagnation" has gained currency. This, coupled with continued instability in the Euro area and the prospect of a slowdown in China, creates an uncertain global outlook from which the UK will not be insulated.

The year 2015 was remarkable in its efforts to forge a global agenda with agreement on sustainable development goals and climate change. There is arguably more consensus on this agenda than at any time since the early years after the Second World War, and whether this will be undone by the new administration in Washington DC remains to be seen. Sustainable infrastructure will be key to this agenda in the next 15-20 years. Having been a major player in both agreements, the UK is well-placed to carry this agenda forward with a new industrial strategy and through reshaping UK infrastructure.

The Commission has made recommendations in four areas to reflect Brexit issues and new government structures.

## Labour markets and inclusive growth

The fact that employment in the UK has risen to record levels despite the echoes of the financial crisis and the slowdown in global growth is a great achievement. But the other side of Britain's high-employment economy is low pay, and the rise of fragile employment status including self-employment and on-call (so called "gig") workers.

**The Commission does not support proposals that would clamp down on these new forms of employment.** At the same time, British policy – tax, regulatory and skills – should be tilted in favour of employees in low-skill sectors. At present the system is biased against them. **The Commission recommends consulting on fundamental reform of the tax and minimum wage system so that it is neutral on forms of employment, and neutral between investing in machines and in people. In particular:**

- **Lifelong learning and adaptable skills.** Rapidly changing technologies and labour markets make it essential for governments to promote a labour market with greater security and adaptability for workers, including lifelong learning.
- **Eliminate biases against employment.** The advantages for firms and employees using self-employment as a means of avoiding payroll taxes and circumventing minimum wage legislation should cease. The classification of employment versus self-employment is in need of clarification and reform.
- **Eliminate biases that favour physical capital and new technology over human capital.** Tax breaks and allowances for capital should be extended to a generalised tax break for "skills investment". This should place investment in staff training, courses and education on the same footing as investment in plant and machinery. In nature this could be a Skills and Training tax credit, akin to the R&D tax credit that currently exists.

## Industrial strategy

Supporting UK business requires continued investment in skills, infrastructure and innovation as emphasised in our first report. These horizontal policies support business across the board, and there is also a need to continue developing policies focused on particular sectors, technologies or places. The current government has rightly put industrial strategy at the top of its policy agenda. There is a huge opportunity here: this area of policy is opaque, unaccountable and changeable and requires root and branch reform. The UK's recent economic history including the reform of monetary and competition policy in the late 1990s, and fiscal policy (with the establishment of the OBR in 2010) show that huge improvements are possible in a short period of time. **The Commission proposes a new institutional architecture for delivering the government's emergent industrial strategy.** The new system should include the key elements that other areas of British economic policy benefit from, including:

- **Law and mandate.** A new law or long-lasting mandate, including a state aid law, and an institutional framework to implement it;
- **Policy guidelines everyone understands.** A set of publicly stated guidelines for intervention in particular sectors, technologies or places, with competitive tendering where possible;
- **Independent oversight.** The ultimate objective is a long-term industrial strategy that is isolated from political cycles. An independent body should strive to overcome fragmentation across different levels of government.
- **Transparency, accountability and scrutiny.** Government should publish a long-term plan. The body responsible for industrial strategy should publish a standardised Industrial Strategy Report each year on the state of British business, setting out policy decisions, their rationale, cost and impact.

The Commission sets out six key priorities that the new industrial strategy framework should pursue in its first long-term plan. They include tackling skills shortages at all levels (in particular basic skills deficiencies and ensuring the UK utilises and invests in female talent), a focus on the low-wage, low-productivity sectors that employ large numbers of UK workers; new steps for financial support for firms with high growth potential; enhanced collaboration between universities, government and the private sector; continued devolution of power and support to local leaders; and developing a set of wider public goals industrial strategy will support, including green technologies, health and social care.

## Openness

The result of the June 2016 referendum on EU membership will change the way goods, services, capital and people cross the UK's borders. The main task for policy makers is to find a set of trade, investment and immigration arrangements that are best for the UK.

**The UK's long-standing commitment to openness should be maintained as the UK forges new relationships with the EU and rest of the world.** This means low tariff and non-tariff barriers, facilitating Foreign Direct Investment (FDI) and openness to global talent. In particular:

- **Focus on big deals.** While progress with Canada and Australia is welcome, the UK must prioritise deals with its largest trading partners – the EU and the US. Striking a free trade agreement with the US with a focus on reducing non-tariff barriers could provide a blueprint for other bilateral negotiations. Government should also be mindful of the medium term potential of fast growing emerging markets.
- **A new EU Free Trade Agreement (FTA) built on services trade.** The new deal with the EU must prioritise market access for services, the UK's key area of comparative advantage.
- **Maintain openness to investment.** Trade and FDI must be considered in tandem. Many of the sectors where the UK is a strong exporter are also host to high levels of FDI and are often engaged in global value chains.
- **Continue strong engagement in international institutions.** This is essential for fostering constructive internationalism and the context for world trade at a time when they are under threat.

**The UK must preserve its status as a magnet for talented people from around the world.** An open approach to international talent complements the natural advantages – including language, time zone and legal system – that make the UK a good place to study, work or build a business. The Commission proposes that **government should seek to:**

- **Attract more skilled workers.** Rather than pursuing a net migration target and limiting the numbers of visas for skilled workers granted, the UK should aspire to an increase in the stock of foreign-born (EU and non-EU) skilled workers living in the UK.

## Finance and growth

The UK is a world-leading financial centre, and financial services are an important source of jobs, tax revenues and exports. Brexit poses a threat to the pre-eminence of the City of London and the associated supply chain of business services which have benefited from EU membership. This could have negative implications across the UK, since half of all financial services jobs are outside London. In order to avoid these, the Commission proposes:

- **A services passport.** Develop a near-equivalent to the EU services passport (to include financial services) as a matter of urgency.
- **Opening up to new markets.** Foster new links with non-EU global financial centres, especially in fast-growing emerging and frontier markets, such as China, India, Nigeria and Kenya. The Financial Services Trade and Investment Board (FSTIB) should continue to aim to strengthen the UK's position as the centre of emerging market finance.

Despite the overall strengths of the financial services sector, there are long-standing issues in the provision of finance to firms with high growth potential and for infrastructure projects. **The Commission proposes steps to support competition in the banking sector, and measures to promote long-term investment ("patient capital") that can help alleviate financing constraints for fast growing, productive firms.** In particular, the Commission proposes:

- **Challenger banks.** Support the development of challenger banks by utilising flexibility on capital requirements that will be possible outside the EU.
- **FinTech.** Support the FinTech sector by granting investors access to tax relief schemes, such as the Equity Investment Scheme (EIS) and the Seed Equity Investment Scheme (SEIS).
- **SME securitisation.** Create a corporate bond market for SMEs, including efforts to kick-start SME loan securitisation.
- **Equity culture.** Design corporate governance requirements, including reporting and investor engagement, to create incentives for long-term equity investment.
- **The British Business Bank.** Expand the role of the BBB using flexibilities not possible under EU rules. This added flexibility could give the BBB a pivotal role in supporting the UK's Industrial Policy.
- **A new infrastructure bank.** This would help address problems raising finance for infrastructure projects. It is also important to ensure that the Green Investment Bank continues to operate effectively as a development bank.

## The Commissioners

The Commission's twelve members have wide experience in academia, policy and the corporate sector:

### Co-chairs:

**Timothy Besley**, School Professor of Economics and Political Science, LSE

**Stephen Machin**, Professor of Economics and Director of the Centre for Economic Performance, LSE

**Lord Nicholas Stern**, IG Patel Chair of Economics and Government, LSE

### Members:

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**Tera Allas**, Visiting Fellow, McKinsey Global Institute

**Lord John Browne**, former CEO, BP plc

**Francesco Caselli**, Norman Sosnow Professor of Economics, LSE

**Sir Richard Lambert**, Chairman, British Museum

**Rachel Lomax**, Non-Executive Director, HSBC and Heathrow Airport

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These public sessions were filmed and are available on the LSE Growth Commission web page. The Commissioners thank EconFilms for their work on this. The sessions were:

- **What Next for Growth in the UK?** Panel discussion with Stephanie Flanders (JP Morgan), Vince Cable, Alistair Darling, and George Osborne. 2 November 2016.
- **Labour Markets and Inclusive Growth.** Evidence session with David Autor (MIT), Richard Blundell (UCL & IFS), Gavin Kelly (Resolution Foundation) and Rain Newton Smith (CBI). 17 November 2016.
- **Openness, Trade and FDI.** Evidence session with Karolina Ekholm (Ministry of Finance, Sweden); Karen Helene Ullveit-Moe (University of Oslo and Bank of Norway); Lionel Fontagné (CEPII), Paola Conconi (ECARES); Will Page (Spotify); Tim Sarson (KPMG). 21 November 2016.
- **Industrial Policy and Growth.** Evidence session with Mariana Mazzucato (Sussex University); Kate Collyer (Competition and Markets Authority); Gary Elliottt (Aerospace Technology Institute); Mark Littlewood (Institute of Economic Affairs); Alan Overd (Charles Rivers Associates). 22 November 2016.
- **Finance and the City of London.** Evidence session with David Miles (Imperial); Huw Evans (ABI); Charles Bean (LSE); Jenny Tooth (UKBAA); Adam Jackson & David Morrey (Grant Thornton); Angus Canvin (Investment Association); Lindsey Naylor (Oliver Wyman); Peter Smith (Blockchain). 6 December 2016.

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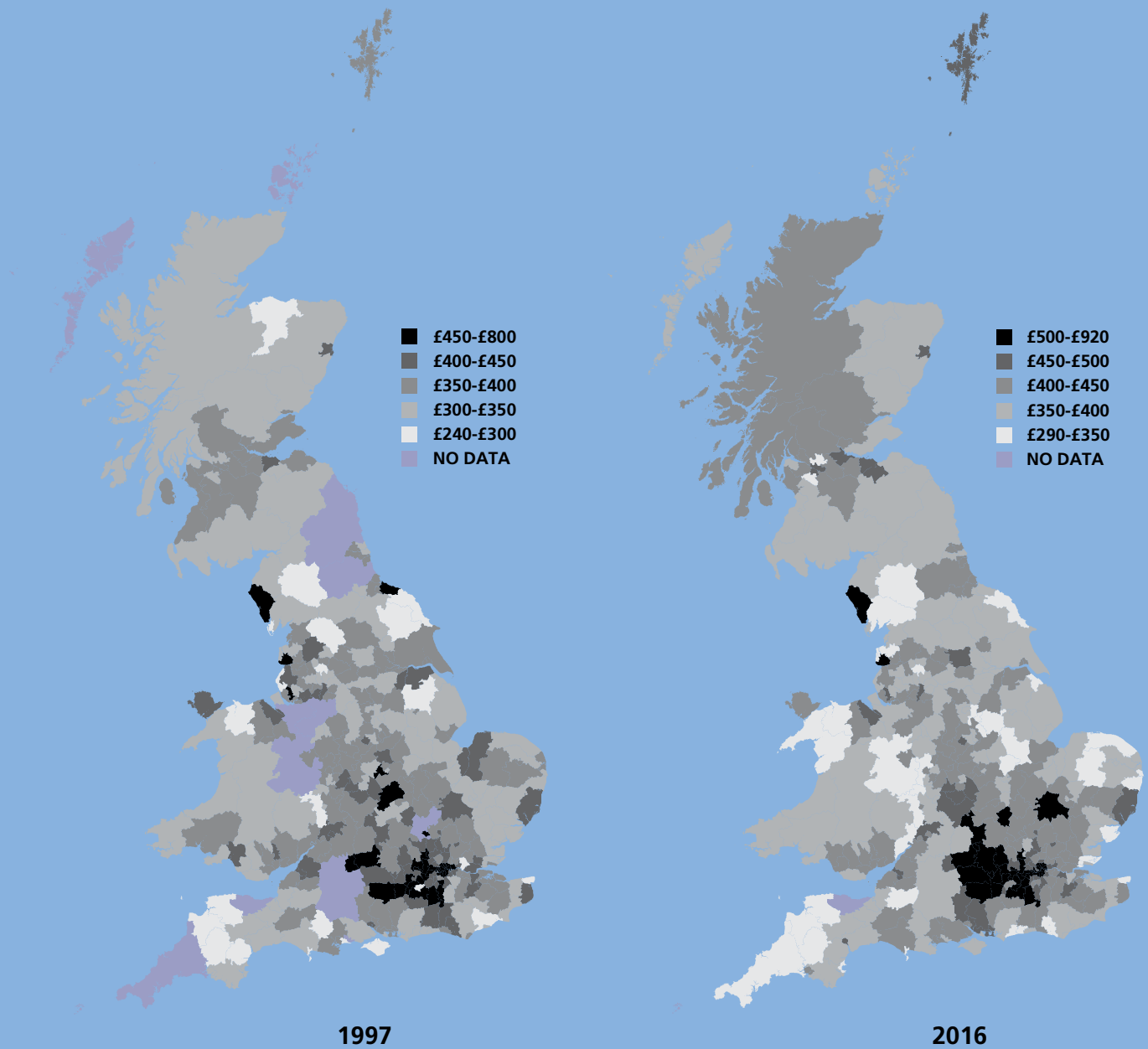


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See the website for further information  
<http://lse.ac.uk/growthcommission>

## Weekly Wages in Britain, 1997 and 2016



Source: ONS.

# 1. A New Chapter in the Story of UK Growth

**Much has changed since the Growth Commission's first report, published in 2013. Since then the government has adopted new policies on skills, infrastructure and regional devolution. But June 2016 marked a more fundamental shift: the result of the referendum on EU membership will fundamentally re-define the UK's trading relationships both with the EU and rest of the world, and the "Brexit" vote led to a new Prime Minister and Chancellor with new economic priorities. This chapter provides the background for our new report. It starts by reviewing the impact of our 2013 publication, before summarising the important changes that have taken place in the UK economy since then.**

## The 2013 report – recommendations and impact

The LSE Growth Commission's first report, "Investing for Prosperity," contained recommendations in three main areas of UK underperformance: skills, infrastructure and innovation. Since then a number of our recommendations – notably on infrastructure – have been adopted. Other areas have seen little movement, or the UK fall further behind our advanced-economy peers (see Table 1.1).

### Skills

Strong human capital is critical for sustainable growth. The first Growth Commission focused on an area where the UK has persistently underperformed: inadequately educated young people emerging into the world of work. This is widely cited as one of the key factors underlying our longstanding productivity gap with other large economies.

**The core recommendations for improving human capital in the UK related to schools** and included measures to improve teacher quality; to create a more flexible system (through greater autonomy for schools, parental choice, and easier growth of successful schools) and a greater focus on outcomes for disadvantaged pupils.

Since 2013 government policy has continued its earlier trend, with specific reforms implemented both in terms of the administration of schools and curricula. The coalition government pursued a number of policies to raise the quality of teaching and school leadership through changes to training for new and current teachers, raising the status of the teaching profession to attract higher calibre teachers and improving the quality of school leadership. There were reforms to link teachers' pay to performance, and new tougher skills tests for trainees. Reforms continued on a similar track under the Conservative government of 2015-2016.

The government has continued to drive academisation of primary and secondary schools. **We supported academisation, but suggested that expansion should be focused on underperforming schools with identified problems serving disadvantaged children.** Today over 60% of secondary schools are academies, compared with around 15% of primary schools. Full academisation (or close to it) could occur by 2020.

While there is evidence that the secondary academies in disadvantaged areas set up in the early 2000s had a strong effect on pupil intake and on pupil performance, ongoing research on the effectiveness of the much larger-scale policy, including the conversion of high-performing schools and extending the policy to primary schools since 2010, suggests that it has no effect on students after conversion in most schools.<sup>1</sup> **Since restructuring the system is costly and potentially irreversible, the government should focus on poorly performing schools.** Improving education is crucial for raising growth and reducing inequality.

More recently, the Prime Minister has announced plans to expand grammar schools, and they received additional funds in the Autumn Statement. Those in favour of such policies argue that grammar schools improve the opportunities for poorer children. **However children from disadvantaged backgrounds are under-represented in grammar schools** and evidence suggests that education in non-selective schools is likely to suffer as the number of selective schools rises.<sup>2</sup>

<sup>1</sup> See Eyles and Machin (2015) and Eyles, Machin and McNally (2016).

<sup>2</sup> See Atkinson et al. (2006).

The pupil premium (a grant for disadvantaged pupils, introduced in 2011) was supported in our first report but the Commission suggested that the indicators used to identify “disadvantaged” pupils should be widened to include more than free school meal status. Since then, the level of funding per pupil has increased and eligibility for deprived children has been extended to those that have been in receipt of free school meals in the past 6 years. We also proposed that the progress of disadvantaged children should be given more prominence in school inspections. There has been progress here: Ofsted now report on how schools’ use of the pupil premium funding affects the attainment of their disadvantaged pupils, and a number of related metrics are included in performance tables.

Underperforming schools in disadvantaged areas find it hard to attract high-quality teachers. To date, school revenue allocations are heavily influenced by historical funding levels – the so-called “spend plus” methodology, which does not adequately reflect different local conditions, nor challenges in recruitment and retention. **The government has been consulting on a new funding formula, and in December 2016 announced proposals that would see historically lower-funded local authorities increase their allocations,** at the expense of schools in London and other urban areas that have historically received higher funds. Importantly, **these reallocations are set against a background of real-terms cuts in school spending estimated at 8% per pupil by 2019-20.**<sup>3</sup> This will be the first time since the mid-1990s that school spending has fallen, and the real-terms cut is the largest since the 1970s.

These budgetary pressures risk harming educational outcomes, at a time when there are already concerns about the UK’s performance compared to other countries’.<sup>4</sup> Despite the large-scale reforms undertaken in recent years, and the government’s stated aims for England to get the highest scores in Europe by 2020, the latest data from the OECD’s international student assessment (PISA) show that little has changed: **the UK is below the OECD average in maths, and lags European peers, including Germany, in reading.**<sup>5</sup> In a resource constrained environment it is especially important to understand what works in terms of improving outcomes. A good example is the availability to researchers of data sources like the National Pupil Database which enables robust policy evaluation, a pre-requisite for the effective design of evidence-based policy.

The first Growth Commission highlighted **vital shortcomings in effective pre-school education in the UK.** Children’s centres, introduced by the last Labour government’s Sure Start programme, are one way to do this and the Commission recommended that resources should be focused on the disadvantaged with an emphasis on evaluating best practice and propagating it throughout the system. Children’s centres have been successful at improving outcomes for disadvantaged children and parents, **but budget cuts since 2010 have led many local authorities to close down or reduce children’s centres services.** On the other hand it is encouraging that government has **doubled the number of free childcare hours** for 3 and 4 year olds from 15 to 30 hours per week, and is providing additional support for children from disadvantaged backgrounds. This type of policy should not only allow more children to benefit from pre-school learning, but also support working mothers.

Our 2013 report highlighted **worrying inadequacies in technical education** and shortages in technical skills. The quality of vocational qualifications needs to be improved so that they represent a real alternative to university for school leavers, and add value for employers. The problems discussed in the 2011 Wolf report remain. There are still numerous vocational qualifications on offer, and the potential routes to be followed post-16 are much less well known than A-levels. Qualifications are awarded by many different bodies, and the quality of expected outcomes following vocational options is often unclear to school leavers, teachers and employers.

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<sup>3</sup> IFS (2016).

<sup>4</sup> NAO (2016).

<sup>5</sup> England has the best scores of the UK nations, and is just above average across PISA countries in science and reading, and below average in maths, see <https://www.gov.uk/government/publications/pisa-2015-national-report-for-england>

**TABLE 1.1: POLICY PROGRESS AGAINST CORE RECOMMENDATIONS OF THE FIRST GROWTH COMMISSION**

Recommendation			Progress
Human capital	Schools	Improving teacher quality, “flexible ecology”, accountability for disadvantaged pupils	◐
	Pre-schools	Improving effectiveness for disadvantaged children	◐
	Further Education	Improving the quality of technical education and apprenticeships	◐
	Higher Education	Protecting and building on strengths in universities	◐
Infrastructure	Infrastructure Planning	Independent “Infrastructure Strategy Board”, Independent “Infrastructure Planning Commission”, improved compensation schemes	●
	Infrastructure Finance	“Infrastructure Bank”, accounting rules, road pricing	○
Investment and Innovation	SME Finance	Policies to increase competition in retail banking	●
		Business Bank to prioritise young innovative firms	●
	Long-termism	Regulation and tax policy for long-termism	○
		Industrial policy for key sectors	◐
Management practices	Targeted managerial training and support	◐	
Other	Inclusive Growth	Publishing median income alongside GDP	○

● Good progress ◐ Some progress ○ Little progress

The 2015 “Productivity Plan” set out policies to raise the prestige of vocational qualifications, and the 2016 “Post-16 Skills Plan” includes wide-ranging reforms that would simplify and improve the post-16 system of vocational training, for example through the creation of a small number of full-time technical routes with a single awarding body. While this plan appears promising, it is necessary that reforms to the further education sector are aligned with the government’s industrial strategy. For example, the retail sector is notably absent and there is a strong case for government action to address obstacles to productivity growth in this low-pay, low-productivity sector (see Chapter 3).

Another challenge for the further education sector is that planned reforms will not be met with additional funds: education spending for 16-19 year olds fell by 14% in real terms between 2010/11 and 2014/15, and is protected only in nominal terms going forward.<sup>6</sup> The new Apprenticeship Levy is due to take effect in 2017, which is expected to raise £2.8 billion by 2020.

**The UK has longstanding strengths in higher education** which our first report suggested protecting and building on. It is essential that leading universities are able to recruit international talent (as faculty, research staff and students), and there were already signs in 2013 that this was becoming difficult for non-EU nationals. High quality students and researchers from abroad can not only contribute to the economy directly, but international students also increase resources available for domestic students.<sup>7</sup> **Government policy has gone backwards in this area. The visa system for non-EU nationals has not improved and there are new concerns around the status of EU students and academics following the Brexit vote.** There are also new risks to the HE sector with respect to cross-border collaboration in research projects and their funding, a large portion of which has come from the EU. The Commission also suggested further improving the framework of rules and accountability in teaching and research.<sup>8</sup>

<sup>7</sup> See Machin and Murphy (2014).

<sup>8</sup> Stern Review (2016).

<sup>6</sup> See IFS (2015).

The funding of higher education has changed since our last report. In 2012 the coalition government raised the cap on tuition fees for undergraduate courses to £6,000 for all universities. **But an allowance to charge £9,000, designed for use only in exceptional circumstances, is now being used by the vast majority of universities.** The first Commission concluded that these changes would create a more stable funding environment allowing universities to make long-term investments in their facilities and programmes.

However **continued increases in the total costs of university education are likely to create a tension with opening up accesses to poorer families.** Evidence suggests that the conversion of maintenance grants to loans (a more recent policy, which took effect from September 2016) is likely to hurt applications from poorer students.<sup>9</sup>

There have been positive developments too: new loans for postgraduate and MBA study were announced in the Productivity Plan, with the latter aiming to improve management practices in UK firms, which are a key determinant of productivity. In addition, the Higher Education and Research Bill is currently being pushed through Parliament, which announced the expansion of the sector with the aim of fostering growth and social mobility. In addition, an extra £2 billion annually was promised to the science budget in the Autumn Statement (from the new National Productivity Investment Fund, NPIF). This increase will take total (government and business) R&D spending as a share of GDP to 1.8% (from the current 1.7%). **This is a welcome increase, but leaves the UK spending a lower share of GDP on R&D than most other advanced economies.**

## Infrastructure

Infrastructure is a vital component in sustainable growth. The first Growth Commission outlined persistent inadequacies in all areas of UK infrastructure and made a number of recommendations aimed at stimulating infrastructure investment. The core recommendations were to create a new institutional architecture: an independent body to guide strategic priorities, a commission to implement those priorities and an infrastructure bank to crowd in private sector investment. **The aim of these suggestions was to eradicate short-termism, often politically driven, from long-term infrastructure decisions.**

**There has been good progress in this area, with the establishment of an independent National Infrastructure Commission (NIC) which was announced in autumn 2015.** In March 2016 the NIC published its first set of reports, setting out advice on Crossrail 2, Northern connectivity and smart power. In November and December 2016 it also published further reports on growth in the Oxford-Milton Keynes-Cambridge corridor and 4G telecommunications connectivity. Its charter was published in 2016, and has come into force in January 2017. The NIC is a positive development, and should tackle a number of problems set out in our first report, but its lack of statutory powers creates concern about its long-term independence.

Britain has a longstanding shortage of housing supply, with house prices rising by 45% since 2005. Independent estimates indicate that around 250,000 new houses are needed each year in order to moderate house price inflation. The lack of affordable housing is a concern in terms of both productivity and inequality, preventing people from moving to high growth regions, and meaning that poorer families spend a large share of their income on mortgage payments or rent.

Progress has been much slower in other areas. An independent planning commission, charged with handling planning appeals and national applications (making decisions according to National Policy Statements) was in existence. However, in 2012, the coalition government brought its operations back into government as the “Planning Inspectorate”. Our first report discussed obstacles in obtaining local community consent for projects considered to generate an aggregate gain. There is a need for a more consultative process, involving communities early on, and designing creative mechanisms (over and above monetary compensation) in order to share the gains of development. There is an opportunity for the new NIC to work with the Planning Inspectorate in this area.

<sup>9</sup> See Dearden et al. (2014) and Dynarski (2003).

**Infrastructure finance is a longstanding problem in the UK.** The first Commission developed a blueprint for a National Infrastructure Bank to facilitate the provision of finance for infrastructure projects, reduce and manage risk, and attract private sector investment. There are a number of international examples that show the potential benefits of such a bank (including Germany's KfW, and the European Bank for Reconstruction and Development). To date there has been no indication that government might set up an infrastructure bank. In part, this may be due to restrictions on government spending, or issues around how such a bank would be accounted for on national balance sheets. The current policy environment creates an opportunity here, both in terms of the loosening of the fiscal stance in recent months, and the fact that post-Brexit the UK will be able to formulate its own state aid rules rather than having to obtain approval from the European Commission for this kind of institution.

There have been some efforts to raise funds for infrastructure projects. In autumn 2015 the government committed to sell state owned assets and reinvest the proceeds in infrastructure. There is also ongoing work to ensure that a portion of local authority pension funds capital – currently around £217 billion – is pooled and invested in infrastructure. Both of these policy developments are welcome, but will take time to materialise. In the 2016 Autumn Statement, the new NPIF was announced, a fund worth £23 billion to be used on infrastructure and R&D, and financed through additional government borrowing. Again this is a positive step, but infrastructure spending remains low by international standards and there is still a gap between spending and estimated infrastructure needs.<sup>10</sup>

## Investment and innovation

Our 2013 report made a series of recommendations to improve the financing of investment, in particular addressing barriers for high growth potential SMEs in accessing finance. These included policies to **increase competition in retail banking and a business bank that would prioritise young, innovative firms** using a variety of financing tools.

**The coalition government introduced a number of measures aimed at restructuring the retail banking market and stimulating investment**, in particular, removing barriers to entry and separating retail and investment banking. There were also a number of policies to improve effective competition: a new seven-day current-account switching service was introduced in 2013 and a new project was launched to give customers standardised information to enable comparison of account services. The SME sector has been a particular focus, with a number of policies aimed at helping them raise finance measures to improve comparison of services, and to match SMEs that have been rejected for finance with other lending opportunities from challenger banks/alternative finance providers (for example, "Funding for Lending"). **Despite these positive steps, the UK's independent competition regulator recently concluded there are shortfalls in competition.**<sup>11</sup>

The British Business Bank, a publicly owned enterprise that provides credit and other forms of finance via private sector partners to SMEs, has expanded since our first report. By 2015-16 its total stock of finance (which includes funds directly deployed and funds that its participation has unlocked) reached £7.5 billion, up 45% on the previous year, and in the 2016 Autumn Statement, the Chancellor announced that it would receive additional funding. While this is a welcome development, it is important to note that the Business Bank represents a very small share of the total finance provided to the UK corporate sector.

Our first report identified financial short-termism as a longstanding problem in the UK and suggested regulatory or tax changes to promote a longer-term perspective. In particular, it proposed linking equity voting rights to investment duration to give long-term shareholders more power. The 2015 Productivity Plan highlighted the problems surrounding short-termism in business and financial markets but stated that government would leave it to institutional investors and businesses to push for more long-termism themselves, rather than introducing changes to corporate governance rules.

Since taking office, the Prime Minister has discussed potential regulatory changes to corporate governance, such as worker involvement in setting executive pay. Government has also launched a Patient Capital Review, led by HM Treasury, to understand the barriers faced by innovative firms accessing long-term investment.

<sup>10</sup> McKinsey (2016).

<sup>11</sup> CMA (2016).

Our 2013 report advocated the development of a modern industrial strategy, supporting industries where the UK has comparative advantage and there exists growth potential. **Progress on industrial strategy has reflected the pattern in Britain for the past 20 years – government policy is often fragmented and lacking in coherence and continuity.** The coalition government launched an “Industrial Strategy” which included support for eleven Key Sectors and eight Key Technologies. This strategy was not explicitly maintained following the 2015 general election, though elements of the work continued. The Prime Minister has indicated a commitment to this type of framework, and government has set out a Green Paper in January 2017. The CEP will respond formally to the Green Paper. In this report we provide a description of industry, across sectors and regions, and consider lessons from international case studies to make recommendations on a modern industrial policy for the UK.

### Inclusive growth policy

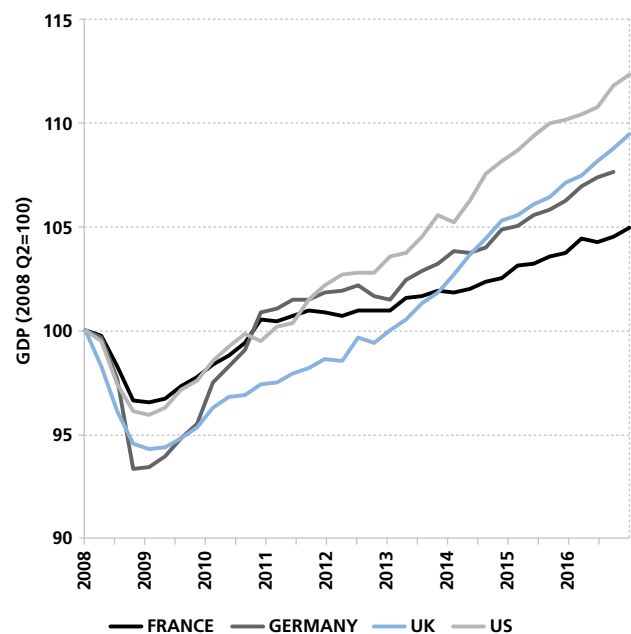
**Growth is a precondition for economic wellbeing but does not guarantee it, particularly if the gains from growth are not shared.**

Our first report recommended publishing of median household income alongside the latest data on GDP in order to focus more attention on inclusive growth and distributional issues. Coverage on these issues in the UK is particularly weak, in part due to a lack of timely data. While our proposals have not been adopted, the lack of inclusiveness in the growth process has become increasingly salient in public debate: largely due to a realisation of the political implications of ignoring it. This topic has been explored in more detail in this report.

### The UK economy at the start of 2017

Like other advanced economies, the UK was hit hard by the 2008 financial crisis. Since then, across the rich world, growth has been subdued. Relative to its main comparators, UK GDP growth has been strong (Figure 1.1).

**FIGURE 1.1: GDP GROWTH**



Notes: Volume measure, 2008 Q2=100. Sources: INSEE, Statistisches Bundesamt, ONS, FRED.

The drivers of growth have varied across countries. **In the UK, the principal growth driver has been employment.** As Figure 1.2 shows, the employment rate has held up, remaining above 70% since 2008, and is now at 74.5%, an all-time high since comparable records began in 1971.

However, **productivity growth has lagged far behind other countries.** GDP per hour stands at 17% below its trend between 1980 Q1 and 2008 Q2, and only just exceeds the level it was pre-crisis. This poor performance has been labelled the “Productivity Puzzle” because economists have been unable to fully account for it.<sup>12</sup>

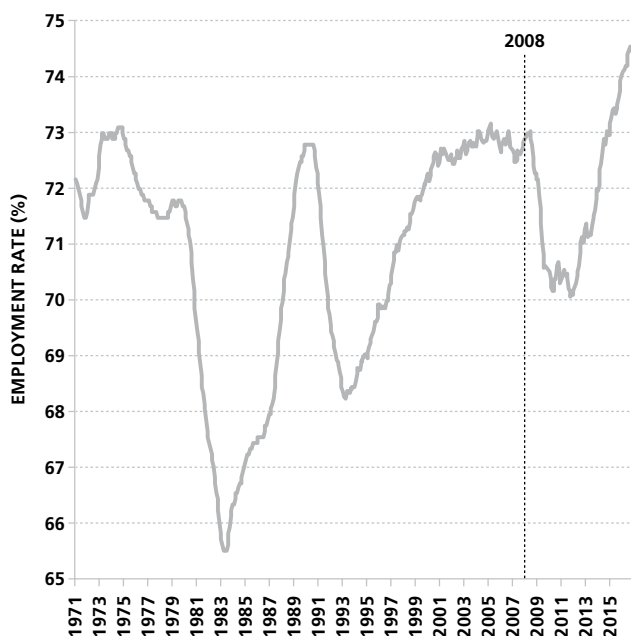
<sup>12</sup> Barnett et al. (2014).



Since our last report the simultaneous emergence of low growth, inflation and interest rates across many advanced economies has led many to argue that we are witnessing a permanent “Secular Stagnation”.<sup>13</sup> Others argue that this is temporary, relating to the cycle. It is likely that a combination of factors are at work. While the puzzle is international, on the whole our main peers have fared better since the financial crisis and therefore the longstanding gap in productivity levels has become ever wider: **output per hour in the UK is now 35 percentage points lower than that in Germany and 30 percentage points below the US.**

High levels of employment and low levels of productivity are two sides of the same coin. It is arguably desirable for more people to be in work with a lower average productivity, compared to an alternative of high unemployment but higher productivity where less skilled workers are excluded from the workforce. The challenge for policy makers is to achieve productivity growth via innovation, investment, and upskilling the workforce, rather than through the composition of the labour force.

**FIGURE 1.2: UK EMPLOYMENT RATE**



Source: ONS, UK Employment rates (aged 16 to 64), seasonally adjusted.



Over the long run, there tends to be a relationship between productivity and pay. **Reflecting poor productivity performance, wage growth in the UK has also been weak.** The median worker’s pay is still around 5% lower than its pre-crisis peak. This corresponds to almost a 20% deficit relative to the trend in real wage growth from 1980 to the early 2000s. Moreover, UK wages have fallen by more than in other OECD countries: with only Greece experiencing a larger fall in wages over the period 2007 to 2015.

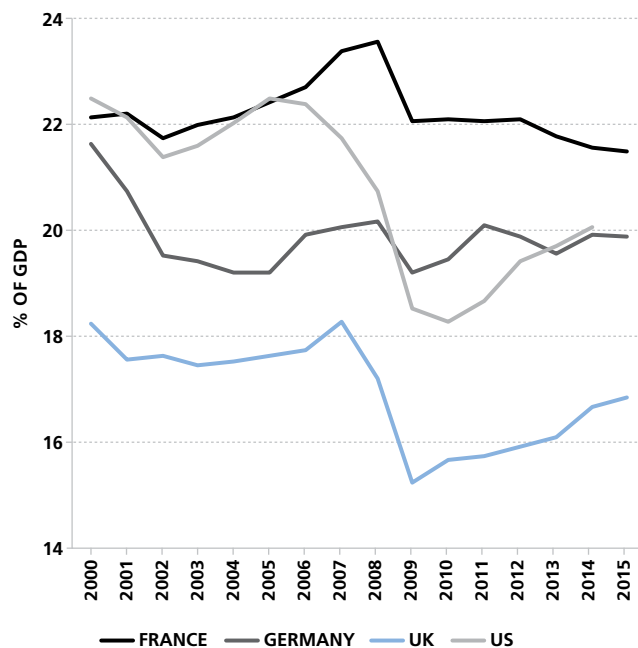
There are three other key concerns. First, **the UK current account deficit is far larger than in any other advanced economy** – and the largest in UK history. Second, **the UK has a longstanding investment shortfall.** Gross fixed capital formation as a share of GDP has been consistently lower in the UK than its main peers (Figure 1.3). The same is true for investment in R&D. Key factors that hold back business investment are policy uncertainty, short-termism in business and financial markets and associated problems accessing finance (especially for young, innovative firms).

<sup>13</sup> Summers (2016).

Publicly financed R&D is an important source of UK innovation. Moreover, there is extensive evidence that this type of research “spills over” to the private sector, and leverages-in further private sector investment. **The UK has comparative advantage in its university and research system, yet government financed R&D as a proportion of GDP is lower than in other advanced economies** and this has been declining over time. Only recently did government commit additional funds to the science budget.

In an economy that specialises in services it is helpful to take a wider view of investment to include intangible assets (such as brands and organisational practices). Such assets are not measured in conventional output statistics. The UK generally does better in this area, and intangible investment has actually risen since the financial crisis. However, adjusting output to include intangibles appears to explain only a small amount of the productivity puzzle.<sup>14</sup>

**FIGURE 1.3: INVESTMENT RATE**



Notes: Gross Fixed Capital Formation, % of GDP, series in constant prices, national base year. Source: OECD.

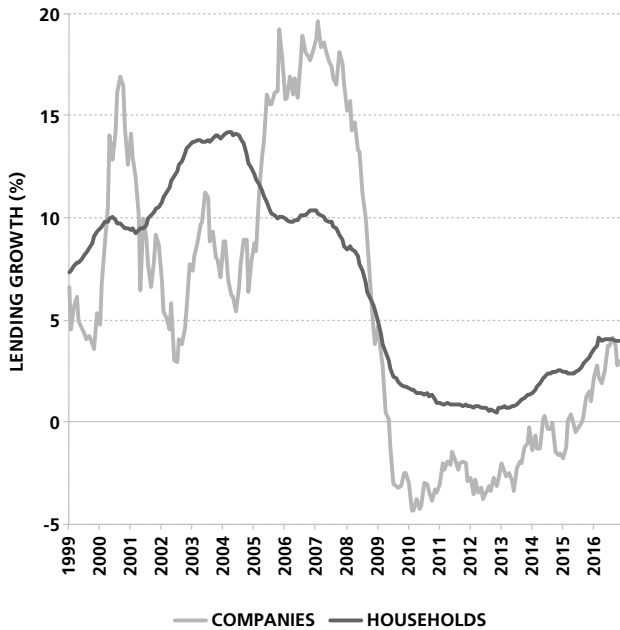
Finally, **there are concerns that the supply of finance to the real economy is still impaired following the financial crisis**: lending to business has been slower to recover than lending to households (Figure 1.4). Business surveys show that over 60% of SMEs use no external finance at all, and of those who do, bank finance (overdraft, loans and credit cards) is most common. Participants at our evidence sessions reported that other sources of finance that are more conducive to innovation where returns are longer term and uncertain (for example, private equity, crowdfunding or business angels) are less widespread in the UK compared to the US.

The referendum on the UK’s membership of the EU should be seen in light of these pre-existing challenges. Analysis from the CEP has shown that under different Brexit scenarios, trade and foreign direct investment (both of which are important for productivity growth) are likely to suffer.<sup>15</sup> Moreover, given the skill shortages already faced by many firms in the UK, restricting the movement of labour from the EU is likely to have a negative impact on productivity – both directly through firms finding it harder to fill vacancies, but also indirectly through the impact on innovation if our innovative firms, universities and research labs are less able to attract and retain international talent.

<sup>14</sup> See for example Goodridge et al. (2015).

<sup>15</sup> See Dhingra et al. (2016a, 2016b).

**FIGURE 1.4: LENDING GROWTH**



Source: Bank of England.

The effect of low investment on both human and physical capital has been a slowdown in productivity and wages. While pay at the very bottom has been rising, median workers' wages are lower in inflation-adjusted terms than a decade ago. This pay stagnation has drawn attention to inequality which, while falling in recent years in the UK, is high by international standards.

## The immediate impact of the EU referendum

The first GDP releases from the ONS following the referendum show that the pattern of growth is broadly unchanged. GDP increased by 0.6% in Q4 2016, the same rate of growth as the previous two quarters. This has been driven by a strong performance in the service sector. In addition, the domestically focused FTSE midcap index is above its pre-referendum level.

The impact on the value of the pound has been greater. Immediately following the referendum result, the pound depreciated dramatically, and then declined further upon announcement of the timetable for Brexit negotiations. Today, the exchange rate is around 15% below its level before the referendum. Driven by the growing price of imports, inflation has risen to a two-year high.

The referendum result caused significant movements in other financial markets too. The price of UK banks' shares dropped dramatically in the days after the referendum. At the same time their cost of funding, proxied by Credit Default Swap (CDS) premia, rose. Since then funding concerns have eased but the share prices of the UK's two state-owned banks remain significantly below their pre-crisis levels.

Participants in our evidence session on Finance and the City of London suggested that Brexit was starting to have an impact. Venture capital fundraising dropped sharply in late 2016, with London falling behind New York for the first time on some measures. In line with this, the latest official forecasts suggest Brexit will have a significant impact. The OBR assumes Britain will leave the EU in 2019; due to lower trade, investment and immigration this will imply a 2.4 percentage point cumulative reduction to growth over the next five years and additional borrowing of nearly £60 billion.



*Workers unpack suppliers' goods at the 'Inbound Receive' area of Amazon's distribution centre in Swansea, South Wales.*

# 2. Labour Markets and Inclusive Growth

The UK labour market has seen significant changes in recent years. A decade ago real wages were growing as pay increases outstripped price inflation. Following the 2008 crash, unemployment rose sharply and real wages fell significantly. Since then, the UK has experienced fast employment growth, but no growth of the typical worker's pay. In fact, median real wages were lower in 2016 than they were in 2006 – a lost decade. This chapter examines wage stagnation and tracks the important changes in the way the UK labour market works. The Growth Commission proposes a range of specific measures designed to diminish the risk that the UK gets stuck in a low wage, low-skill rut.

## Productivity, pay and compensation

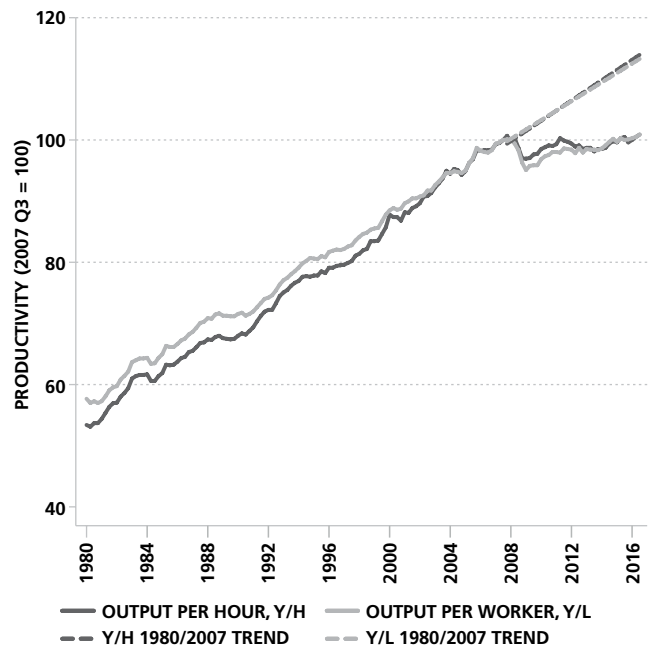
Productivity growth provides potential for the growth of living standards. As Figure 2.1 shows, it has followed two very different patterns over the past 35 years. Between 1980 and 2007 productivity (measured as output per worker, or output per hour) rose consistently year-on-year. The 2008 crash saw a drop in productivity: this has lasted, surprising academic economists and professional forecasters alike. By 2016 Q3 productivity had only just recovered back to 2008 levels; it is around 17% below the level it would have achieved had the pre-crisis trend been maintained.

**TABLE 2.1: KEY FACTS ON THE UK LABOUR MARKET, 2016**

Labour force (m)	41
Employment (m)	25.8
Self-employment (m)	4.8
Unemployment (m)	1.6
Inactive (m)	8.9
Average number of weekly hours	31.9
Average weekly wage (FT)	£644
Median weekly wage (FT)	£539
National Living Wage (weekly FT)	£252
90th percentile (weekly FT)	£1058
10th percentile (weekly FT)	£309

Notes: All numbers apart from wages refer to September 2016, from ONS Labour Market Statistics, January 2017. Wages from Annual Survey of Hours and Earnings, April 2016. FT stands for full-time workers.

**FIGURE 2.1: PRODUCTIVITY TRENDS**



Notes: Output per worker and output per hour numbers are provided by ONS, and indexed to 2007 Q3 = 100. Trend is calculated by fitting a linear trend between 1980 Q1 and 2007 Q3, the predictions are calculated out of sample for time periods after 2007 Q3.

Until recently productivity and workers' pay have tended to move in tandem in the UK.<sup>1</sup> This ended in 2008. Since then there has been nearly a decade of slowdown. For many workers, total compensation is higher than base pay, due to pensions, bonuses and other allowances like health insurance. Compensation represents the total cost to a firm of hiring a worker, and this has grown at almost the same rate as productivity in Britain since 1990 (Figure 2.2). Thus the labour share of income has not fallen as much as in other countries.<sup>2</sup>

Wages have followed a different growth pattern to compensation and productivity (Figure 2.2).<sup>3</sup> While the average (mean) and median wage did grow in real terms until 2008, they grew by less than productivity and compensation, and both have fallen considerably since then. This has created a gap between productivity and wage growth that economists refer to as "decoupling".<sup>4</sup> Decoupling intensified in the UK around the time of the financial crisis; it is evident that in terms of wages alone, the median worker has not shared equally in the gains from growth, and that this trend predates the downturn.

<sup>1</sup> Castle and Hendry (2014).

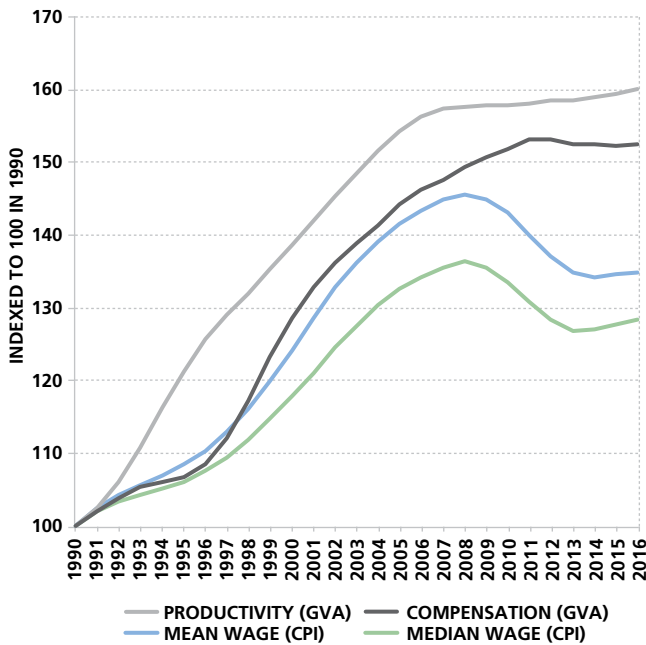
<sup>2</sup> See Karabarounis and Neiman (2014).

<sup>3</sup> Bukowski et al. (2017).

<sup>4</sup> See Pessoa and Van Reenen (2013).

Decoupling has been driven by a number of factors. Until 2008 median wages lagged productivity due to growing wage inequality and a widening wedge between wages and compensation. The average wage grew faster than the wage of the median worker. This pattern has changed dramatically since 2008 and real wages have fallen. At the same time the non-wage components of earnings – especially pensions – have become more important. And since these benefits are not available to the self-employed whose numbers have increased, their position has deteriorated.

**FIGURE 2.2: PRODUCTIVITY, WAGES, AND COMPENSATION**

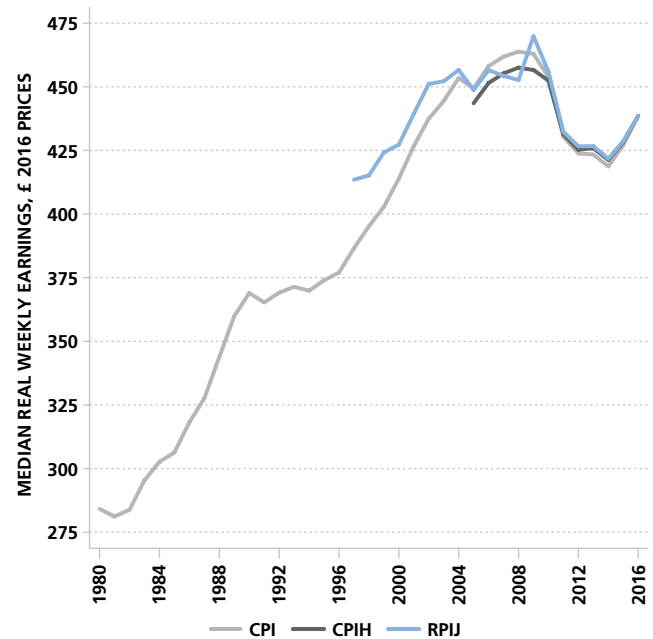


Notes: Growth rates of real productivity, real compensation (deflated by the GVA deflator), real average and median wages per hour (deflated by the CPI). Source: OECD National Accounts, ONS.

## Wages and inflation

Between 2008 and 2014, and despite productivity having returned to close to its pre-crisis level, real wages in the UK fell by 8%, a drop unprecedented in modern history. Their slight recovery since 2014 (reducing the drop since 2008 to 5%) was due to the fall in price inflation.

**FIGURE 2.3: ANNUAL MEDIAN REAL WEEKLY EARNINGS**



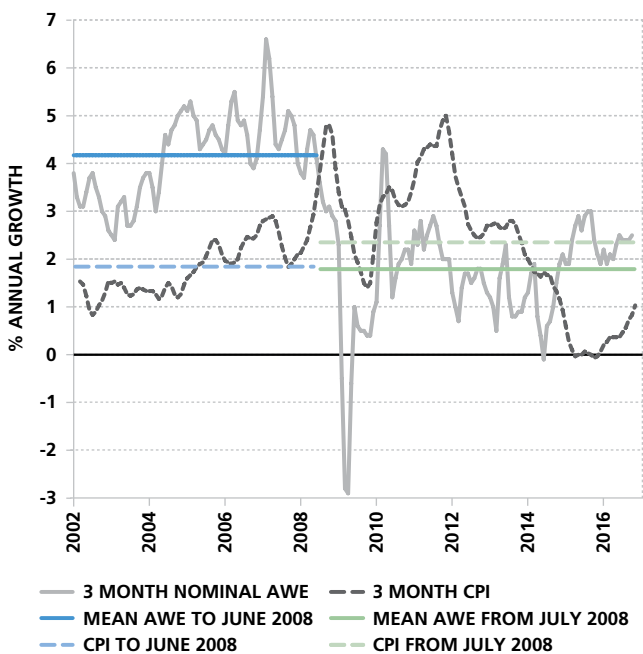
Notes: Weekly earnings deflated by CPI, CPIH and RPIJ. Source: Annual Survey of Hours and Earnings (ASHE).

These shifts in real wages are due to a change in the pattern of both pay and prices. While between 2002 and 2008 average weekly earnings rose at an average of 4% a year and prices at just 2%, from July 2008 onwards the opposite occurred: pay growth fell to 2%, whilst inflation exceeded this.<sup>5</sup> The increase in real wages since 2014 (Figure 2.4) occurred because of a decrease in price inflation. However, this is unlikely to continue because of the inflation rise predicted after Brexit.

<sup>5</sup>There were two exceptions, March and April 2010, these two months show growth because of the large fall in the corresponding months of the previous year, which was driven by bonuses falling that year (Taylor et al., 2014).

Since the result of the June 2016 referendum on EU membership real wages have been affected by rising inflation. Sterling has depreciated by 15% against the dollar since the eve of the vote and according to the Bank of England's most recent Inflation Report, the sterling depreciation will lead to higher import costs, raising consumer price inflation above target, hitting 2.7% in the next two years.<sup>6</sup> Unless nominal wage rises offset this rise in prices, inflation associated with sterling depreciation threatens to undo recent improvements in real wage growth.

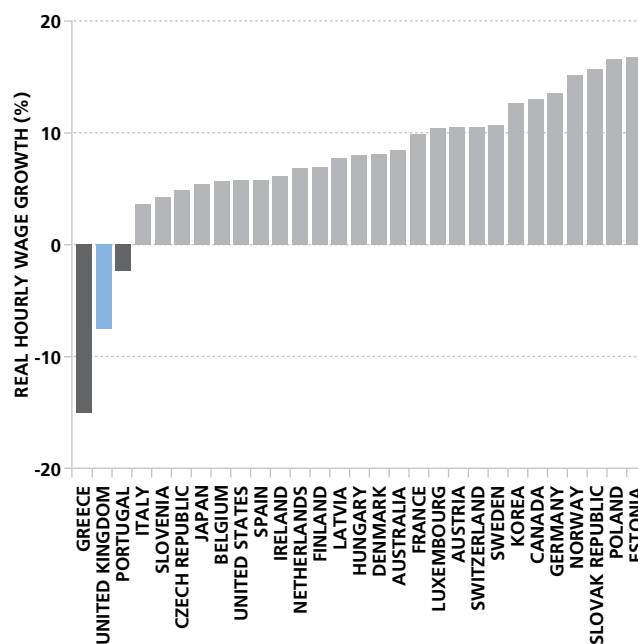
**FIGURE 2.4: PAY GROWTH AND PRICE INFLATION**



Source: Average weekly Earnings (AWE) and CPI (three month averages) from ONS.

Placed in international context, UK real wage performance has been very poor. Since the financial crisis, real wages have fallen by more than in almost all other OECD countries. Figure 2.5 shows comparable average real wage growth data for 2007 to 2015 for 28 countries. The UK's relative performance is poor, placing it 27th, the only country below it being Greece.

**FIGURE 2.5: INTERNATIONAL AVERAGE REAL WAGE GROWTH, 2007-15**



Notes: Average real wages defined by the ratio between total wage bill and average hours worked. Source: OECD Stats, 2016.

**The distribution of real wage changes in the UK**

The decline in real wages in the UK since 2008 has varied considerably across different groups (Table 2.2). Men have seen larger falls in real wages (8%) than women (2%). Those at the top and in the middle (the 90th and 50th percentiles) have seen wages fall, while those on the lowest wages (the 10th percentile) have seen rises. This is consistent with the fact that wage inequality did not rise during the downturn, and has started to fall slightly in recent years. This contrasts with long-run wage inequality trends since 1980, which peaked at the start of the downturn.<sup>7</sup>

<sup>6</sup> Bank of England, *Inflation Report*, November 2016.

<sup>7</sup> See, for examples, Machin (2011).



A waitress places dishes on a tray carried by a robot couple at a restaurant in Jinhua, Zhejiang.

Whilst the downturn experience of falling real wages for men has been worse than for women, the gap in hourly wages between men and women is currently 18%, a level which is greater than the OECD average. The overall gap has been falling in recent years, but it has risen for the most educated women. These patterns are not driven by innate gender differences in talent or preferences: when they enter the labour market, women in the UK have similar occupational patterns and pay as their male counterparts. Rather, the wage gap is explained by career breaks and a prevalence of part-time work among women with children who often return to work at a lower skill level.<sup>8</sup>

Young people have suffered a considerable loss in their wages. Those aged 18 to 21 have seen a 16% fall in real weekly earnings (Figure 2.7). A significant fraction of this change can be attributed to a fall in the number of those in full-time employment and in hours worked. In contrast, the hourly and weekly wages of those in full-time work only decreased by a small amount, at 1% and 3% respectively.

**TABLE 2.2: CHANGES IN MEDIAN REAL WEEKLY WAGES BY GROUP SINCE 2008**

**Changes in Real Wages, 2008-2016**

	Weekly	Hourly
Median	-5%	-4%
Male Median	-8%	-7%
Female Median	-2%	-1%
Age 18-21 Median	-16%	-1%
10th Percentile	1%	2%
90th Percentile	-7%	-6%
NMW Adult Rate		5%

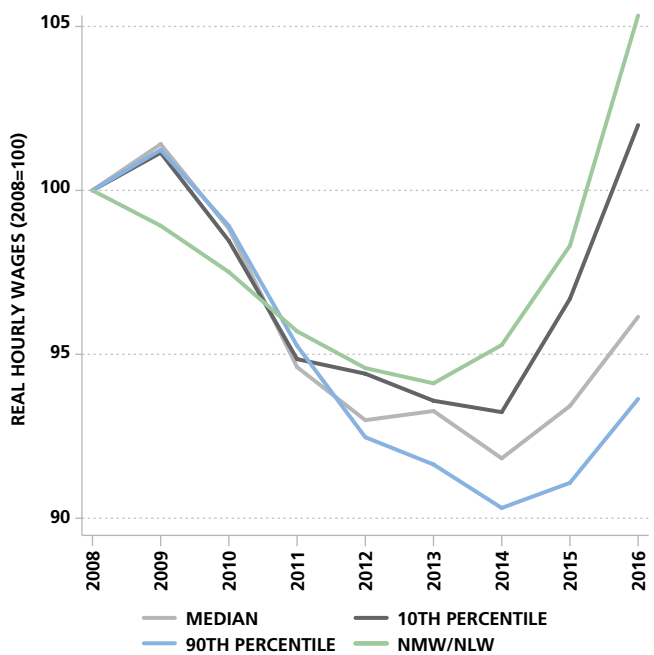
Notes: Using CPI deflator. Updated CPI deflated numbers from Gregg et al. (2014b). Source: ASHE. 2016 figures are based on the Provisional ASHE estimates published by ONS in October.

<sup>8</sup> See Bandiera and Valero (2016) for further discussion.

For those at the bottom, the introduction of the National Minimum Wage by the Labour Government in 1999 and the Conservative introduction of the National Living Wage in April 2016 have helped drive pay up, resulting in those at the 10th percentile recovering at a considerably faster rate since 2014.<sup>9</sup> As we shall see in the next section, however, the coincidental increase in self-employment takes these individuals outside the remit of minimum wage legislation.

The picture for those at the top is different: whilst these workers enjoy significantly higher pay (a worker at the 90th percentile is on gross earnings of around £1050 per week) their real-terms living standards are lower than a decade ago (Figure 2.6).

**FIGURE 2.6: REAL HOURLY WAGES**

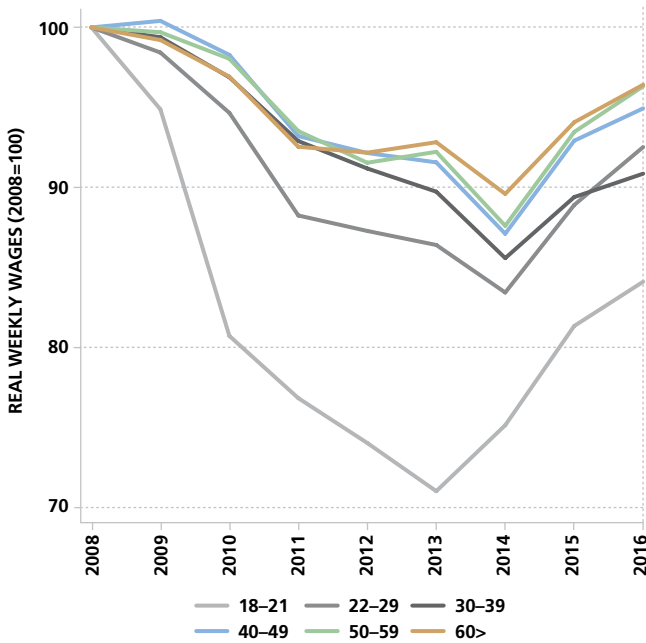


Notes: NMW stands for National Minimum Wage and NLW stands for National Living Wage. Source: Annual Survey of Hours and Earnings (ASHE) hourly earnings, all workers. 2008=100.

<sup>9</sup> See Low Pay Commission (2016) and Bell and Machin (2016a).



FIGURE 2.7: MEDIAN REAL WEEKLY WAGES BY AGE

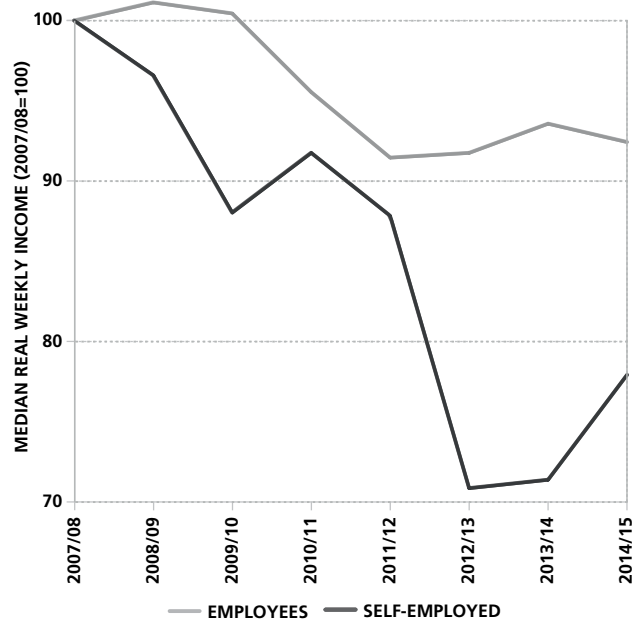


Source: Annual Survey of Hours and Earnings (ASHE) weekly earnings, all workers. 2008=100.

### Self-Employment Earnings

The composition of the labour market has been affected by a substantial increase in self-employment and alternative working arrangements since the economic downturn, with an increase in both the proportions of self-employed individuals without employees as well as the share of workers employed under zero hour contracts. We can see from Figure 2.8 that the self-employed have fared considerably worse than other workers with a drop by 2014/15 of close to 20% of their 2007/2008 real weekly income.

FIGURE 2.8: EMPLOYEES AND SELF-EMPLOYED REAL WEEKLY INCOME

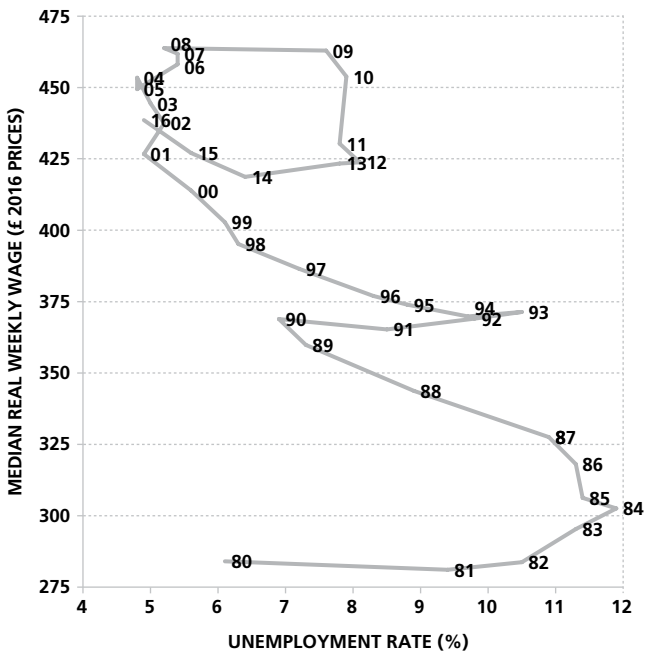


Notes: 2007/08=100. Source: Family Resources Survey (FRS).

### Employment, self-employment and the gig economy

At the same time as real wage growth has been weak, the unemployment and employment position has, at least at first glance, been far stronger. The trade-off between real wages and unemployment from 1980 to 2016 is set out in Figure 2.9. In the most recent downturn, unemployment did not rise anywhere near as much as in the recessions of the early 1980s and 1990s.

**FIGURE 2.9: MEDIAN REAL WAGES AND UNEMPLOYMENT, 1980 TO 2016**



Source: Median wages from ASHE, ILO unemployment rates from ONS.

The most recent experience was striking not just in its magnitude, but in the way the labour market reacted, resulting in a “high employment, low pay” cycle. However, other important compositional changes have occurred in the labour market at the same time, notably the rise in self-employment, more part-time workers wanting full-time work and insecure forms of employment. We focus on each of these in turn.

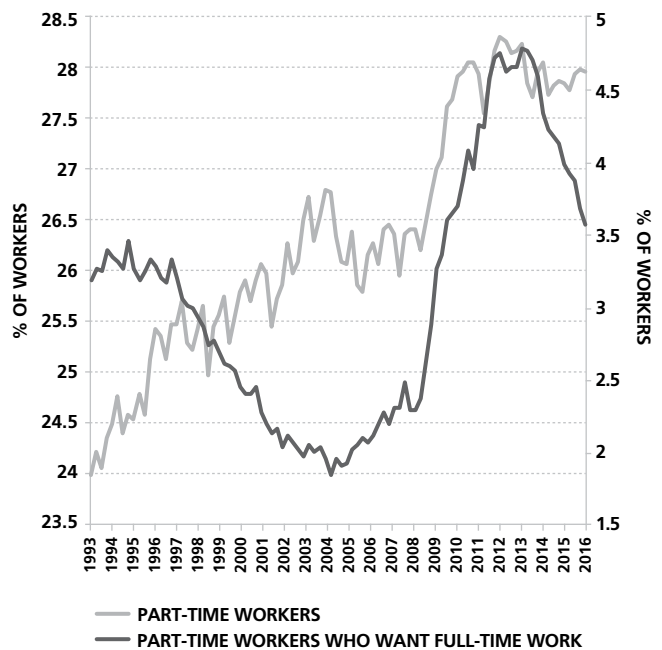
### Insecure Working Arrangements

Employment and unemployment rates alone do not fully explain the recent labour market adjustment. It is the shift in types of contract with reductions in hours and an increase in self-employment which partially helps explain the low unemployment rate. There is increasing concern that the UK’s strong labour market is coming at the expense of wages and that the “quality” of jobs on offer has declined with the rise of new insecure working arrangements in the so-called “gig economy”.

Since the Commission’s 2013 report insecure working arrangements, including zero hour contracts and short-term self-employment via one-off jobs (“gigs”) have received a large amount of attention in the media, Parliament and, more recently, the courts. There is an ongoing debate as to whether these flexible new ways of working enhance workers’ options or simply reduce job stability, pay and legal rights. We expect these debates to be important in future policy discussions.

Part-time work, often involuntary, has become an important feature of the UK labour market (Figure 2.10). Since the start of the recession, the proportion of workers who are in part-time work has increased from 26% to 28%. For some of these workers, including young parents, students and retirees, part-time employment is a voluntary choice. For many others it is not – a significant number of those workers in part-time jobs want full-time jobs. As shown in Figure 2.10 the percentage of the workforce who were in part-time work but wanting full-time work doubled from 2.4% at the start of the recession to a peak of 4.8% in 2013. So while unemployment did not reach the levels seen in previous recessions, the associated slack is still occurring through the “underemployment” of workers. With a ready supply of workers eager for more hours, the bargaining power of workers may have fallen, in part explaining lower pay growth.

**FIGURE 2.10: PERCENTAGE OF WORKERS WHO ARE PART-TIME**

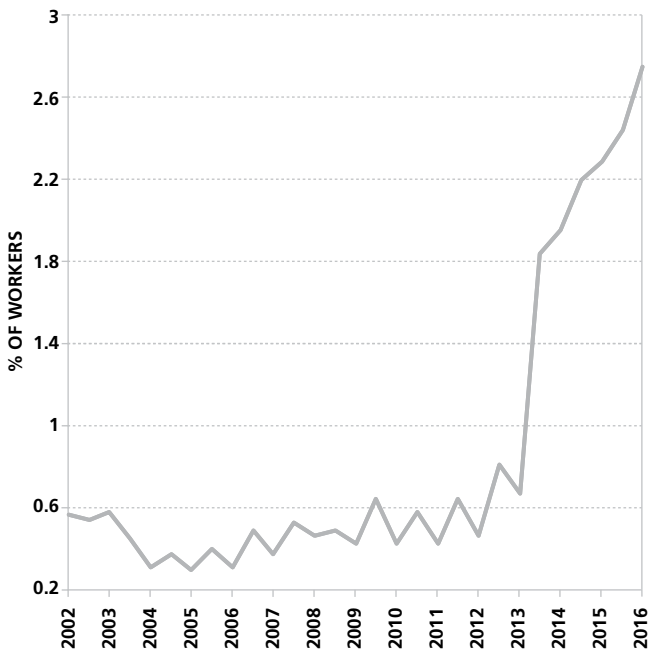


Source: QLFS, ONS.

### Zero Hour Contracts

Zero hour contracts are legal agreements in which the employer is not obliged to offer work; nor are workers obliged to accept any offer made. Prior to the introduction of Working Time Regulations and the National Minimum Wage Act 1998, zero hour contracts were used to maintain workers onsite during quiet periods while being able to avoid paying them as they were officially “off the clock”. While such practices have been banned and companies are legally required to pay workers the minimum wage for all onsite time (aside from breaks) zero hour contracts are still characterised for many as an insecure working arrangement. They are prevalent in other countries, including Australia and Canada.

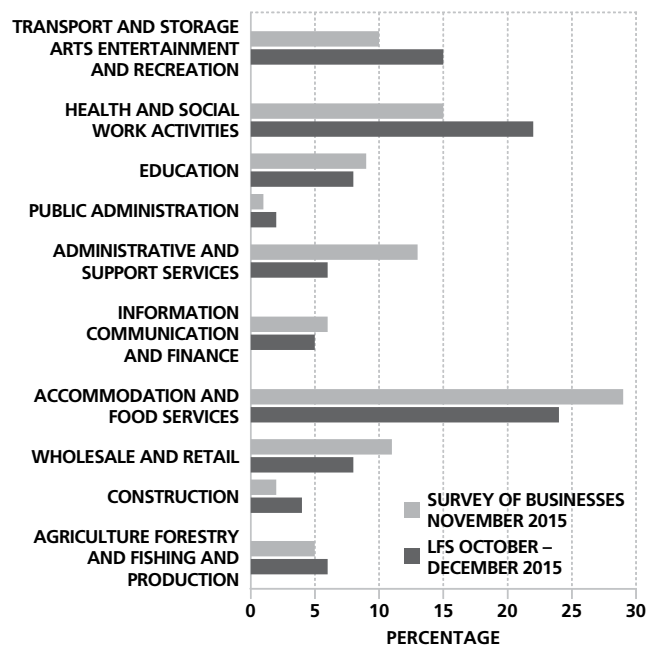
**FIGURE 2.11: PERCENTAGE OF WORKERS ON ZERO HOUR CONTRACTS**



Source: QLFS, ONS.

Figure 2.11 shows that between April 2012 and April 2016 the proportion of workers on zero hour contracts increased approximately six times. It has been suggested that part of the reason for the very quick increase in the figure from the onset of the recession was due to growing awareness from the media of the existence of such contracts and increased self-reporting by individuals under this new employment status.<sup>10</sup>

**FIGURE 2.12: PERCENTAGE OF WORKERS ON NON GUARANTEED HOUR CONTRACTS**



Source: ONS.

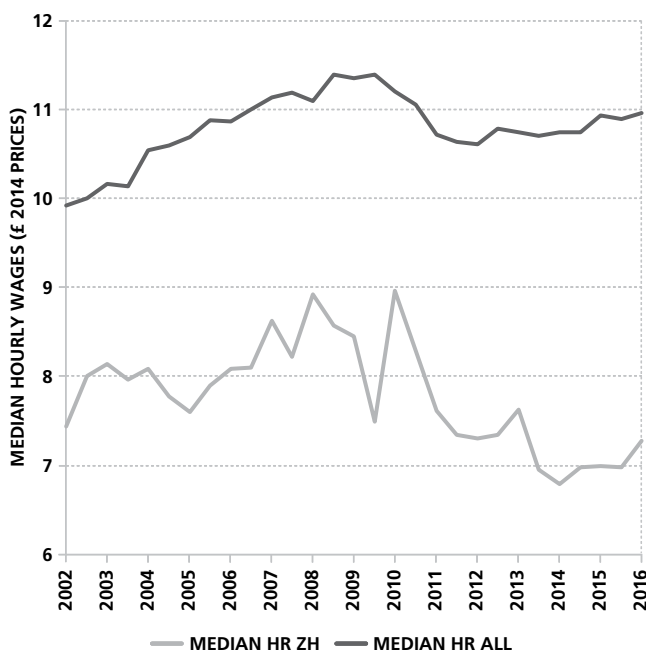
These kind of contracts appear most prominently in industries with lower wages, such as health and social work, and the accommodation and food services sectors (Figure 2.12). Figure 2.13 shows that the median zero hour wage rate for these workers is approximately 35% less than that for all workers. Furthermore, the median wage rate for zero hour contract workers has fallen in real terms by around 12.5% over the past five years while the median hourly rate for all workers has stayed relatively flat.



<sup>10</sup> For more information see ONS (2014b).

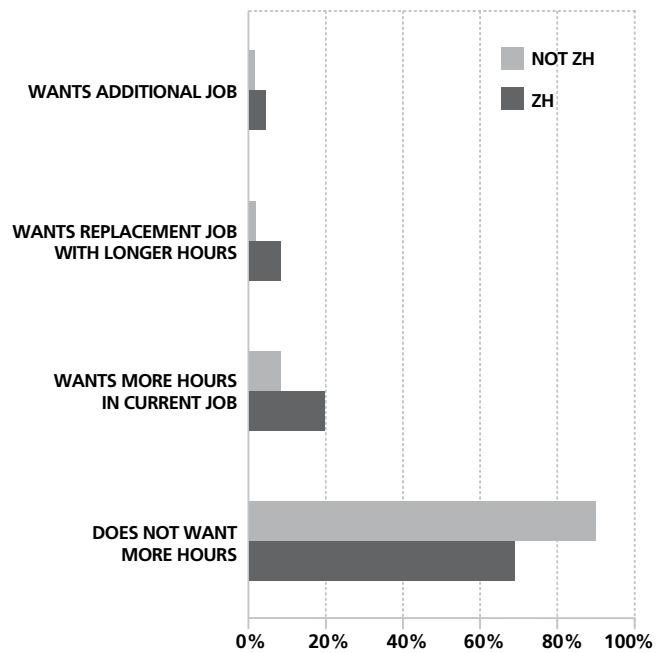
Figure 2.14 shows that workers on zero hour contracts are more likely to say they want more hours (around 31% in comparison to 10% for all workers) and approximately 6 times the proportion of workers on zero hour contracts would like either a replacement job with longer hours or an additional job, in comparison to those not on a zero hour contract (12% compared to 2%).

**FIGURE 2.13: MEDIAN REAL WAGES OF ZERO HOUR CONTRACT WORKERS AND ALL WORKERS**



Notes: HR stands for hourly and ZH stands for zero hours. Source: QLFS, ONS.

**FIGURE 2.14: DESIRE FOR HOURS BY CONTRACT TYPE**



Notes: ZH stands for zero hours. Source: QLFS, ONS.

These insecure jobs do generate increased work experience for individuals and it is likely that some workers will prefer the flexible arrangement, particularly those whose wage is not their only source of income. However, recent evidence from the US has demonstrated that most workers do not value flexible scheduling.<sup>11</sup> In particular estimates show that the average worker is willing to take a 20% pay cut in order to avoid a schedule set by an employer at short notice – exactly the circumstances that can arise when entered into a zero hour contract. Research into zero hour contracts is in a relatively early stage but if the UK is the same, then it would indicate that some workers are getting the worst of both worlds – lower wages as well as flexible working arrangements over which they have little control.

Firms and governments are turning against zero hour contracts. Firms such as Sports Direct (81% of whose staff were on zero hour contracts at one stage<sup>12</sup>), Curzon Cinemas and McDonalds have announced plans to phase out zero hour contracts or to offer their workers alternative arrangements, while New Zealand passed a ban outlawing zero hour contracts in 2016.

<sup>11</sup> See Mas and Pallais (2016).

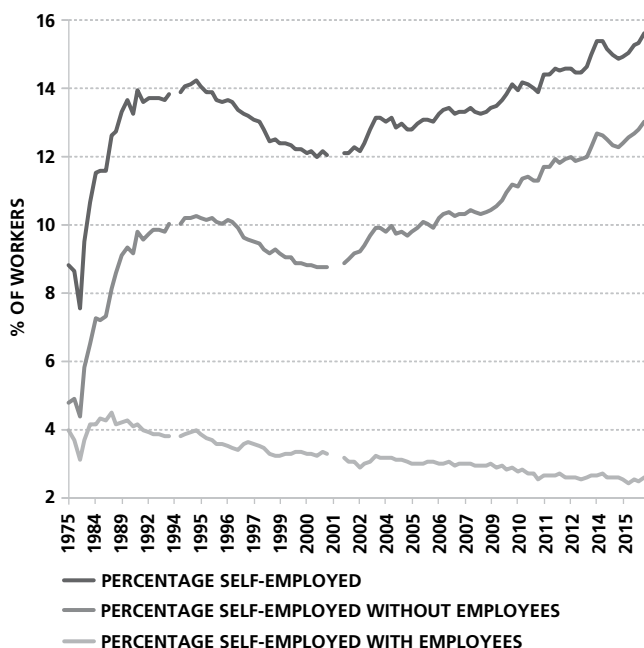
<sup>12</sup> See Reynolds Porter Chamberlain (2016).

## Self-Employment and the “Gig Economy”

The “gig economy” – short-term self-employment – is growing in importance. It is estimated that 20-30% of the working age population in the US and EU-15 are engaged in “independent work” of this type.<sup>13</sup> Examples include the outsourcing of IT contracts to overseas experts; web developers and consultants receiving jobs through websites such as Upwork; transport services with taxi drivers and food delivery workers working for firms such as Uber and Deliveroo. There has also been a rise in more traditional “gig” work, in the form of temporary agency staff who operate on self-employment contracts.

While for some such working arrangements may be preferable, especially those performing more specialist skilled tasks where the pay rate is high (e.g. consultants and programmers), other workers whose main source of income is derived from such work would benefit from a more secure working arrangement. In addition self-employed workers are not afforded the same rights as employees. Examples include the right to be paid the National Living Wage, sick pay, holiday pay, employment security and pensions. The loss of valuable non-wage benefits such as pensions may help explain the large difference between wages and total compensation set out above.

**FIGURE 2.15: PERCENTAGE OF SELF-EMPLOYED WORKER TYPES**



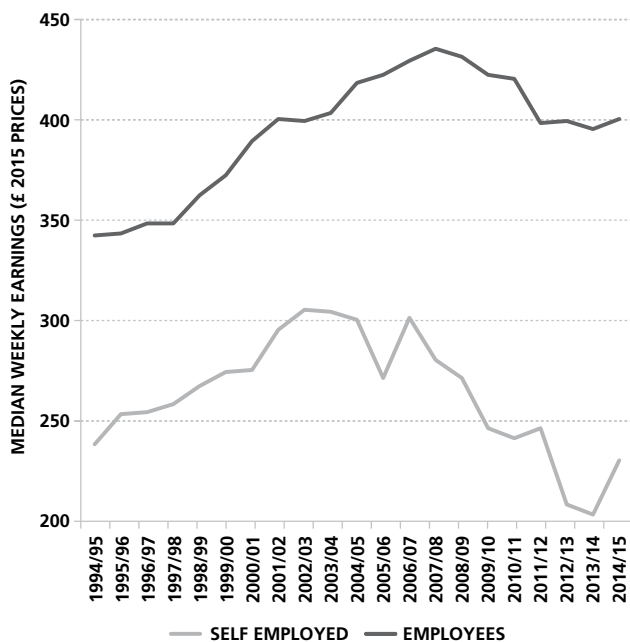
Notes: Gaps in series denote missing data. Source: QLFS, ONS.

Despite the loss of rights and security, workers can be better off self-employed, particularly in the short-term. First, the main National Insurance rate for self-employed workers is only 9%, in comparison to a rate of 12% for employees (while gig economy “employers” avoid altogether the 13.8% National Insurance contribution paid by worker employers). It should be noted however that for those self-employed earning nearer the bottom of the distribution (between £5965 and £8060), there exists a National Insurance rate of £145 per annum. This tax does not have an employee equivalent and is a regressive feature of the self-employed tax setup. Second, the self-employed are eligible to claim certain costs as expenses which in turn reduces their tax liability. These include office, uniform and travel costs as well as costs of business premises. As a result a self-employed individual who has a home-office is able to claim a proportion of their residential housing costs as an expense, thus making it tax deductible.

Unsurprisingly, self-employment has been on the rise for years. The proportion of independent self-employed has been steadily increasing since the 1980s and since 2000 the proportion has increased from 9% to 13% of all workers (Figure 2.15). This rise has also gone hand in hand with a lack of earnings growth for the self-employed. Earnings have fallen sharply since 2008, and before then they were not rising to the same extent as employee earnings. Figure 2.16 shows that median earnings for the self-employed were 4% lower in 2014-15 than twenty years earlier in 1994-95. By contrast, full-time employees have seen a 17% gain over this period. This suggests that a significant proportion of the increase in self-employment is due to lower income earners shifting from employee to self-employed status.

<sup>13</sup> See Manyika et al. (2012).

**FIGURE 2.16: MEDIAN WEEKLY EARNINGS: EMPLOYEES AND SELF-EMPLOYED**



Notes: 2015 prices. Source: Family Resources Survey, DWP.

International evidence suggests that new flexible work arrangements are used by those at the top and bottom of the income distribution. A recent study in the US found that independent contractors were more likely to be prevalent in highly paying jobs; but that on-call workers (equivalent to zero hour contracts) were more likely to be employed in lower paying jobs.<sup>14</sup> There is also evidence that the major concern for workers in the gig economy is how to manage highly variable income.<sup>15</sup> This is more problematic for gig economy workers on low pay, whose ability to deal with expenditure shocks by building up a buffer stock of savings is likely to be limited.

The early evidence on the gig economy is thus mixed – it appears that this is a “tale of two workers”. While some self-employed workers are likely to prefer a more flexible work arrangement, it is evident that in certain sectors workers feel they have diminished rights and poorer working conditions. There has been a surge in industrial action and cases being brought against firms who employ low-paying contractors.<sup>16</sup>

In the longer term, the gig economy may erode employers’ incentives to invest in their workers’ skills. It is unlikely that short-term workers will receive extensive on-the-job training, and thus in the long run this may have an impact on the make-up of the skill set of the UK workforce. While it is too early to test this, the UK’s productivity gap suggests this is a risk that should be taken seriously, and one that can act to exacerbate already low levels of skills provisions for UK workers.

## The UK’s regional labour markets

Wage growth over the past 20 years has differed greatly across the UK, with workers in London and the South East having consistently higher median weekly wages (See the maps in the Executive Summary). Another striking feature of the distribution of wages in the UK is the importance of cities. Outside London and the South East it is mainly metropolitan areas where workers earn above the national average. In smaller towns and rural areas, wages are consistently below this level. In geographic terms, wage growth in the UK has not been inclusive in recent decades.

### Regional Pay and Productivity

The UK’s regional labour markets show interesting patterns of productivity and pay (Figure 2.17). In Scotland and the North East productivity continued to grow; these regions experienced relatively low wage falls. The most striking “decoupling” of pay and productivity was in London, the South East and Wales. In these regions productivity continued to rise but wages fell significantly below their 2005 inflation-adjusted levels.

In other places productivity has stagnated. In each region where this occurred – including Yorkshire and the Humber, the East of England and the North West – real wages also fell. These were also regions with the highest percentage of leave votes during the referendum on EU membership.<sup>17</sup>

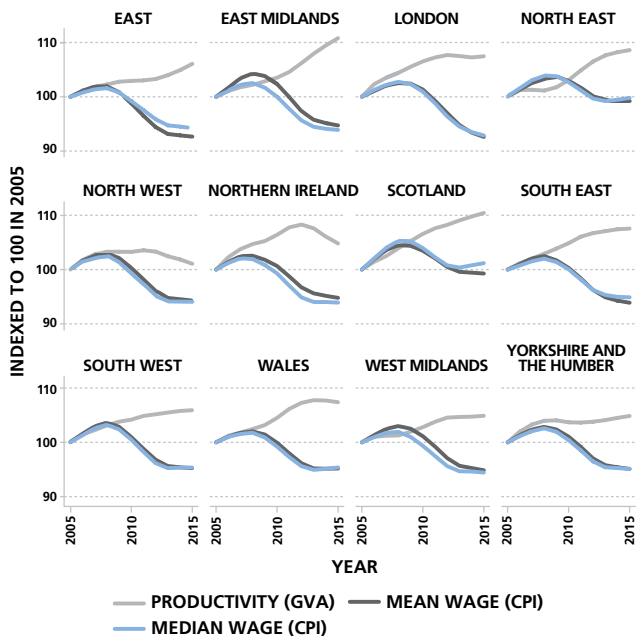
<sup>14</sup> See Katz and Krueger (2016).

<sup>15</sup> See Upwork and Freelancers Union (2016).

<sup>16</sup> Examples include Uber, Hermes, Deliveroo, Courier Cycles and Yodel.

<sup>17</sup> See the empirical analysis on predictors of the Brexit vote in Langella and Manning (2016), and on real wages and trends in particular see Bell and Machin (2016b).

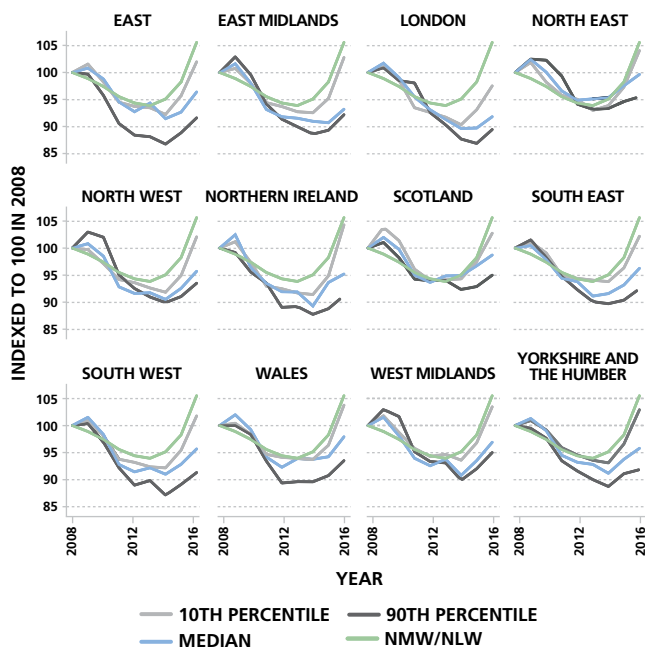
FIGURE 2.17: GROWTH DECOUPLING IN THE UK REGIONS



Source: ASHE-NOMIS.

Wage changes have contributed to varying regional patterns of inequality (Figure 2.18). In Scotland, the North East and the West Midlands the impact of the economic downturn has been spread more evenly across workers at all income levels. In other areas, where higher wages are more prevalent (including London, the South West and the East of England) those with higher pay have seen sharper falls. In these regions the median pay of highly paid workers (the 90th percentile) is still significantly below its 2008 inflation-adjusted level. Workers on lower pay have fared better, with wages driven up by the national minimum wages. In every region except London workers at the bottom of the distribution (the 10th percentile) have seen their wages recover to above their pre-crisis levels in real terms.

FIGURE 2.18: REGIONAL PERCENTILES OF REAL HOURLY WAGE AND NMW/NLW



Source: ASHE-NOMIS.

## Skills and wages

It is widely recognised that Britain has a significant skills gap. Evidence of this is set out in detail in Chapter 3. In summary:

- **Higher education.** The UK scores well on measures of graduate level education, but poorly on upper secondary and non-tertiary training, including vocational qualifications.
- **Skills shortages.** The UK faces long-term skills shortages with businesses reporting concern about recruitment of high skilled employees (see e.g. Figure 3.5, Chapter 3): including the STEM subjects, languages, technical skills and basic numeracy and literacy.
- **Schools.** Poor results in terms of adult literacy and numeracy at the bottom end of the education distribution compared to advanced economy peers, particularly for those growing up in disadvantaged backgrounds.

Britain does have programmes that seek to help reduce adult skill deficiencies, usually based on accreditation using the Qualifications and Credit Framework. They include the New Deal and Employment, Retention and Advancement (ERA) programmes. These programmes provide a broad range of services, including training and career advice, aimed at the activation of the unemployed and the improvement of employee-job

match. The focus is not only on jobseekers, but also on workers in low-paid and part-time jobs. There has been a large amount of evaluation of the New Deal and ERA programmes, and while generally positive, it has focused mostly on employment outcomes. One evaluation of the ERA found positive effects on both reducing unemployment while increasing short-term earnings, though the earnings gains were specifically due to an increase in the proportion of participants who worked full-time.<sup>18</sup> While such gains are promising, they do not necessarily achieve the goal of skill upgrading to improve productivity and thus wages.

The shortcomings in the UK's current skill development programmes are well-known.<sup>19</sup> These include insufficient collaboration with employers in identifying crucial skills for the local labour market and failure to design relevant courses. Courses are too basic, general and only part-time with low weekly hours. Furthermore, the overall amount spent by colleges and providers on learners in receipt of jobseekers allowance and employment support allowance in the UK is considerably lower than in other OECD countries. In 2011 spending on such programmes in the UK was approximately 0.02% of GDP, while the OECD average was 0.15%.

It has been argued that other countries' policies on training and skill upgrading are better designed than those in the UK. For example, in Australia there is an emphasis on competition between training providers. Administrative data is used to produce a performance-based measure for providers of training, and better providers are able to win a greater share of training contracts. Other countries, including the US, also place a greater focus on incorporating employers into skill identification and course design.

In recent years government policy has sought to improve vocational training. For example, in the 2015 Summer Budget the Government announced the Apprenticeship Levy, a new policy designed to address increasing employee training outside the workplace. Entering into force in April 2017 the levy will require employers with more than a £3 million pay bill to pay a 0.5% levy of their total pay bill into a fund which will then be used for apprenticeships and training. Employers who have paid the levy will be able to access funding using a voucher system through a digital apprenticeship service account. While likely to have positive long-term gains this is likely to result in a short-term cost for large firms.

This, combined with the rise in the national living wage, which is set to rise to £9 (or 60% of median wages if lower) by 2020 has led some businesses to warn that these labour market policies might pose risks to corporate profitability, and employment.

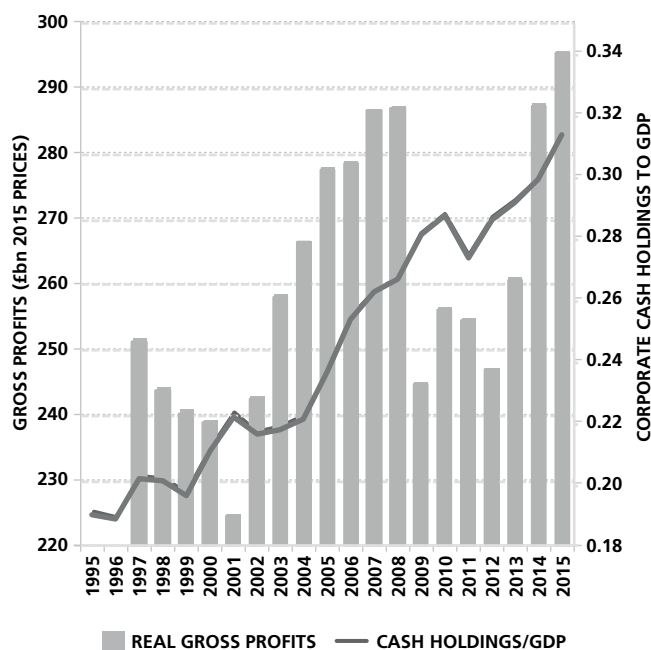
<sup>18</sup> See De Giorgi (2008), Riley and Young (2001), Blundell et al. (2004) and Hendra et al. (2011).

<sup>19</sup> See Wolf (2011) and OECD (2014).

## Corporate Profitability

At the same time as real wages have not grown, firms' profits and cash holdings are currently close to or above an historic high over the past twenty years. Gross corporate profits have recovered since the recession, and in 2015 were in fact approximately 3% higher than their 2008 peak (Figure 2.19). Corporate cash holdings relative to GDP have been increasing for the past two decades. By the end of 2015 corporate cash holdings had risen to record levels, amounting to £587 billion. The return on capital has been rising steadily and shareholders have gained in the era of very low interest rates and lower corporate tax rates.

**FIGURE 2.19: CORPORATE GROSS PROFITS & CASH HOLDINGS**



Source: National Balance Sheet, ONS.

### Tax biases affecting the UK labour market

It is a core principle of good tax policy design that the system should be neutral and not bias one form of economic activity versus another.<sup>20</sup> The UK tax code exacerbates some of the problems set out above and has a number of biases.

The system incentivises self-employment. There are a number of tax-based reasons why both firms and employees can gain by opting for self-employed status over contractual employee status. Workers have an incentive to become self-employed due to the reduction in National Insurance payments and ability to claim certain tax-deductible expenses. There is an even greater incentive for individuals to self-incorporate and

<sup>20</sup> See discussion in Mirrlees et al. (2011).



pay themselves through a combination of a low basic salary (meeting basic NI contributions) and dividends (which do not face any such National Insurance taxation). In addition, firms gain by not having to pay National Insurance contributions of 13.8% to non-employee members of their workforce, as well as having no obligation to adhere to regulations including the National Living Wage, sick pay and holiday pay.

The current tax system also favours investment in physical capital, computers and machines, but offers few incentives for investment in human capital. In recent years the substitutability of workers with machines in the face of technological change and increased job automation has gained much coverage. The current tax system contains a number of relief schemes designed to create incentives for investment in capital:

- **Enhanced capital allowances.** The UK tax code provides enhanced tax depreciation allowances against investment in certain types of capital. For example, “green” technologies generate a full tax write-off. In general there are allowances for energy saving equipment, plant and machinery that is certified to be environmentally efficient and low emission vehicles.
- **Annual investment allowances.** Companies can claim 100% of their first £200,000 of capital expenditure incurred.
- **R&D tax breaks.** Expenditure on R&D by small and medium sized enterprises generate a tax deduction equal to 230%. Alternatively, SMEs can take a cash payment (£33.35 for every £100 of R&D expenditure) if the company is loss making, or has not yet started to trade. Large companies are given a tax credit of 11% of R&D expenditure, which similarly can be claimed as a cash payment if the firm is loss making.
- **The “patent box”.** When a firm can prove that its profits are related to patents, a lower rate of tax applies: 11% in 2016/17, falling to 10% from April 1st 2017.

Whilst part of both R&D and patent investments may cover salaries of (high-wage) R&D workers, by comparison the tax incentives to invest in the human capital of the majority of workers are currently far smaller and often non-existent.<sup>21</sup> Indeed, the UK has a long history of poor delivery of intermediate and basic skills, which both track back to the schooling and vocational education system. A widespread misalignment between skills provision and employers’ needs is a key feature of the issue of poor delivery.

## Conclusions and policy recommendations

In many ways the UK labour market has outperformed other advanced economies in recent years: employment is at record highs and has had a progressive impact on labour market inequality. This is something that policy should seek to protect, since evidence suggests that unemployment can lead to medical problems, including depression, and exerts significant labour market scarring effects. While there is concern about the “quality” of some forms of employment, an economy at record employment highs is something to build on.

But there remains the problem of weak wage growth, with median workers losing at least a decade, and real wage falls the worst in Europe with the exception of Greece. Meanwhile the UK, relative to its rich world peers, is also falling further behind in terms of skills. Moreover, whilst low-wage workers have been doing better in terms of wage growth than their counterparts further up the wage distribution, the likelihood of being stuck in a zero hour contract or minimum wage job with less prospect of career progression than in the past has increased. Therefore policy needs to be aimed towards improving skills, facilitating career progression and boosting wages.

The Commission proposes:

**Aspiring to a tax and minimum wage system that is neutral with regard to forms of employment.** The government should eliminate advantages to firms and employees using the self-employment classification to avoid payroll taxes and minimum wage legislation. Attention to classification of employed versus self-employed is especially important for low-wage workers who are losing entitlements to minimum wages and other employee benefits as a result.

**Lifelong learning and adaptable skills.** Continuous skill development can help workers gain greater security and adaptability in a world of rapidly changing technologies and labour market structures. Improving both the education and training system, and the ability of individuals and firms to finance this are crucial.

**A new system of tax breaks for skills investment.** Tax breaks and allowances for capital should be extended to skills investment. This should place investment in staff training, courses and education on the same footing as investment in plant and machinery. This could take the form of a Skills and Training tax credit which is similar in spirit to the existing R&D tax credit. The policy would need to be carefully designed to ensure additionality and that money was spent on high quality skills provision that adds to employability, career progression prospects, and to worker productivity. Such a skills development and training strategy requires close interaction between employers and well-resourced technical/adult education colleges.

<sup>21</sup> See Costa, Datta and Machin (2017) for a descriptive factsheet on R&D tax credits and on human capital tax breaks that operate in other countries.



*Production operator soldering circuit boards at Axiom Manufacturing, Newbridge Gwent, South Wales.*

# 3. Industrial Strategy

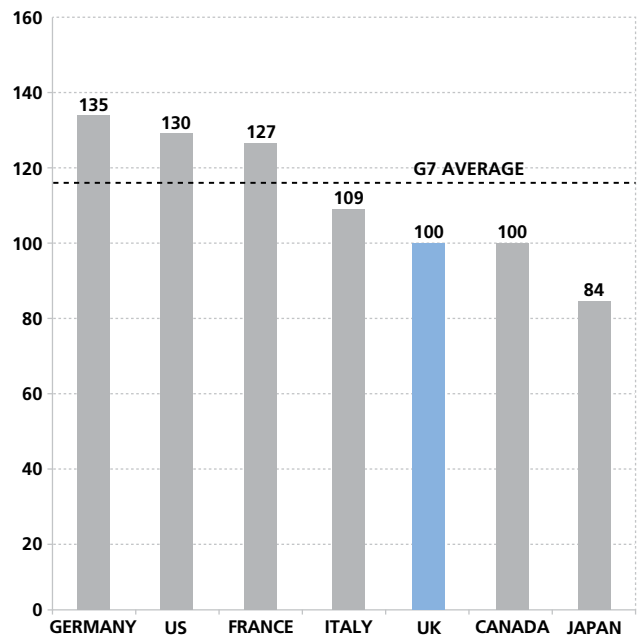
Britain's extended period of poor productivity growth has revived interest in developing a more active industrial strategy. This chapter outlines some of the market failures which justify a new approach in the UK, highlighting the challenges in its design. We begin by outlining the principles and priorities. We then set that in the context of the landscape and performance of UK firms. We review lessons from the experience of the UK and other contexts. Based on this analysis the Commission recommends a new industrial strategy framework, including a new legal footing, the introduction of independent decision-making or oversight, and steps to enhance transparency and analysis of the industrial interventions that are needed and are made in the UK.

## The need for an industrial strategy

The term "industrial strategy" has a chequered history often associated with a desire to steer the economy from the centre, subverting the dynamic forces of creative destruction which power modern capitalist economies. But every government has an industrial strategy however it chooses to articulate it: the government influences the investment climate for business, establishes national priorities, chooses tax and regulatory structures, invests in skills, infrastructure and research and procures outputs from the private sector, all of which influence the evolution of the private economy. What varies through history is how far governments have been willing to spell out their strategy and the arguments which underpin it. The aim of this chapter is to offer a blueprint for a modern industrial strategy informed by extensive evidence on the structure of UK business and experience with such policy both in the UK and other countries.

One key policy priority is to improve UK productivity which lags behind its international peers. This longstanding gap has been exacerbated by the weak productivity performance since the financial crisis. According to the latest data, UK output per hour is 35 percentage points lower than in Germany (Figure 3.1). This gap is explained by weaker productivity across all industrial sectors, rather than by differences in the sectoral composition of the economy. Every sector in the UK has a large number of unproductive firms, and a similar pattern exists for businesses in different size bands. Productivity growth is crucial for sustainable growth in living standards, and addressing this gap is therefore the central challenge for industrial strategy design.

FIGURE 3.1: G7 CURRENT PRICE GDP PER HOUR WORKED, UK=100



Notes: ONS, 2015, Current price GDP per hour worked. UK=100. G7 average=118.

Since the first Growth Commission there have been a number of policies aimed at raising productivity. Most recently, the UK government released a Green Paper including a number of proposals on Industrial Strategy. The challenge to government is to set out a long-term, overarching strategy to raise business performance in the UK. These industry-focused policies form part of a wider growth strategy that uses economy-wide policies which apply to all UK firms.<sup>1</sup>

Here, we argue that more selective policies targeted towards specific sectors and firms must be underpinned by transparent reasoning as well as a new institutional framework. Attempting to "pick winners", as the experience of the 1970s showed, often resulted in subsidising losers. The framework in place while the UK has been part of the EU has heavily circumscribed the potential for the use of such policies. Hence Brexit opens up some policy opportunities. And **whether the UK makes heavy use of selective industrial policy or not, there will be a need for a guiding framework to replace the EU State Aid regime.**

<sup>1</sup> Policies which focus on individual industries or regions are sometimes referred to as "vertical" industrial policies. By contrast economy-wide policies are sometimes referred to as "horizontal".

Improving productivity is not the only policy priority. The government's aim to create an economy that works for everyone emphasises the need for growth which is equitable and regionally balanced. Sustainable growth also requires an appreciation of the environmental impact of economic activity. The government's legally binding climate change targets should play a key role in shaping industrial strategy. The dynamics of cities and successful agglomeration of economic activity through urban regeneration is also central, requiring an institutional framework which achieves the right balance between local initiative and national coordination.

To date, UK industrial policy has fallen short of these goals. It is fragmented, with teams in different government departments often working separately. Regular re-branding or changing of business policies and departments, a long-standing problem in the UK policy environment, creates uncertainty for investors. The system of local governance is fragmented with a lack of spending power and autonomy over relevant policy-levels.

### Principles of Industrial Strategy

#### Government policies should be based on an understanding of why free markets may not deliver the most effective outcomes.

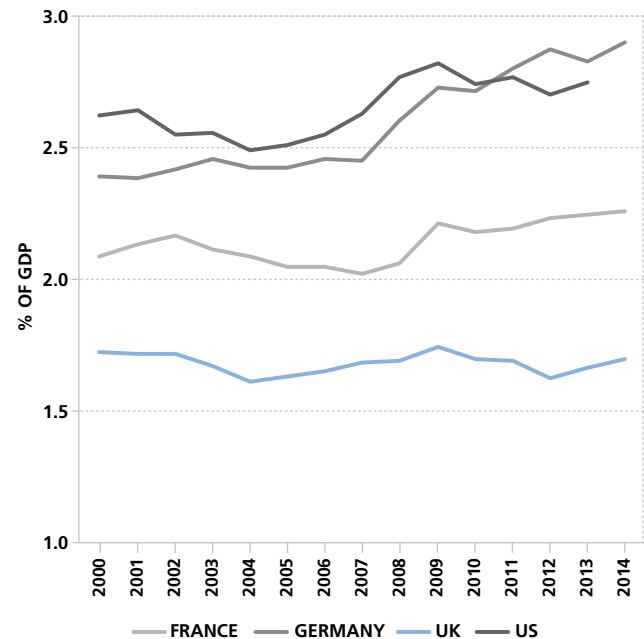
The role of government is to assess the wider societal benefits from economic activity and this, above all, should guide industrial strategy. For example, green technologies, healthcare technologies, or regional policies that improve local standards of living may not be taken into account by firms when making their investment decisions in isolation.<sup>2</sup>

Government can also promote the diffusion of information, acting as a co-ordinator, for industry, researchers, regulators and investors who might not otherwise come together. It can also share risk, providing funding for high growth-potential firms that would find it difficult to access market finance. Via funding of R&D it can address the well-known failure that markets do not internalise the positive externalities from research and under-invest.

**In some sectors or places, adoption of existing technology or practices can be more important for raising productivity than new innovation.** Government can address obstacles that prevent firms investing, such as information frictions or high set-up costs. The market process works best when there is exit of unsuccessful firms along with entry of new firms and growth of successful firms. The latter requires a financial system which is effective at channelling support to high-quality firms. Pro-active efforts to promote best practice along with facilitating entry and exit is needed to move core sectors of the

<sup>2</sup>This can create spatial externalities. In markets where size matters, there may be gains from policy interventions that facilitate the expansion of an agglomeration or, indeed, the establishment of a successful cluster.

FIGURE 3.2: R&D AS A SHARE OF GDP – INTERNATIONAL



Notes: General expenditure on R&D (GERD) (includes both business and government funded activity) as a percentage of GDP. Source: OECD MSTI.

economy such as construction, retailing and personal services towards the global frontier in terms of performance. These sectors are important in UK employment and raising their productivity and wages will therefore have large benefits for the UK economy. Industrial strategy should not be focussed on high-tech sectors alone.

It is vital that competitive processes influence decisions about industrial strategy. **EU State Aid rules have tied ministers' hands in a helpful way, effectively protecting them from pressures to intervene and limiting the subsidisation of uncompetitive sectors.** Post Brexit, it will be necessary to have equivalent laws in the UK. One of the greatest dangers of activist industrial policy is favouring specific firms within a sector and compromising benefits from competition. Successful sectors of the economy are frequently characterised by open entry and exit by failing firms to ensure that only the most successful businesses survive.

## Investment

#### The UK has poor infrastructure compared to its international peers

and large-scale investments are required in all areas. In recent decades Britain has found it hard to make informed decisions on infrastructure needs, hard to stick to them, and harder still to implement them due to problems accessing finance and/or planning permissions. The lack of a coherent, long-term infrastructure strategy and the associated policy

risk has also led to a high cost of capital and difficulty raising finance from the private sector. The government has made some progress in this area in recent years, with the establishment of the National Infrastructure Commission – an independent institution that should help to reduce policy uncertainty and also be the hub of rigorous analysis to establish the UK’s infrastructure needs. There have also been moves to channel more public-sector investment into infrastructure, such as the pooling of local authority pension funds and the new National Productivity Investment Fund. These developments are welcome but there is still much to be done. The policy climate in many areas is still uncertain and a deterrent to long-term private investment. And there is, as yet, no clearly articulated strategy which joins up housing, transport and energy needs.

The UK’s housing supply crisis is longstanding and well-known: we do not cover it in detail in this report. **Acute housing shortages in some areas and rising prices (in London in particular) distort incentives to invest in other types of assets and restrict labour market flexibility.** This is holding back productivity growth and harming the quality of life in the UK. It has major implications for the intergenerational distribution of income as housing assets are increasingly held by older age groups. Improving the supply of affordable, environmentally sustainable, high quality housing should be a central plank of government policy. The root cause of the housing crisis is government policy. Given the failure of the local planning system to deliver over decades, progress can only be achieved with a properly articulated and executed plan by central government. This should be central in any industrial strategy which mobilises the resources for housing investment.

A range of sectors need to innovate to stay on the global technology frontier. The standard measure of innovation input is Research and Development (R&D) expenditure. **Government and business R&D are consistently lower than our main peers as a share of GDP** (Figure 3.2). Publicly financed R&D is an important source of UK innovation, and it is also important since there is extensive evidence that this type of research “spills over” to the private sector, and stimulates further private sector investment.<sup>3</sup>

**While the UK excels in terms of the quality and impact of its research, it is worse than other countries at commercialising ideas.**<sup>4</sup> A standard measure of innovation output is patents and the UK is below the OECD average in patents per person.<sup>5</sup> There are also well-documented problems with collaboration between business and Universities.<sup>6</sup>

<sup>3</sup> See Moretti et al. (2014), Haskel and Wallis (2013), Goodridge et al. (2015), Hausman (2012) and Kantor and Whalley (2014).

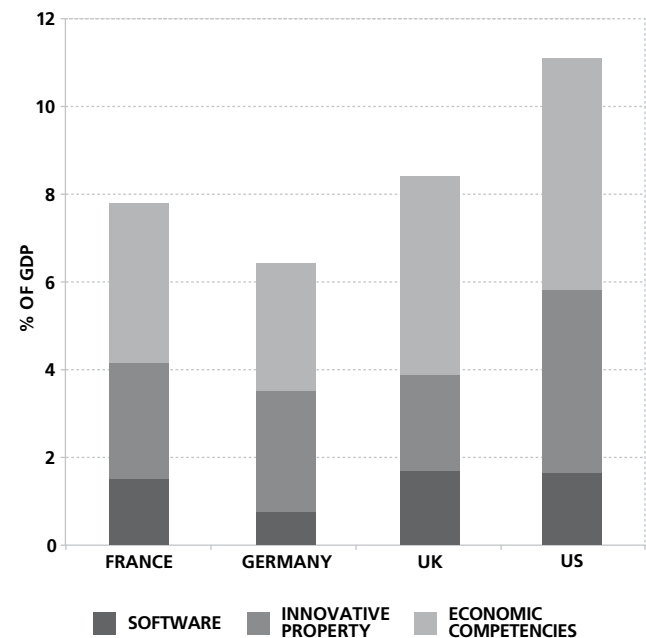
<sup>4</sup> See for example BIS (2014) or Elsevier (2013).

<sup>5</sup> The UK came 15th among OECD countries in terms of its Triadic patent families (corresponding patents filed at the EPO, USPTO and JPO for the same invention, by the same applicant or inventor) per million inhabitants in 2013, see OECD (2016).

<sup>6</sup> See the Dowling Review (2015).

**The UK does better in its investment in intangible assets**, for example new business practices and software. These types of asset are particularly important in an economy like the UK which is service-dominated. Total intangible investment has been increasing over time and it has been greater than tangible investment since the early 2000s.<sup>7</sup> Moreover, the UK does well compared to other advanced economies, investing more on intangibles as a share of GDP than France and Germany, though less than the US (Figure 3.3).

**FIGURE 3.3: INTANGIBLE INVESTMENT RATE (2010)**



Source: Corrado et al. (2012), OECD.

<sup>7</sup> See Goodridge et al. (2016).



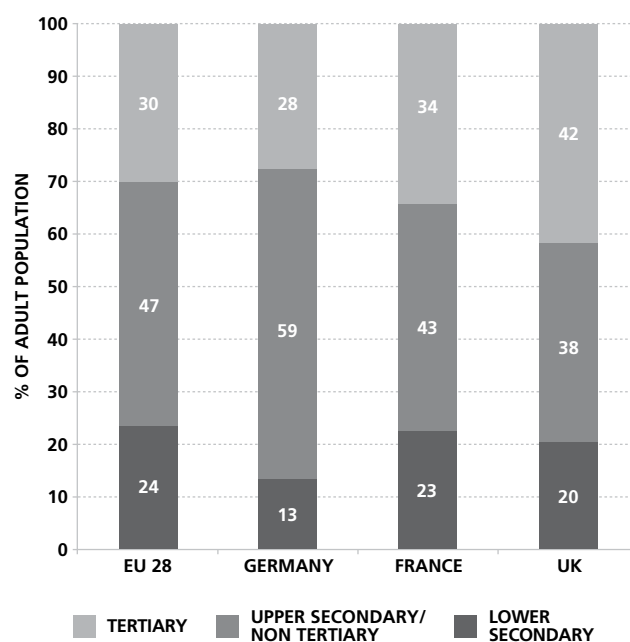
Bristol Robotics Laboratory is the leading and largest academic centre for multi-disciplinary robotics research in the UK. University of the West of England (UWE Bristol)

**Investment in fixed capital has been consistently low as a share of GDP in the UK.** Moreover, business investment collapsed after the financial crisis and only recently recovered. Key factors contributing to this have been policy uncertainty, short-termism in financial markets and associated problems accessing finance (especially for young, innovative firms seeking bank loans, or medium sized firms requiring scale-up equity investment). While these are persistent issues in the UK, there are concerns that the supply of finance to the real economy is still impaired following the financial crisis. Chapter 5 discusses these problems in detail.

### Skills and management practices

Improving skills is critical for growth. Skills are not only important for productivity in their own right, but also through knowledge spillovers that can contribute to the success of business clusters.<sup>8</sup> The UK has improved its performance in higher education, and the share of adults with a university degree has increased steadily in recent years. Moreover, there has been a rise in the graduate share in all regions of the UK. The UK has a higher graduate share than France, Germany and the OECD average, but lower than the US (Figure 3.4). Other European countries, Germany in particular, have a much higher share of upper/secondary non-tertiary graduates which includes vocational qualifications: an area where the UK underperforms both in terms of quality and quantity.

**FIGURE 3.4: EDUCATIONAL ATTAINMENT BY LEVEL, COUNTRY COMPARISON (2015)**



Notes: Educational attainment, by level, in percentage of adult population 2015. Source: OECD.

**Despite the increases in graduates, the UK faces long-term productivity-harming skills shortages.** Skills shortages are reported in all regions of the UK and the issue has worsened over time. In 2015, over 20% of job vacancies were due to skills shortages in all regions (compared to around 15% in 2011). Similarly, skills shortages are reported by employers in all sectors, and have increased in many sectors in recent years (Figure 3.5). Business surveys show that a majority of firms have concerns in this area.<sup>9</sup> While shortages in STEM subjects are widely discussed, there are also issues in other disciplines (for example languages), technical or vocational skills, and even in terms of basic (numeracy and literacy) and “soft” skills.

**School performance in the UK is poor by advanced-economy standards.** The outcomes for pupils from disadvantaged backgrounds are a key driver of this: children on free school meals or in poorer postcodes do worse than their peers from wealthier families. The UK’s position in the OECD’s Programme for International Assessment (PISA, which compares student performance at 15) is in the middle of the range of scores for participating countries. In the latest assessments, the UK continues to be average or below average in mathematics, reading and science. Scores are similar in all constituent countries of the UK. Moreover, there has been little change over recent years, despite large-scale reforms to the school system, and government explicitly targeting improvements in PISA scores.

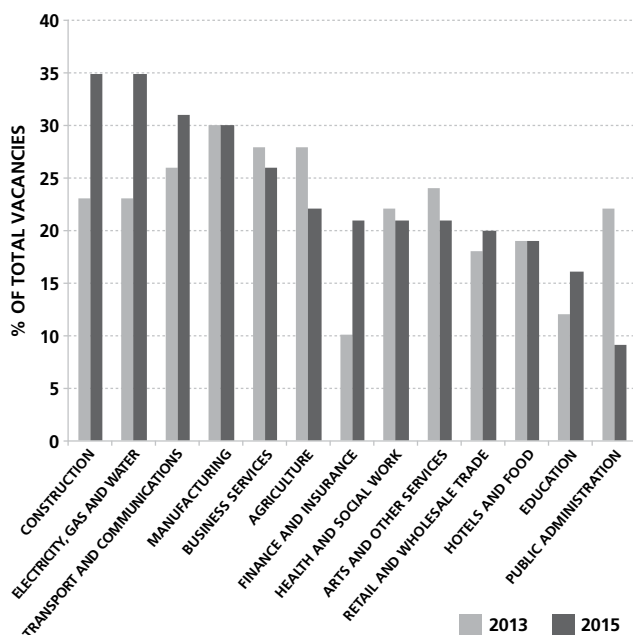
<sup>9</sup> For example, the CBI education and skills surveys also consistently report skills shortages. In the latest survey, 69% of businesses are not confident they will be able to recruit sufficient high skilled employees in the future.

<sup>8</sup> See for example Gennaioli et al. (2013) and Moretti (2004).

This poor performance of UK school leavers, coupled with an inadequate further education sector contributes to a large fraction of jobs being low-skill and low-pay. At the same time, the UK does not fare well in terms of the lower end of the basic skills distribution among adults. In the OECD's 2012 international survey of adult skills in 24 countries (the Programme for International Assessment of Adult Competencies, PIAAC), the nations of the UK have a sizable number of individuals with poor literacy and numeracy skills.<sup>10</sup> Moreover, when younger people are compared with older people, there is scant evidence of progress, unlike in the majority of other PIAAC countries where younger people have superior levels of literacy and numeracy. The UK is clearly losing, and dropping further back, in the international race in basic skills. The position is reasonably good at the top end of the basic skills distribution, but dire at the bottom.

Female talent is misallocated in the UK. Gender gaps in participation and wages are high compared to other OECD countries, largely explained by career breaks and part-time work after women have children. Other countries have introduced policies (for example, Sweden's "daddy months") that encourage parents to share work and home responsibilities. Studies suggest large productivity gains would be possible from tackling skill misallocation, and point to wider societal gains from policies that encourage parents to share home and work responsibilities.<sup>11</sup>

**FIGURE 3.5: SKILLS SHORTAGES ACROSS SECTORS**



Notes: Skills shortage vacancies as a percentage of total vacancies by sector. Source: Employer Skills Survey (2015).

<sup>10</sup> See <http://www.oecd.org/site/piaac/>

<sup>11</sup> See Bandiera and Valero (2016).

Management practices matter for productivity and **UK firms on average are worse managed than those in the US and Germany.**<sup>12</sup>

A key driver of this is the poor management practices in smaller, family run firms, who tend to use primogeniture to choose their CEO.<sup>13</sup> This is encouraged by UK tax laws on the inheritance of business assets. Managers of family firms tend to lack information on best practice. It has also been found that firms with more skilled workers are better managed. This "complementarity" between management practices and skills may be another avenue through which improvements in human capital can raise productivity over and above the direct impact on a worker's own efficiency.

### Industrial civil society

Britain's industrial civil society is weaker than our peers'. The community of business leaders could benefit by deepening their collaboration and sharing of expertise to develop a stronger industrial "civil society". Lessons can be learned in this respect from "coordinated market economies" such as Germany.<sup>14</sup> In 2010, the coalition government set up 39 Local Enterprise Partnerships (LEPs). These are voluntary partnerships between local authorities and businesses, and replaced the 9 Regional Development Agencies (RDAs) that existed before. However, LEPs have much smaller budgets than RDAs impairing their ability to hire experienced staff, organise events and invest in local civil society.

### British Industry: a bird's-eye view

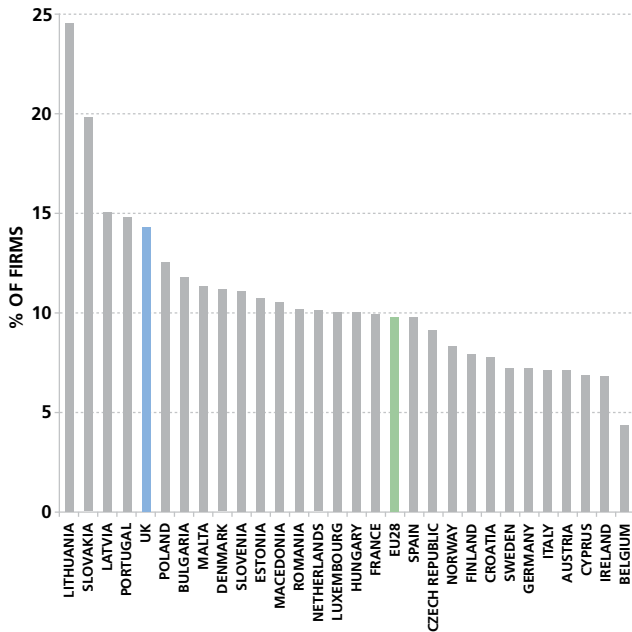
**It is relatively easy to set up a company in Britain, taking just five days.** The UK leads the US in terms of ease of doing business ranking 7th overall while the US ranks 8th. The "enterprise birth rate" (new firms as a percentage of total active firms) was 14% in 2014, putting the UK 5th of the 28 members of the EU less Greece (Figure 3.6). This has increased from 10% in 2010.

<sup>12</sup> Bloom et al. (2016).

<sup>13</sup> See Bloom et al. (2014) and ONS (2017a).

<sup>14</sup> Hall and Soskice (2001).

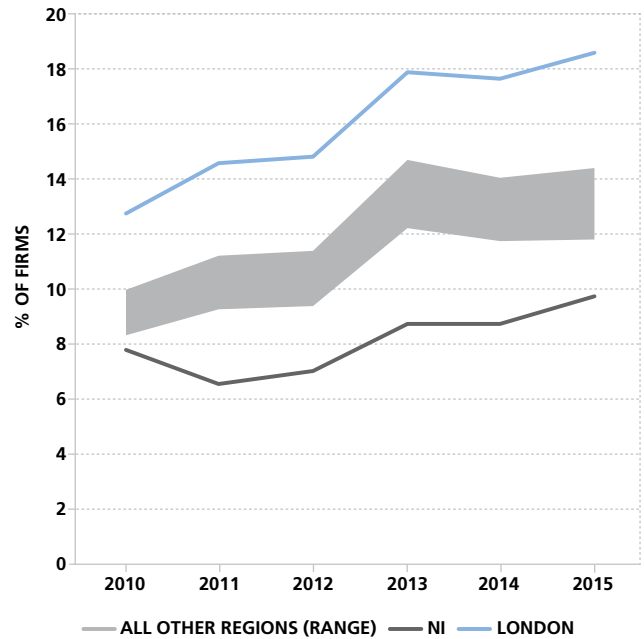
**FIGURE 3.6: NEW FIRMS IN BUSINESS ECONOMY**



Notes: Number of newly born enterprises as a % of the total number of active enterprises. Source: Eurostat.

Start-ups are mainly in the services sector (which represented 96% of the newly created enterprises from 2010 to 2015). While most regions are quite similar, a large share (39%) of start-ups are in London and the South East, with relatively low numbers of new firms set up in Northern Ireland (Figure 3.7). It does not appear that barriers to starting up firms are at the heart of the UK's productivity shortfall.

**FIGURE 3.7: NEW FIRMS BY REGION**



Notes: Birth rates by region, 2010-2015. Source: ONS.

### The dominance of small firms

The size distribution of UK firms is illuminating. In the most recent data for 2016, there were 5.5m businesses in the UK.<sup>15</sup> They fall under three main legal categories: sole traders, ordinary partnerships and actively trading companies. By far the most common were the 3.3m sole traders.<sup>16</sup> There were 1.8m actively trading companies and 421,000 ordinary partnerships.

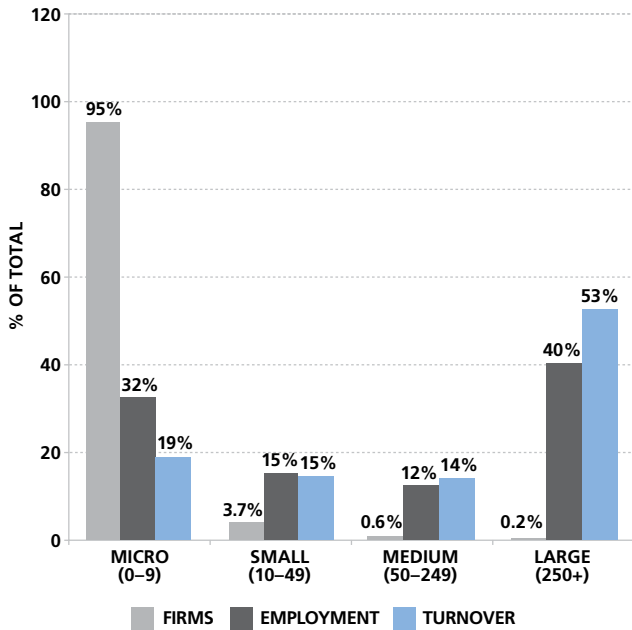
**Small firms dominate the British business landscape.** Across the UK 96% of businesses are classed as "micro" sized (having under 10 employees) (Figure 3.8). The vast majority of these (80%) actually have no employees other than the self-employed owner-manager, or an owner-director. This type of business accounts for nearly a third of private sector employment and 20% of sales.

<sup>15</sup> BIS (2016b).

<sup>16</sup> Sole trader status means there is no legal divide between the business and the individual running it. Importantly, this means that the businesses debts are legally regarded as the debts of the individual. Partnerships are another arrangement where there is no separation between the individual and the firm. In a limited trading company here the company is a separate legal entity from its owners, and is responsible for its own debts.



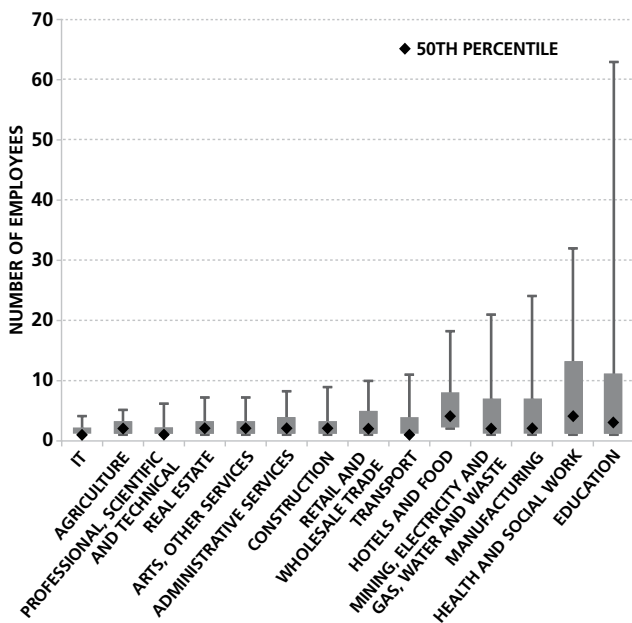
**FIGURE 3.8: BUSINESS LANDSCAPE BY FIRM SIZE (2016)**



Notes: Private sector businesses only. Source: BIS, 2016.

Small firms are dominant across sectors – with the median firm in all sectors having under 5 employees (Figure 3.9).

**FIGURE 3.9: EMPLOYMENT DISTRIBUTION BY SECTOR**



Notes: 10th and 90th percentiles are ends of thin error bars, 25th and 75th are end points of thick bars. Source: ONS.



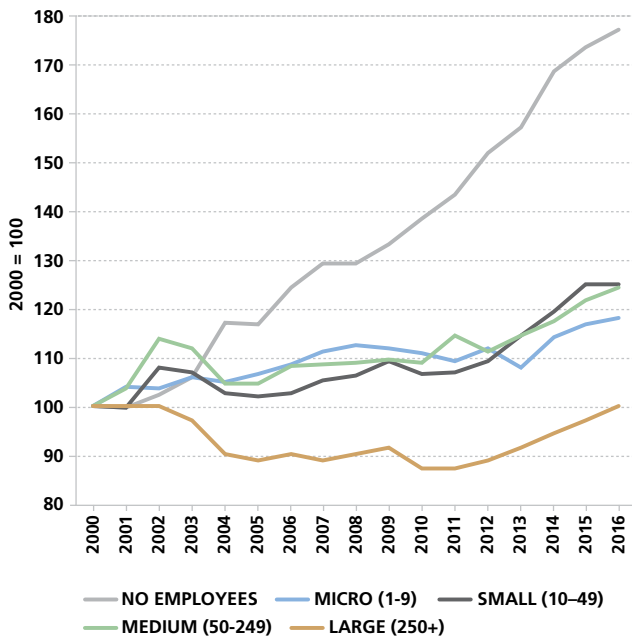
*Tormore distillery workers moving barrels to aging store. Whiskey remains one of the UK's most successful exports, worth almost £4 billion per year.*

**There is a conspicuous gap in the middle.** Small businesses that employ between 10 and 49 people account for 4% of firms, and 15% of employment. But mid-sized firms represent less than 1% of firms and only 12% of employment. The dearth of mid-sized businesses has long been a concern, with much discussion about the success of Germany's "Mittelstand", the specialist and export oriented medium sized companies that have contributed to Germany's strong performance since the financial crisis. While 99% of German firms are small or medium sized – a similar headline figure to the UK – micro-enterprises represent a smaller share of employment (20%), and small and medium sized firms (which include the Mittelstand) employ over 40% of the workforce.

Large businesses on the other hand represent a tiny fraction of total UK firms, but employ 10.4m people (40% of all employment) with around 1,450 workers per firm on average. These firms accounted for 53% of turnover in 2015.

**While the total number of businesses in the UK has risen by 59% since 2000, 90% of this increase can be explained by non-employing businesses** which have seen the fastest growth of all categories (Figure 3.9). The number of large businesses actually fell after 2002 and only started to recover more recently. Micro and small businesses tend to dominate all sectors in terms of firm numbers but are even more common in sectors such as agriculture, education, construction, and "other services". Large firms are more common in finance, mining and utilities, retail and administration.

**FIGURE 3.10: GROWTH IN PRIVATE SECTOR BUSINESSES BY SIZE BAND**



Notes: 2000=100. Source: BIS (2016b).

The dominance of small firms has implications for productivity and pay. On average large firms are more productive and are more likely to export goods. After controlling for size they pay higher wages and more taxes than their smaller counterparts. There are a number of reasons for this: small businesses are not able to take advantage of economies of scale, are more likely to face constraints on investment due to problems accessing finance, offer less scope for specialisation, and tend to have weaker organisational practices and technologies. A particular problem holding back high growth potential start-ups in the UK has been a lack of scale-up capital, a problem explored in Chapter 5. In addition, policy distortions can prevent small companies scaling up where it would be more efficient for them to do so. For example, there is a plethora of government schemes targeted at SMEs. The rationale for such schemes is often unclear. Because SMEs have lower productivity and pay lower wages, a concern is that firms have incentives to stay small to take advantage of these subsidies and this could depress aggregate productivity. Similar incentives are created by the tax code and regulatory structures.<sup>17 18</sup>

Another phenomenon since the financial crisis which might have contributed to poor aggregate productivity growth has been the lack of poorly performing businesses shutting down. The company “death rate” has fallen from 12% in 2009 to 9% in 2015, in spite of the fact

<sup>17</sup> See, for example, Garicano et al. (2012).

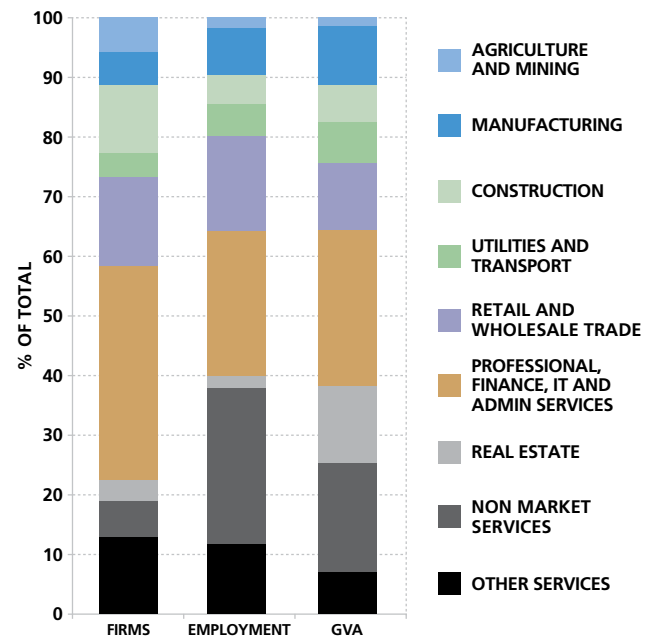
<sup>18</sup> Mirrlees et al. (2011).

that the number of loss making firms rose from around 22% to 35% between 1997 and 2011.<sup>19</sup> This has been attributed to an extended period of low interest rates and the reluctance of banks to write off loans for poorly performing companies, granting them instead interest payment holidays (a phenomenon known as “forbearance”). It was estimated that this applied to around 6% of SMEs in 2013.<sup>20</sup> Most analyses find that this has had only a moderate impact on productivity growth since 2008.

### A Sectoral Perspective

The services sector has become increasingly central to the British economy, representing around 77% of firms, and over 80% of employment and value added (Figure 3.11). There is a similar pattern of services sector dominance in other advanced economies though manufacturing takes a larger share of output in Germany, and the public sector (non-market services) is larger in France.

**FIGURE 3.11: NUMBER OF BUSINESSES, EMPLOYMENT AND GVA BY SECTOR (2015)**



Notes: GVA stands for Gross Value Added. Source: ONS.

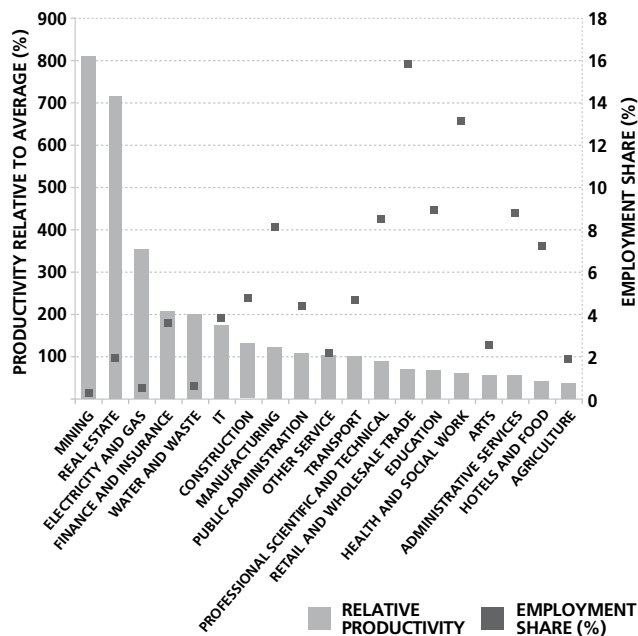
<sup>19</sup> Barnett et al. (2014).

<sup>20</sup> Arrowsmith et al. (2013).

In order to compare the relative productivity level in different sectors, we calculate gross value added (GVA) per worker. The most productive sectors also tend to have a smaller employment share (Figure 3.12). Real estate is an outlier because GVA in this industry mostly reflects imputed housing rents rather than the sales of firms. But electricity and gas, finance and IT which have high output per worker, each represent under 4% of the workforce. In contrast, wholesale and retail trade stands out as having low measured productivity but employing nearly 16% of the workforce. Other market economy sectors with particularly low productivity include hotels and food, administrative services, agriculture and arts.

While there are differences across sectors in terms of average productivity, there is a “long-tail” of unproductive firms in all industry groups and firm size bands. **Two-thirds of workers are employed in businesses where productivity is below average for their size and sector, significantly more than in Germany. This suggests economy-wide policies are vital in tackling the UK’s productivity challenge.**

**FIGURE 3.12: SECTORAL PRODUCTIVITY DIFFERENCES (2015)**



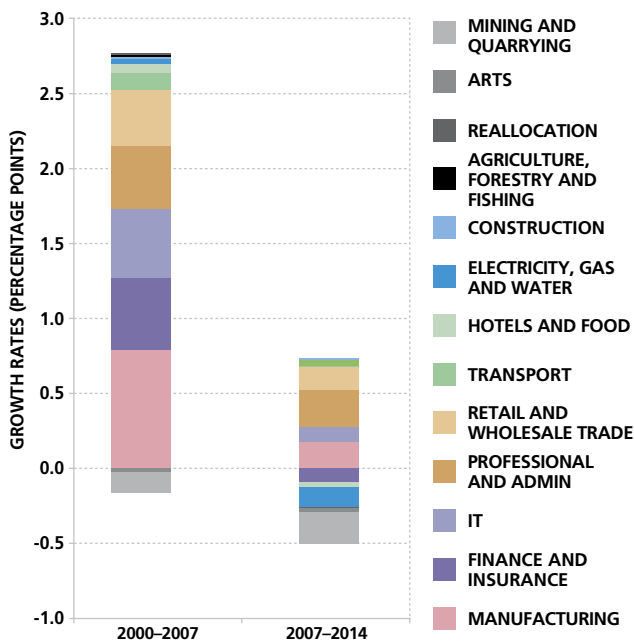
Notes: GVA/employment relative to average=100. Source: ONS.

Moreover, differences in sectoral productivity are reflected in differences in pay: high productivity sectors tend to pay more to the average worker and vice versa. Broadly, the sectors that have the largest share of UK profits, also record the highest share of total wage bill. Shares of profit and pay are closely aligned for manufacturing and retail, but profits far exceed pay in finance, professional services and IT. By their nature, non-market services record little or no profit, but take a large share of pay.

In the years before the financial crisis UK productivity growth was strong – averaging around 2.6% per annum in the market economy.<sup>21</sup> Professional and administrative services, IT and finance explained over half of the growth in this period. Since then while productivity growth has been close to zero, one of the only sectors to hold up in its contribution has been professional services (Figure 3.13). The largest reductions have been in the contribution of manufacturing and finance to productivity. In the case of manufacturing this has been due to a fall in productivity and a fall in the share of output. In the case of finance, productivity has fallen, but the sector has actually grown in terms of its share of market economy GVA.

<sup>21</sup> Corry et al. (2011).

**FIGURE 3.13: SECTORAL DECOMPOSITION OF AGGREGATE PRODUCTIVITY GROWTH**



Notes: Average annual growth rate of GVA per worker by sector, weighted by its average share in GVA. Market economy only. Source: EU KLEMS.

This analysis reveals that while services dominate the UK economy, the services sector itself has a mixed performance. It contains high-performance, high-growth sectors such as finance, business services and IT, but also low productivity sectors that tend to employ a larger share of the workforce. **An effective industrial strategy will have different policy prescriptions for these sectors.**

In terms of the UK's "revealed comparative advantage" (RCA), finance, insurance and other business services consistently stand out as strengths. The UK also possesses comparative advantage in some areas of manufacturing: those most commonly highlighted include aerospace and pharmaceuticals. In high growth-potential and innovative sectors, the principle for intervention should be to address market failures that prevent growth. This varies by sector, or even within sector, by location (for example skills shortages). This was the thinking behind the coalition's industrial strategy that identified sectors and technologies where the UK has strengths and created various frameworks to support them.

Other sectors present different challenges. In the market economy, retail and wholesale trade, hotels and food, and administrative services all have low average productivity and pay, and account for over 30% of total employment. **Raising productivity in low-productivity low-pay sectors could have large aggregate effects and also help to reduce wage inequality.** It has been estimated that if the productivity of these sectors were raised to match levels in France, Germany and other European countries, the UK could close a third of its aggregate productivity gap with those countries.<sup>22</sup>

Problems in these sectors include inadequate adoption of existing technologies and a low skill base relative to other sectors and the same sectors in other countries. The relatively poor performance of school leavers, coupled with weak further education contribute to low productivity here. Low labour costs might have contributed to a lack of investment in productivity-enhancing technologies or staff training, and the introduction of the new "national living wage" might change this.

An industrial strategy for these sectors must therefore overcome the specific barriers to investment in both existing technologies and people. Enhanced technical education is needed, and this highlights the overlap between industrial strategy and skills policy. In the government's current Post-16 Skills Plan, the retail sector is notably absent.

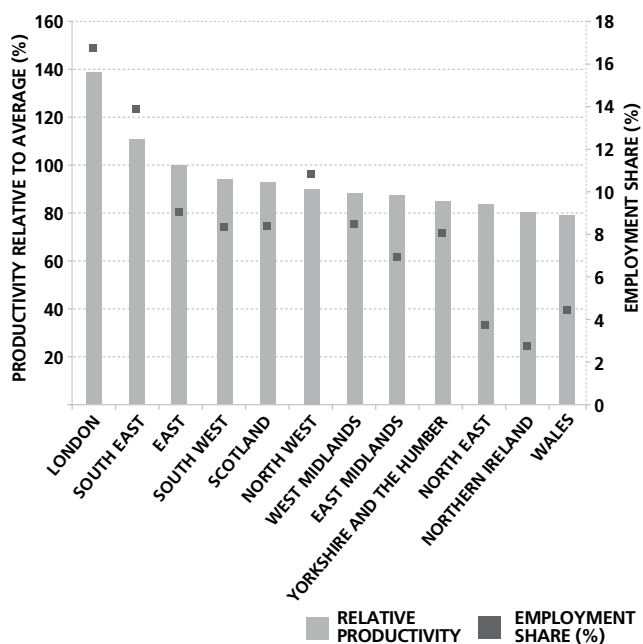
### A Regional Perspective

Economic activity in the UK is skewed towards London and the South East. These areas account for nearly 40% of total GVA and 33% of firms, but just 27% of the population. London is the densest area, with 1,464 businesses per 10,000 people, compared to just 679 in the North East.<sup>23</sup> London and the South East are the most productive regions and also have the highest employment shares. The North West has low average productivity despite being the third largest employer (Figure 3.14).

<sup>22</sup> Spencer et al. (2016).

<sup>23</sup> BIS Business Population Estimate (2016).

**FIGURE 3.14: REGIONAL PRODUCTIVITY DIFFERENCES (2015)**



Notes: GVA/employment relative to average=100. Excludes the mining sector (1% GVA) as Extra Regio activity is not apportioned across regions. Source: ONS Regional Gross Value Added (Income Approach) and Business Register and Employment Survey.

Recent analysis from the ONS suggests that differences in productivity between regions are not driven by differences in industry composition, but are explained by firms being less productive across regions even within the same sector.<sup>24</sup> For example, firms in London have higher median levels of productivity in most industry sectors when compared with other regions.

There is considerable variation in regional innovation within the UK (Figure 3.15). The highest share of R&D expenditure takes place in the East of England, London and the South East.<sup>25</sup> Investigating patterns of regional innovation in depth, the government’s recent Science and Innovation Audits have shown that there are many strong clusters of research and innovation across the UK. These include transport, medical food and energy in the Midlands, advanced engineering in South West England and South Wales, and advanced manufacturing in Sheffield.

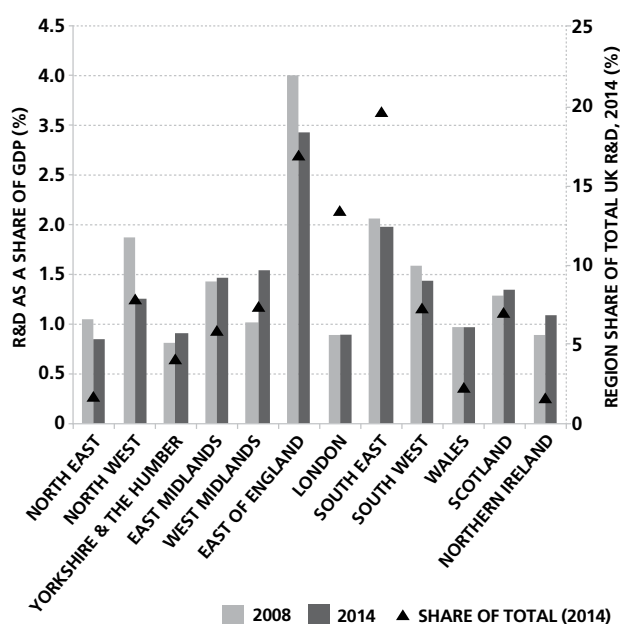
<sup>24</sup> ONS (2017b).

<sup>25</sup> This represents a much larger share of regional GDP in the East. The share of GDP devoted to R&D has actually fallen substantially in the East since the financial crisis, which has also occurred in the North.

**Regional imbalances have grown much faster in the UK than in other major European countries.**

The increase in regional GDP disparities is much higher than in France, Germany, Spain and Italy, and also (at state level) than in the USA.<sup>26</sup> The underlying causes of these disparities are differences in the distribution of growth drivers including innovation, infrastructure and education, set out previously.

**FIGURE 3.15: R&D AS A SHARE OF GDP – REGIONAL (2014)**



Notes: Gross Domestic Expenditure on R&D as a share of GDP. Source: Eurostat.

A programme of decentralisation to city regions, including the “Northern Powerhouse” has sought to address regional disparities, giving cities with elected mayors revenue-raising powers and more decision-making powers over local planning and infrastructure development. Part of the challenge is to get the right balance between local initiative and central direction. In addition, the structure of local government is an impediment to the success of such policy, as it does not encompass natural economic units. The recent report by the NIC on the Oxford-Milton Keynes corridor highlights these issues, also emphasising the need for a joined up approach to housing, jobs and infrastructure.<sup>27</sup>

<sup>26</sup> See for example, Gardiner et al. (2013).

<sup>27</sup> <https://www.gov.uk/government/publications/the-national-infrastructure-commissions-interim-report-into-the-cambridge-milton-keynes-oxford-corridor>



*A seamstress at Barbour's factory in South Shields. The company now sells clothing in over 40 countries worldwide. Bethany Clarke.*

**Given these regional imbalances, another challenge is to develop new arrangements for regional support when the UK leaves the EU.** The EU has played an important role in balancing UK regional disparities through the subsidies provided by EU structural funds. Following Brexit, similar support will have to be funded directly by the UK taxpayer and similar frameworks will need to be put in place for guiding it.

## Industrial strategy in practice

Unlike other areas of macroeconomic policy there is no single international "best practice" industrial strategy. At different levels of government – national, regional and city-level – different countries have historically experimented with a variety of interventions to actively promote growth, address market failures and improve competitiveness. From a focus on exports as the criterion for state-support in Korea and Taiwan, to Finland's focus on ICT investment as an enabler, different countries have sought to develop competitive advantages through the interaction of government and business.

### The history of Industrial policy

**British Prime Ministers have a rich tradition when it comes to industrial strategy.** The country's first Prime Minister was an early pioneer: Robert Walpole's 1721 reforms included subsidies and taxes designed to support Britain's wool manufacturers, and as a result the industry became Britain's main export, which in turn did much to pay for the imports which powered the industrial revolution. Walpole wrote into the King's speech (1721) that: "it is evident that nothing so much contributes to promote the public well-being as the exportation of manufactured goods and the importation of foreign raw material." In the US, interventions to protect infant industries and promote

exporting businesses formed the basis of the policies that Alexander Hamilton, the first Secretary of the Treasury, set out in the 1840s.<sup>28</sup>

A subsequent period characterised by laissez-faire capitalism and free trade came to end with the advent of the First World War. The post-World War II period heralded a pivot towards more interventionist industrial policy across most European countries.<sup>29</sup> Between 1948 and 1952, recipients of the Marshall Plan funds (including the UK, France, West Germany and a further fifteen European countries) were obligated to establish long-term investment plans for national recovery. In 1961, the UK established the National Economic Development Office to bring together industrialists, academics, trade unions and government to design industrial modernisation programmes.

**The UK's industrial policy of the 1960s and particularly 1970s consisted of a number of policy mistakes with the government heavily subsidising individual firms which eventually failed.**<sup>30</sup>

The period was also characterised by poor economy-wide decisions including costly investment subsidies, misdirected R&D spending, protectionism, weak competition policy and a tax system which discouraged enterprise.

**There were also policy successes during this period, particularly in pharmaceuticals and aerospace.** The procurement policies of the NHS encouraged R&D, and government supported medical research at UK universities. In aerospace Rolls-Royce was nationalized in 1971 and then privatized in 1987; the company went on to become highly-profitable as one of the largest producers of civil-aircraft engines in the world.<sup>31</sup>

With the election of Margaret Thatcher in 1979, industrial strategy swung out of vogue once again. Thatcher pared industrial strategy back, phasing out both industry-focused and economy-wide policies. Selective industrial policy fell out of favour due to the failures of the 1960s and 1970s, and also because EU rules on state aid constrained policy. From this period, UK productivity growth began to pick up, reversing a century of relative economic decline. Increased competition appears to have been the key driver of this, together with improved labour market flexibility, privatisation and lower marginal tax rates.<sup>32</sup>

When Tony Blair's Labour government instigated wide-ranging economic reforms, most were economy-wide including a new emphasis on R&D, public capital investment, and a long-term commitment to

<sup>28</sup> Grabas and Nutzenadel (2013).

<sup>29</sup> Britain incubated the notion of industrial strategy before transitioning to free trade in 1860, signified by the signing of the Cobden-Chevalier Treaty between Britain and France.

<sup>30</sup> See Crafts and Hughes (2013).

<sup>31</sup> See Lazonick and Prencipe (2005).

<sup>32</sup> See Crafts (2012) and Corry et al. (2011).

public education and expenditure on science. Importantly, there were a number of reforms that significantly strengthened competition policy during this period.<sup>33</sup> **While the Blair government was different from its Conservative predecessor in many respects, the lack of industry-focused policy was common to both.**

The financial crisis of 2008 changed this, rekindling political interest in industrial strategy in the UK and abroad. Faced with falling or stagnating growth, high debt levels (constraining fiscal policy) and the limits of monetary policy (as central bank reserve rates fell rapidly towards zero), many countries looked to industrial strategy as a potential lever. As the UK's 2010 Liberal-Conservative coalition government developed its industrial strategy, Japan, Germany, China and others were stepping up their industrial intervention. **At the start of 2017 industrial strategy, perhaps the most mercurial area of economic thinking, is on a new upswing – both in the UK and overseas.**

### International Case Studies

Successful industrial policy has often been characterised by countries learning from others before them: the US and Germany built on Britain's industrial policy in the eighteenth and nineteenth centuries; in the late nineteenth and early twentieth century, Japan leveraged success stories from Germany; and in the twentieth century China and Korea applied Japan's learnings to their own strategies.<sup>34</sup> Looking to other countries or settings is thus a crucial building block in designing a new industrial strategy for Britain. There is no single international "best practice" industrial strategy. The success of a strategy – and associated industrial policy interventions – is a function of each country or region's own strengths and weaknesses, historical and economic context.

### Government funded R&D: US

It is well established that the private sector underinvests in R&D, due to its failure to internalise the wider social benefits from inventions and the uncertain, long-term nature of potential payoffs. Moreover, as previously discussed there is robust empirical evidence suggesting that government-financed R&D spills over to the private sector. Such considerations have led governments around the world to finance basic and applied research.

<sup>33</sup>The 1998 Competition Act and the 2002 Enterprise Act both strengthened the competition authorities. In particular there was an enhanced role and greater autonomy for the Competition Commission, a depoliticisation of merger reviews and tougher punishments for cartels.

<sup>34</sup>Chang and Adreoni (2014).

The **US provides an important example of the success of government financed research, which has been the source of some of the most significant post-war innovations.** A commonly cited example is that all the technologies that have gone into the iPhone were initially government funded: the Internet, GPS, its touch-screen display and voice-activation.<sup>35</sup>

Some of these successes are by-products of a wider research "mission". A key example is the internet, the origins of which trace back to the US government's efforts to build spy-resistant communication networks in the 1960s. The first incarnation of the internet, "ARPAnet" was created by the Advanced Research Projects Agency (later DARPA), a section of the military devoted to secret weapon systems. In fact there is wider evidence that military spending in the US has been an important source of private sector innovation which is likely to be a function of its scale over the decades since WWII and its high-tech nature.<sup>36</sup> It has been argued that in addition to the funding that enabled basic research, credit should also go to the competitive and market-oriented nature of the university system in the US, and the fact that DARPA did not tightly control the projects, encouraged wide dissemination of research, and involved small firms.<sup>37 38</sup>

The US experience suggests that when a government mission, motivated by political or societal concerns involves significant R&D, efforts should be made to maximise spillovers via promoting information flow and collaboration between universities and the private sector.

Other discoveries are the direct result of targeted research. An example here is Google's search algorithm which was originally based on research financed by the National Science Foundation (NSF), via its "Digital Library Initiative" which was interested in more accessible interfaces for data collections.<sup>39</sup> One of the first related grants went to Stanford University, where Larry Page, then a graduate student, and Sergey Brin invented "PageRank" which survives as one of the main components of Google today.

This case illustrates the importance of government funding for basic research. By its nature, the applications of early-stage basic research are uncertain, but it is important that funding allocations are based on a competitive process using independent expert reviewers. The UK Research Councils have a similar model. The success of the US in inventing ground-breaking technologies which are then commercialised successfully illustrates the importance of links between universities and businesses.

<sup>35</sup>See Mazzucato (2015).

<sup>36</sup>See Draca (2013).

<sup>37</sup>Rosenberg (2000).

<sup>38</sup>Fishback (2007).

<sup>39</sup>The NSF is an independent federal agency which supports basic research in US universities.

### Setting out a clear and co-ordinated plan: Korea

South Korea, one of the “East Asian Tigers”, is a well-known case of successful catch-up growth, fuelled by exports and fast-paced industrialisation. Between the 1960s and 1980s, Korean industrial strategy was centrally planned, protectionist, and highly interventionist. Policies included import protection, export promotion, credit and foreign exchange rationing. These types of policy are rarely used by Western democracies like the UK, but **Korean industrial strategy provides lessons on the importance of strong and joined-up institutions and a long-term strategy with government monitoring its success against pre-determined targets.**

Industrialisation was meticulously planned by the Economic Planning Board (EPB), a government department which co-ordinated policy across different levels of government. The EPB created a series of rolling five-year plans from 1962 to 1992, which worked down from overriding objectives, to targets, to proposed policy interventions and business actions, to allocation of resources (the EPB, unlike most business departments around the world, had budgetary powers).

Korea’s policies were sequenced and coherent; long-term plans provided a policy road map that business leaders understood. Co-ordination was also enabled by “deliberation councils” in key industries, a concept borrowed from Japan. These consisted of government officials, industry representatives, and more “objective” observers such as academics or journalists.<sup>40</sup>

Key to the effectiveness of policies aimed at boosting human capital was that they sought to anticipate future demand for skills. For example, in the 1960s education policy prioritised literacy, but since the 1970s it has developed to promote research excellence as Korea has sought innovation-led growth.<sup>41</sup> The Korean government has also consistently spent heavily on R&D, and provided R&D incentives to the private sector. In 2015, Korea ranked 6th in terms of patents per capita, up from 11th place in 2010.

<sup>40</sup> See Chang et al. (2013).

<sup>41</sup> OECD (2012).

### Targeted Subsidies: Germany’s energy transition

In 2010, a new commitment to decarbonised energy supplies was passed into German legislation. This energy transition – *Energiewende* – involves a stated target to generate 40-45% of electricity from renewables by 2025, rising to over 80% by 2050. Energy affordability and reliability over the long-term and reducing import dependency have also been drivers of this policy. **Energiewende provides a useful example of how a government “mission” can have implications for specific sectors and industry as a whole.**

The policy works through targeted subsidies worth around €20 billion each year. The government guarantees investors in non-carbon forms of energy that: (i) their energy will go into the grid before carbonised sources and (ii) at prices fixed for twenty years (a recent reform will involve auctions to set these prices). While this implies a rise in energy costs, intensive users (mainly in manufacturing) qualify for exemptions in order to preserve their international competitiveness.

There are a number of problems with the policy, for example high energy costs for consumers and the businesses not benefiting from exemptions, and less progress cutting overall emissions, but Germany has made good progress in terms of the stated target of raising the share of renewables in electricity generation, which reached 30% in 2015 (compared to 3.6% in 1990).<sup>42</sup>

A key beneficiary has been the German green industry which is now a world leader (accounting for over half of European inventions in climate change mitigation technologies).<sup>43</sup> This could lead to wider economic benefit since there is evidence that R&D in green technologies has greater spillovers to the rest of the economy than environmentally “dirty” technologies, and can boost productivity.<sup>44</sup>

### Competitive procurement: UK television

The UK’s public-service broadcasters – the BBC and Channel 4 – provide an example of a hybrid system, in which government support has allowed the private sector to flourish. The BBC is the world’s oldest and largest broadcaster with 21,000 full-time employees, broadcasting in 28 languages. It is quasi-public, raising funds using a “licence-fee” that all UK television owners must pay. Reflecting the competition and supply-chain implications of its influence, the BBC is subject to government-agreed supply arrangements. Channel 4 is wholly owned by the UK government but independently run, buying content from private sector providers using revenues from advertising sales. **This set up has stimulated private industry in**

<sup>42</sup> See Rutten (2014).

<sup>43</sup> See Climate Change Mitigation Technologies in Europe - evidence from patent and economic data (2015). Report for the European Patent Office.

<sup>44</sup> See Dechezlepretre et al. (2013).



### **an interesting way, with potential lessons for wider industrial strategy.**

The BBC operates under clear rules. The Broadcast Act (1990) and the Communications Act (2003) require it to commission 25% of its television programmes from the independent sector each year. A further 25% of productions must be commissioned through a competitive process in which both in-house BBC and independent producers can compete. The rules limit the extent to which the BBC can crowd-out the private market – it makes the corporation part competitor, part customer.

The BBC also has regional targets. These specify that 50% of television production spend must come from companies located outside of London, with 17% to come from Scotland, Wales and Northern Ireland. Similar arrangements apply to radio and online. These regional rules limit the dominance of London-based companies.

Private companies in the UK are global leaders in the provision of independent television. The sector is led by the so-called “super-indies” (for example All3Media and Shine Group), and a satellite of smaller firms that supply to both the BBC and these large players. The BBC spent £441 million on external commissions across all its channels in 2015. Channel 4 is not far behind (spending £403 million in 2015) as it does not have an in-house production division.<sup>45</sup> In total, 2,700 creative suppliers provided content to the BBC, of which 80% were small or micro-sized.<sup>46</sup> While it is difficult to precisely determine a causal impact of the BBC on the UK economy some estimates of its value-added suggest that it generates £2 of economic value for every £1 of licence fee.<sup>47</sup>

There are differing opinions about the value of the BBC to the UK economy, with some arguing that it over-reaches in today’s increasingly fragmented media landscape. **Despite these tensions the BBC provides an example of how public sector procurement can support private sector growth and reduce regional imbalances.** Central to the success have been efforts to ensure a competitive commissioning process with the BBC subject to a “Fair Trading” audit. This safeguards the wider industry from potentially unfair arrangements between the BBC and its subsidiaries, or negative market impacts from its activities. This transparent and competitive process, with regular external review is one that wider UK policies could learn from.

### **Modern Industrial Strategy in the UK**

In 2010, thirty-one years after Prime Minister Margaret Thatcher ushered in an era of free markets and privatisation, the Conservative-Liberal Democrat coalition government turned to industrial strategy as a potential lever to stimulate and redistribute growth. In 2013, the government published its industrial strategy, which contained support for eleven key sectors and eight key technologies. The sectors were all judged to be strategically important, “tradable” and with a “proven commitment to innovation”. Support has involved forums for industry leaders and government to discuss barriers to growth; the development of specific training institutions or initiatives within the sector; and some match-funded financial commitments to certain aspects of the sectors. The technologies all had established roots in the UK and high growth potential. Funding for the development of R&D centres for these technologies has been provided, some of which has been used to set up or enlarge Catapult centres. Following the 2015 general election, the industrial strategy was downplayed but the frameworks have remained in place. Early evaluations of elements of these policies have found them to be successful.<sup>48</sup> However evidence set out above suggests the coalition’s industrial strategy was too narrow, focusing mainly on high growth, high tech sectors, or those where the UK possesses comparative advantage, rather than on larger low-productivity sectors which employ a large section of the workforce and where large gains can be made. Regional industrial policies, particularly the development of the north of England have been a focus of recent years.<sup>49</sup>

Theresa May’s government has committed to a new industrial strategy in order “to get the whole economy firing” – with a focus on infrastructure, house-building and measures to raise Britain’s stagnating productivity. As part of this, the government has set out a Green Paper asking for recommendations. The CEP will be happy to provide evidence as part of the Green Paper process, beginning with the recommendations in the next section.

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<sup>48</sup> See the Hauser Review (2014).

<sup>49</sup> During this period George Osborne, Chancellor of the Exchequer, also began exploring place-based policies such as the Northern Powerhouse and wider devolution to City-regions with elected Mayors – these are to be carried forward by his successor as Chancellor, Philip Hammond.

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<sup>45</sup> See Ofcom (2016).

<sup>46</sup> See BBC (2015).

<sup>47</sup> See BBC (2013).

## Recommendations

The UK has strong frameworks governing monetary, fiscal and competition policy (Table 3.1). Objectives are defined and enshrined in law. Independent agents play a role in offering advice and in some cases taking policy decisions. The remit of such bodies is transparent, with justifications for their advice presented in statutory publications. This has the potential to create a more stable framework and promotes open government with external scrutiny by think-tanks, journalists and academics. **British industrial strategy lacks every element of this general framework.** Its focus, existence, and even the name of the department implementing it are subject to the whims of Prime Ministers or Business Secretaries. This creates political uncertainty and hampers long-term decision making. The lack of transparency undermines scrutiny and creates uncertainty for private investors. **The Commission recommends that industrial strategy should be put on the same footing as other areas of economic policy.** This should include:

- **A new law or long-lasting mandate, including a new state aid law.** The existing EU State Aid framework has prevented arbitrary forms of political intervention in the economy. Developing a new legal framework to replace it is essential once the UK leaves the EU. This will help to ensure that the new industrial strategy is competitive and contestable.
  - **A set of public guidelines for intervention.** The development of a set of transparent (and preferably quantifiable) rules and guidelines for intervention in particular sectors, technologies or places are required. Competitive processes should be used wherever possible to ensure that government support is channelled to its most beneficial use.
  - **Independent decision making or oversight.** The ultimate objective should be a long-term industrial strategy that is isolated from political cycles. There is a menu of options to choose from – from the Bank of England’s Monetary Policy Committee, to Britain’s independent budget, antitrust and infrastructure bodies. Any one of these would be better than the current ad hoc set up. This independent body should strive to overcome the fragmentation of authority within central government and between local and central government.
  - **Enhanced transparency and accountability.** The government should therefore publish a long-term plan setting shared objectives and aligning decision-makers across government, industry and other stakeholders.
  - **External debate and scrutiny.** The body responsible for industrial strategy should publish a standardised *Industrial Strategy Report* every year on the state of British business. (In line with the OBR’s *Economic and Fiscal Outlook*, or the Bank of England’s *Financial Stability Report*). This would provide regular material on the productivity of UK firms, with updates on industry- or location-specific policies, together with their costs and measured impacts.
- With this new framework in place the government should pursue six key priorities. These are:
- **Skills shortages.** A plan to tackle shortages in skills at all levels is needed, in particular addressing basic skills deficiencies and ensuring that the UK utilises and invests in female talent.
  - **Low-productivity sectors.** Significant market failures are holding back productivity in low-wage, low-productivity sectors that employ large numbers of UK workers. Industrial Strategy must tackle these problems through improving skills and technology adoption.
  - **Small firms.** Focus financial support towards high growth potential firms that face financing constraints, rather than small firms in general. Expand the role of the British Business Bank (BBB). Review whether tax and regulatory frameworks are distorting firm size, incentivising firms to stay small. Address obstacles to small firms improving their management practices.
  - **Universities and the private sector.** Enhance collaboration between universities, government and the private sector, building on existing government frameworks, for example the Catapult model, and continue to increase support for R&D into technologies of the future where the UK has comparative advantage.
  - **City-growth policies.** Cities are central to the UK’s success. Continue to devolve power and support local leaders to create smart, connected cities. Invest in digital infrastructure and environmentally friendly transport structures. Ensure that housing supply matches demand in growing cities.
  - **Growth, environment and wellbeing.** Define a series of focused public goals or missions that industrial strategy will support. These should include environmental sustainability and improving health and social care outcomes. Progress in these areas is important in its own right, and is also likely to have a positive impact on growth in the long run. Government should support innovative companies that work in these areas, ensuring that the tender process is competitive and knowledge diffusion is promoted.

**TABLE 3.1: EXAMPLES OF UK POLICY FRAMEWORKS**

	Monetary Policy	Fiscal Policy	Competition Policy
Policy tool	<ul style="list-style-type: none"> <li>• Bank Rate</li> <li>• Asset Purchases</li> </ul>	<ul style="list-style-type: none"> <li>• Tax and spending</li> </ul>	<ul style="list-style-type: none"> <li>• Merger clearance and remedies</li> <li>• Market investigations,</li> <li>• Penalties for anti-competitive behaviour</li> </ul>
Legal framework	<ul style="list-style-type: none"> <li>• Bank of England Act 1998</li> <li>• Bank of England and Financial Services Act 2016</li> </ul>	<ul style="list-style-type: none"> <li>• Budget Responsibility &amp; National Audit Act 2011</li> <li>• Charter for Budget Responsibility</li> </ul>	<ul style="list-style-type: none"> <li>• Competition Act 1998</li> <li>• Enterprise Act 2002</li> <li>• Enterprise and Regulatory Reform Act 2013</li> </ul>
Independent decision-maker or oversight	<ul style="list-style-type: none"> <li>• Bank of England's Monetary Policy Committee (MPC): external members</li> </ul>	<ul style="list-style-type: none"> <li>• Office for Budget Responsibility (OBR)</li> </ul>	<ul style="list-style-type: none"> <li>• Competition and Markets Authority (CMA) Board independent panel members</li> </ul>
Mandate or guidelines	<ul style="list-style-type: none"> <li>• Inflation target</li> </ul>	<ul style="list-style-type: none"> <li>• Fiscal rules</li> </ul>	<ul style="list-style-type: none"> <li>• Duty to promote competition for the benefit of consumers.</li> </ul>
Transparent publication	<ul style="list-style-type: none"> <li>• Inflation Report</li> </ul>	<ul style="list-style-type: none"> <li>• Budgets</li> <li>• Economic and Fiscal Outlook (EFO)</li> </ul>	<ul style="list-style-type: none"> <li>• Merger inquiry findings</li> <li>• Market investigation findings</li> </ul>



*The Port of Felixstowe is Britain's biggest and busiest container port, and one of the largest in Europe. It welcomes approximately 3,000 ships each year.*

# 4. Openness

The UK is one of the most open countries in the world. In 2015 goods and services worth over £1 trillion (60% of GDP) flowed in and out of the UK as it traded with over 190 economies across the globe. Capital flows freely, with the result that British citizens and companies have around £10 trillion in overseas investments while foreigners have invested a similar amount here. People are also mobile; Britain welcomed some 36 million tourists in 2015, and there are currently around 5.6 million foreign nationals living in the UK, while around 5 million British citizens live overseas.

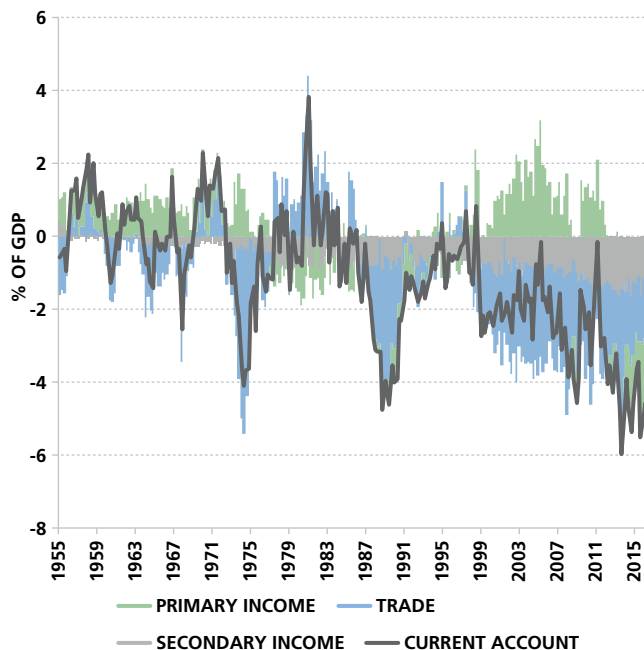
The result of the June 2016 referendum on EU membership will change the way goods, services, capital and people cross the UK's borders. The main task for policymakers is to find a set of arrangements that foster opportunities, competitiveness and sustainable growth for the UK. This chapter reviews the UK's experience of the movement of goods, capital and people to provide evidence-based recommendations about how the UK can make a success of its new relationships with the EU and rest of the world.

## The background: The UK current account

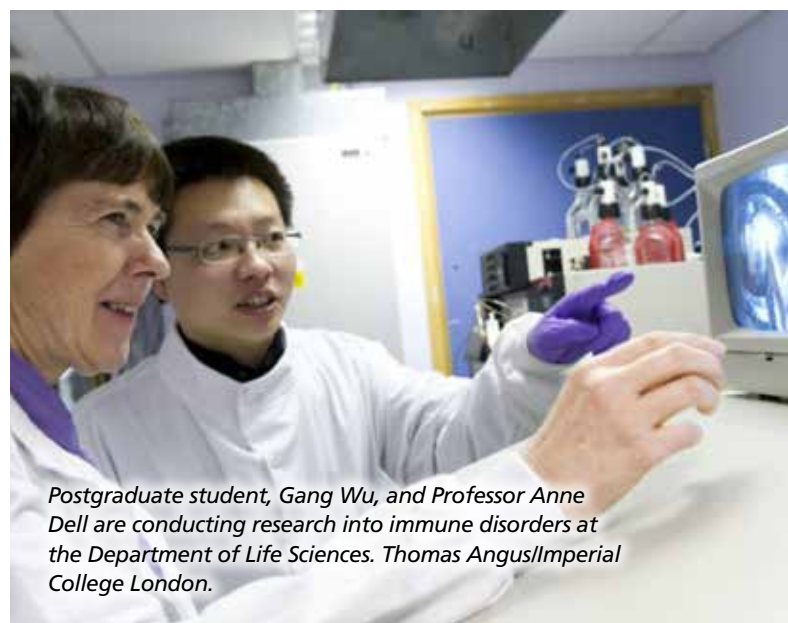
International trade and finance have been important elements of the UK economy for centuries. In the 1700s cotton, coffee and other raw materials were imported from the colonies, refined in the UK and exported to overseas buyers, many in mainland Europe. By the early 1800s British investors were active overseas, sending funds to buy stakes in American railroads and Argentinian mines. The British diaspora is longstanding too. In all these ways the UK has reaped the benefits of openness.

Over the past 20 years the UK went from a current account balance to a current account deficit: The UK now buys more goods and services from abroad than it sells as exports. Income on UK investments made abroad is lower than foreigners' income earned on investments here. This has resulted in a large current account deficit (Figure 4.1). A current account deficit (like a budget deficit) is not necessarily a bad sign, especially if an economy is borrowing from abroad to invest in a way that underpins future growth. But the fact that UK exports and investment are falling short provides an important background for upcoming trade negotiations.

FIGURE 4.1: UK CURRENT ACCOUNT



Notes: Quarterly data, % of GDP. Source: ONS Balance of Payments Statistics.

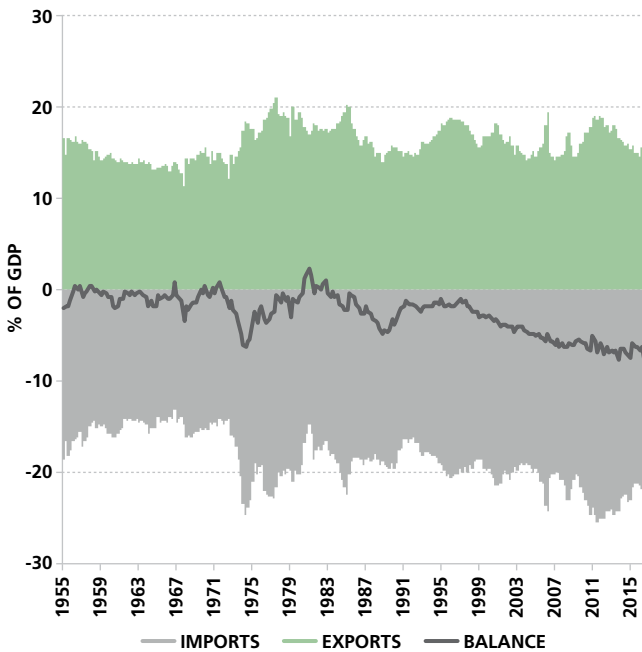


Postgraduate student, Gang Wu, and Professor Anne Dell are conducting research into immune disorders at the Department of Life Sciences. Thomas Angus/Imperial College London.

## Trade

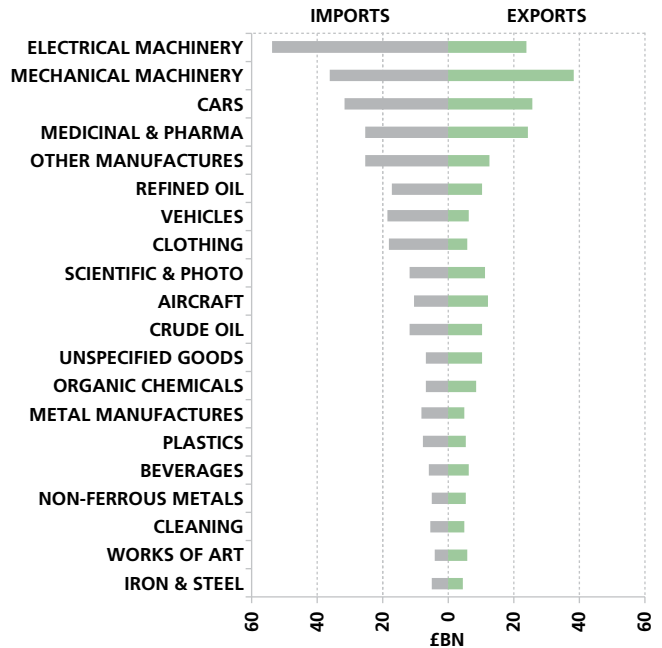
In 2015, the UK exported goods and services worth £517 billion, or around 28% of GDP. Imports were £547 billion, with a resulting trade deficit of almost £30 billion. This deficit is longstanding – the last time UK trade was in balance was in the late 1990s. The headline figures reveal important differences between the UK’s trade performance in terms of goods and services, industries and different parts of the world.

FIGURE 4.2: UK GOODS TRADE



Notes: Quarterly data, % of GDP. Source: ONS Balance of Payments Statistics.

FIGURE 4.3: TOP 20 GOODS MARKETS



Notes: Imports and exports (goods only), 2015, £bn. Source: ONS.

Exports are a source of foreign income, and firms that export tend to be more productive and pay higher wages. As a share of GDP UK goods exports have been stable for the past 60 years, despite a number of large swings in the exchange rate over this period. Goods imports have gradually increased over time, creating a persistent and widening deficit in goods trade (Figure 4.2).

Data on trade of goods by type shows that the UK suffers from a shortfall across the board (Figure 4.3). The biggest deficits are on electrical machinery and clothing. While cars are a key export, there is still a £6 billion deficit on trade in the sector overall. Where the UK does have surpluses they are much smaller: machinery, aircraft and works of art all recorded surpluses of around £2 billion.

Trade in services is very different. There has been a marked change in UK services exports over the past 60 years, with a large increase in services trade starting in the early 1990s. Since then exports have risen more quickly than imports, creating a persistent surplus on trade in services (Figure 4.4).

Since the EU referendum, there have been reports of potential future trade deals with a number of non-EU countries, for example Australia and New Zealand. **These are positive developments – but it is important to take into account the importance of larger and closer markets to UK trade.**



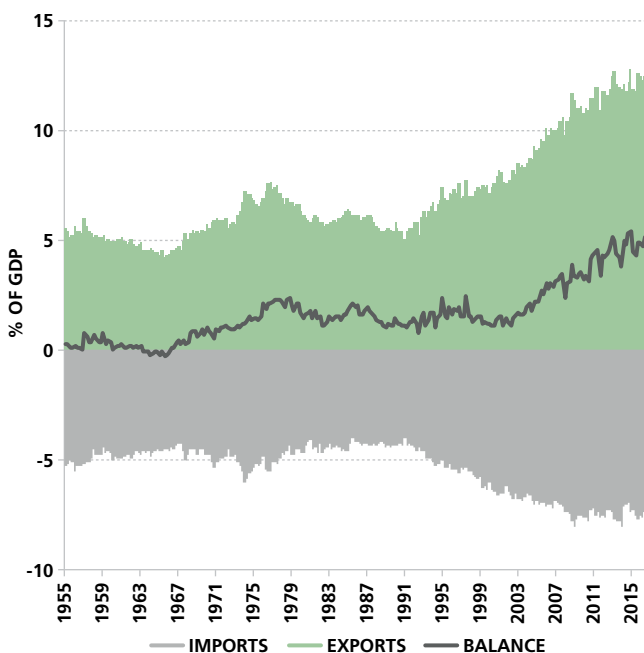
Burberry's flagship store in Beijing. Burberry has invested heavily in the Chinese retail market.

International trade is highly concentrated. For example, while the UK trades with over 190 countries, the top 20 trade partners account for 80% of all goods trade. Over 60% of total trade (goods and services) is with the EU and US alone (Figure 4.5). The crucial deals that the UK must strive for over the next two years are therefore with the EU and the US.

The EU accounts for 44% of the UK's exports and 53% of imports. Europe is the UK's natural trading partner due to its economic proximity (geographical location and output mix) and market size, these are referred to as "gravity forces" in economic models of international trade.

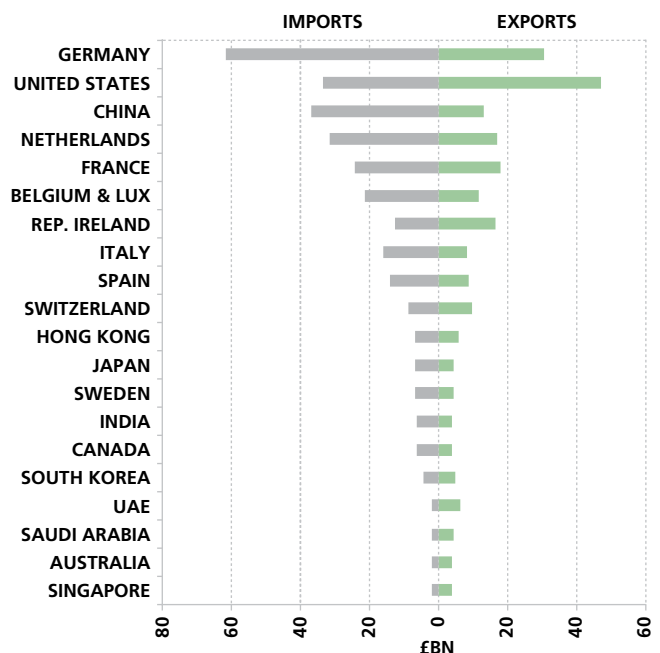
The pattern of trade with EU partners has shifted over the past 20 years. In 1997 trade with Germany and France was broadly balanced. Since then the UK has developed a sizeable deficit with France and a much larger one with Germany. The balance of trade with every large EU nation is in deficit. The lone exception is Ireland. Trade with non-EU partners shows a much less regular pattern. Trade with the US results in a large surplus: almost £14 billion in 2015. Trade with the UK's second most important non-EU partner, China, generates a substantial deficit. Overall, trade with non-EU generated a small surplus over the past 5 years, this narrowed at the end of 2016 leaving trade broadly balanced.

**FIGURE 4.4: UK SERVICES TRADE**



Notes: Quarterly data, % of GDP. Source: ONS Balance of Payments Statistics.

**FIGURE 4.5: THE UK'S 20 LARGEST TRADING PARTNERS, GOODS AND SERVICES**



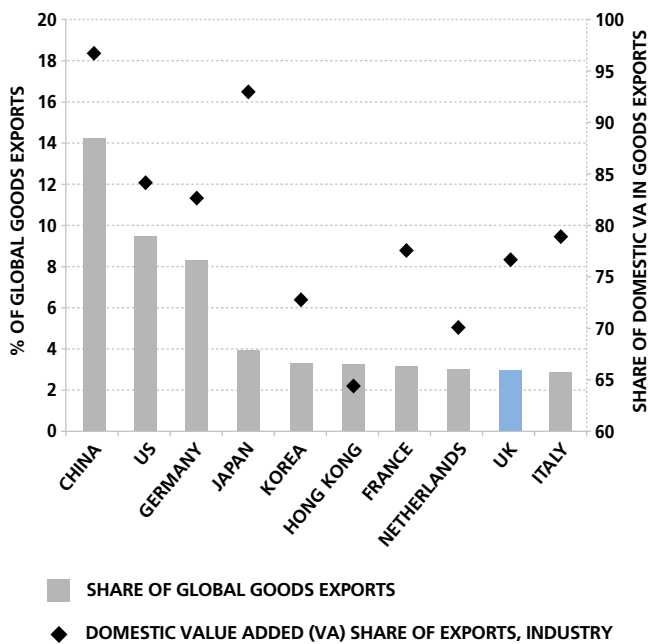
Notes: Imports and exports of goods and services, 2015, £bn. Source: ONS, UK Trade Quarterly data.

**Benchmarking performance against other countries**

Comparing this export performance against that of other advanced economies helps clarify the UK's strengths and weaknesses. **As an exporter of goods, the UK is performing poorly compared to its advanced economy peers.** In terms of its share of global goods exports, the UK is only just ahead of Italy (a country whose economy is nearly 20% smaller than Britain's) and is selling less abroad than France. German export performance is stronger still (Figure 4.6).

In assessing export performance, it is useful to look beyond the headline figures and consider how much "value-added" is retained in the UK economy. For example, if a UK manufacturer produces a good domestically using raw materials predominantly sourced from the UK, the share of domestic value added will be high. On the other hand, where manufacturers import a high share of their inputs and do little to modify them, the share of value added retained in the UK is smaller and also sensitive to import prices. The UK retains a lower share of the value-added in goods exports than the largest exporting countries (Figure 4.6).

**FIGURE 4.6: COUNTRY SHARE OF GLOBAL EXPORTS, AND SHARE OF DOMESTIC VALUE ADDED, GOODS**



Notes: The left hand axis shows the share of global goods exports, and the right hand axis shows the share of domestic value added in exports. Source: Comtrade (data for 2014) and OECD (data for 2011).

An industrial perspective pinpoints the UK’s weaknesses. In both the US and Germany two sectors – machinery and chemicals – account for more than 50% of goods exports (Figure 4.7). The scale of the UK’s shortfall next to Germany here is striking: German machinery exports are much larger than the entirety of UK goods exports.

There is no single answer to the UK’s export shortfall, but research points to a number of factors. One explanation is the size distribution of UK firms (see Chapter 3). Larger businesses are more likely to be exporters: around 40% of large businesses export goods or services, compared to around 10% of small businesses.<sup>1</sup> When compared to advanced-economy peers the UK suffers from a gap in mid-sized companies – the “Mittelstand” in Germany is made up of small to mid-sized businesses with a strong export orientation.

Limited access to finance can hold back exports too. Recent research into what explains firms’ propensity to export suggests that financial factors – including the availability of equity finance – play an important role. Exporting can imply fixed start-up costs, meaning that entrepreneurs unable to access capital cannot finance their exports.<sup>2</sup> CBI analysis points also to a lack of consistency across government policies that support exporters and a lack of awareness amongst businesses with

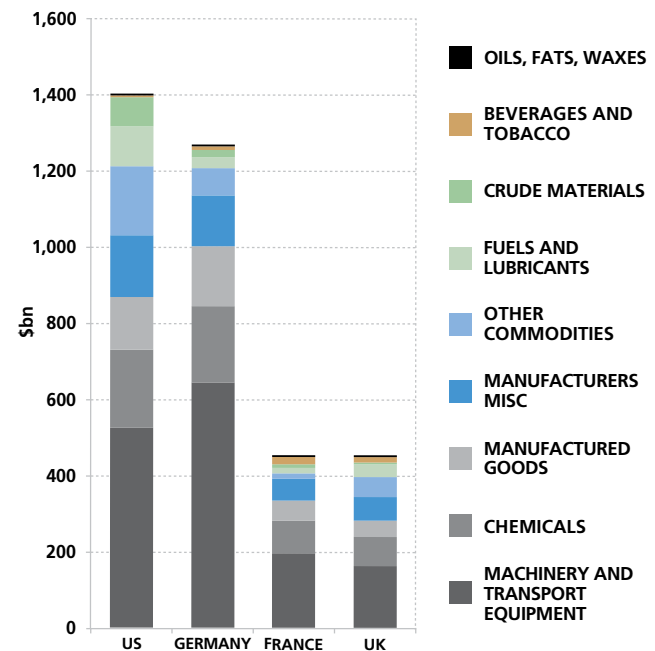
<sup>1</sup> ONS (2014a).

<sup>2</sup> See Manova (2013) and Chaney (2016).

regard to the government support that is on offer.<sup>3</sup>

The UK does fare better when benchmarked in the global services trade, both in terms of share in total exports where it comes second to the US, and also in the domestic share in value added (Figure 4.8). Much of this is driven by financial and business services exports, which account for nearly 70% of UK services exports (Figure 4.9). Given this pattern of specialisation, the UK is particularly vulnerable to non-tariff barriers, such as licensing and regulatory constraints, which are the main obstacles to services exports.

**FIGURE 4.7: SECTORAL SHARE OF EXPORTS, GOODS**



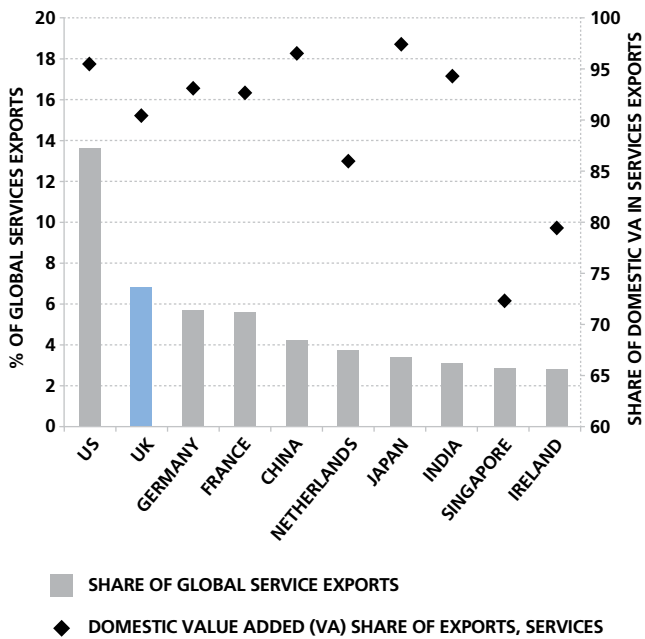
Notes: Data for 2014. Source: Comtrade.

A useful measure of a country’s specialisation in a particular sector is “revealed comparative advantage” (RCA). This is calculated by comparing the sector’s share in a country’s exports to that sector’s share in global exports. If the ratio of these two measures is greater than 1, a country is said to have a revealed comparative advantage in a sector.

<sup>3</sup> CBI (2015).



**FIGURE 4.8: COUNTRY SHARE OF GLOBAL EXPORTS, AND SHARE OF DOMESTIC VALUE ADDED, SERVICES**

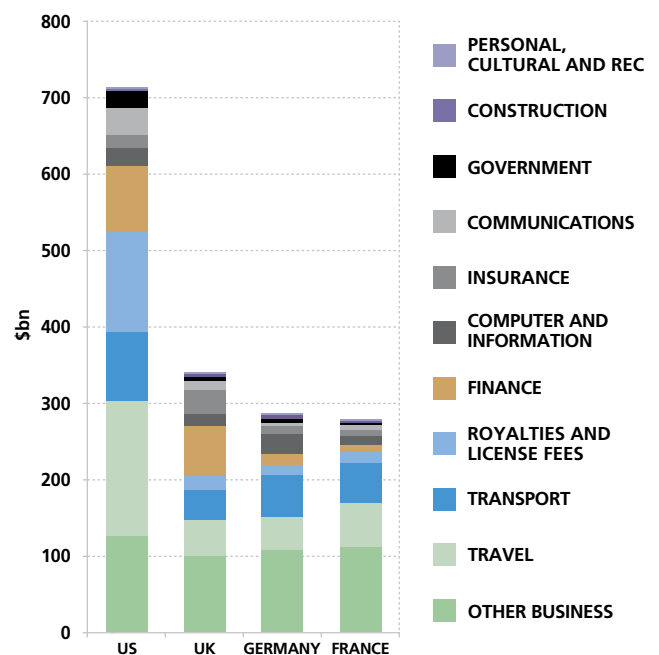


Notes: The left hand axis shows the share of global goods exports, and the right hand axis shows the share of domestic value added in exports. Source: Comtrade (data for 2014) and OECD 2015 (data for 2011).

There are a number of sectors in both goods and services where the UK does well in terms of RCA. In goods, 18 out of 110 sub-sectors have an RCA larger than one; the highest RCA being in Aerospace (Figure 4.10, which shows the top 18 sectors in terms of RCA). In services, RCA is calculated at a more aggregated level; in 5 sectors the UK has an RCA larger than one, including insurance, finance, other business and cultural/recreational services (Figure 4.11). A number of these sectors have been the focus of the government's recent industrial strategy, discussed in Chapter 3.

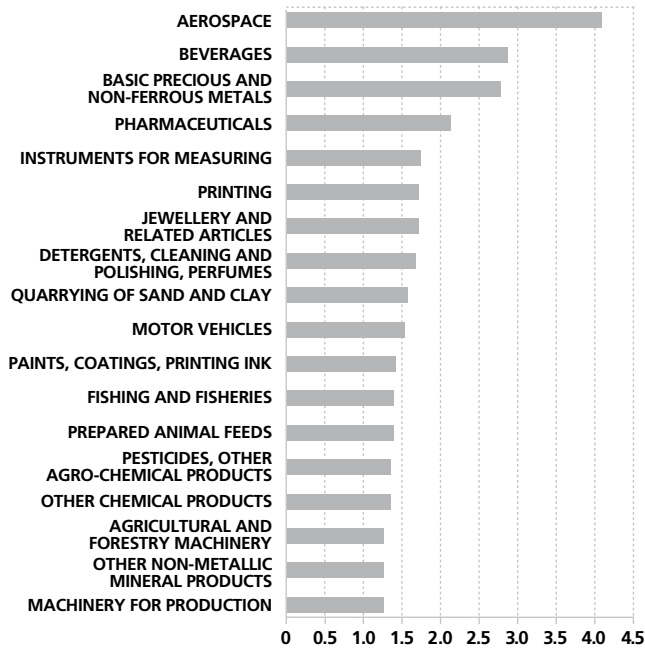
Even without the EU referendum, significant policy changes are needed in the UK: these have two fundamental planks. First, the number of UK exporting companies needs to be boosted. Second, steps need to be taken via international fora, including the World Trade Organisation (WTO), to increase the share of services in world trade. The first would eliminate UK weaknesses, the second play to our strengths.

**FIGURE 4.9: SECTORAL SHARE OF EXPORTS, SERVICES**



Notes: Data for 2014. Source: Comtrade.

**FIGURE 4.10: UK RELATIVE COMPARATIVE ADVANTAGE, GOODS**



Source: World Bank. Data for 2015.

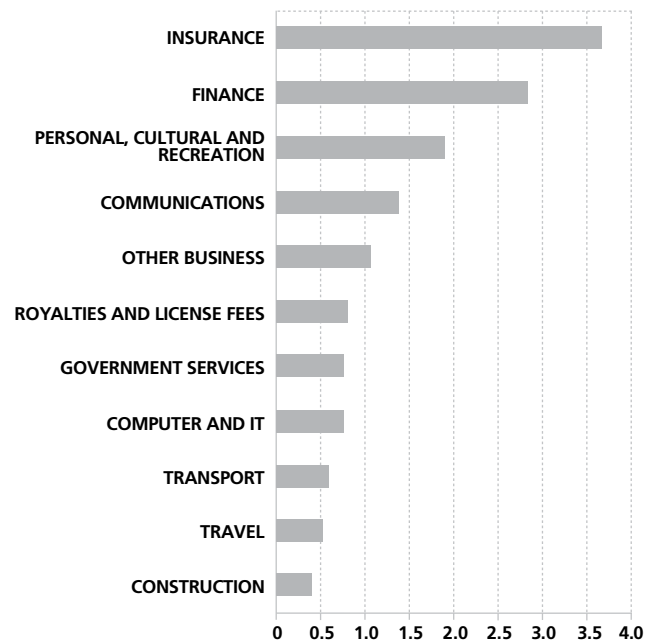
**The impact of Brexit on trade**

Open trade allows the UK to specialise in industries in which it has a comparative advantage. It benefits consumers through lower prices and by increasing the variety of goods and services available. Trade therefore raises output, incomes and living standards.

EU membership has increased trade between the UK and the EU through the removal of tariff barriers and reductions in non-tariff barriers via the Single Market. Prior to the UK joining the European Economic Community (EEC) in 1973, around one third of UK trade was with the EEC. By 2015, the 27 other EU members accounted for 44% of the UK's exports and 53% of imports.

Whatever model is adopted, trade costs with the EU are likely to increase post-Brexit, and trade with the EU to diminish as a consequence. Previous CEP analysis of the effects of Brexit from reduced trade (accounting also for the saving from reduced contribution to the EU budget) estimates that there would be fall in income per capita of between 1.3% and 2.6%.<sup>4</sup> The lower estimate assumes that the UK remains part of the EEA, and the upper estimate assumes that the UK would trade with the EU under WTO rules. The effect would be substantially higher once long run effects of reduced trade on productivity are included. The analysis suggests that the loss in income would be widely shared across society. A series of other estimates have been made by HM Treasury, the Office for Budget Responsibility and the Bank of England. While estimates vary due to differences in assumptions and methods, they all suggest that Brexit will lead to a substantial fall in real income, and therefore living standards.

**FIGURE 4.11: UK RELATIVE COMPARATIVE ADVANTAGE, SERVICES**



Source: World Bank. Data for 2012.

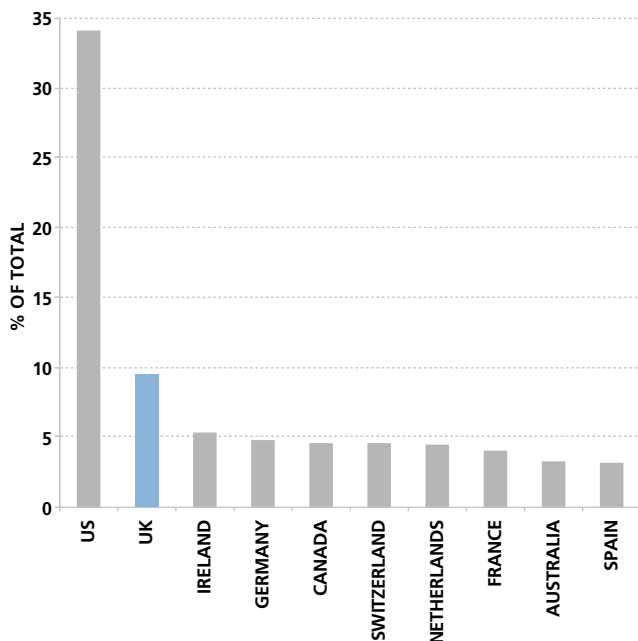
<sup>4</sup>Dhingra et al. (2016a).

Previous CEP analysis also calculates the likely impact if the UK were to unilaterally remove all tariffs on imports into the UK from anywhere in the world. The estimated loss in income per capita does not change much and is in the range 1% to 2.3%. The reasons for this is that WTO tariffs are already low, so further reductions do not make much difference. **Non-tariff barriers are likely to be more important and have a greater bearing on trade costs in future.**

## Foreign Direct Investment

The impact of the referendum result could also have a deterrent effect on Foreign Direct Investment (FDI) and lead to a further fall in national income. FDI refers to international investments made by residents and businesses from one country into another, in the form of establishing a new business, or acquiring an existing business. **Inward FDI tends to raise productivity which increases output and wages.**<sup>5</sup> FDI has a direct impact as foreign owned firms in the UK are typically more productive and pay higher wages compared to their domestic counterparts. FDI also has an indirect impact as the technologies or management practices in foreign owned firms can be adopted by domestic firms, often through the supply chain of multinationals.<sup>6</sup>

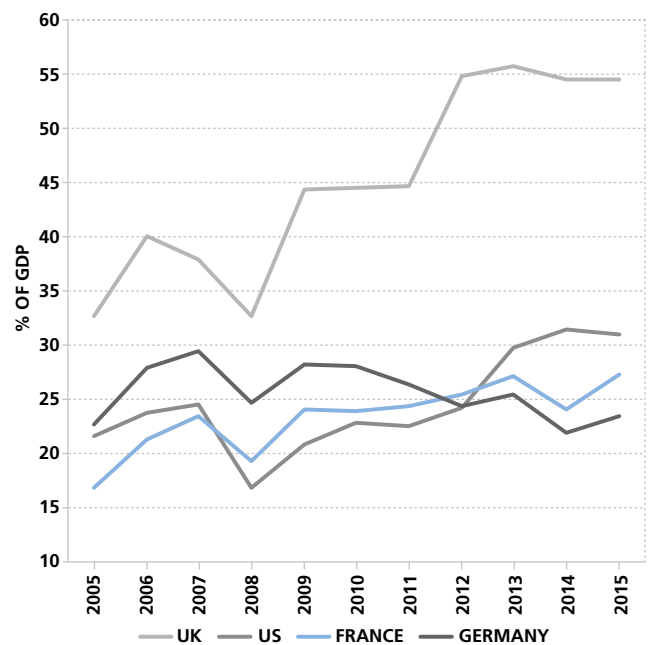
**FIGURE 4.12: SHARE OF OECD FDI STOCKS**



Notes: OECD FDI Stocks, 2015, share of total (total OECD inward FDI stock \$16.3 trillion). Source: OECD.

The UK has been successful at attracting inward FDI, and is host to nearly 10% of the inward FDI stocks across the OECD, surpassed only by the US (Figure 4.12). UK inward FDI stocks have been consistently high as a share of GDP compared to the UK's main peers, at around 55% of GDP since 2012 (Figure 4.13). The bulk of this investment has come from EU countries (48%) and the US (24%). Inward FDI from the EU has nearly doubled since 2005 (Figure 4.14).

**FIGURE 4.13: INWARD FDI STOCKS**



Source: OECD.

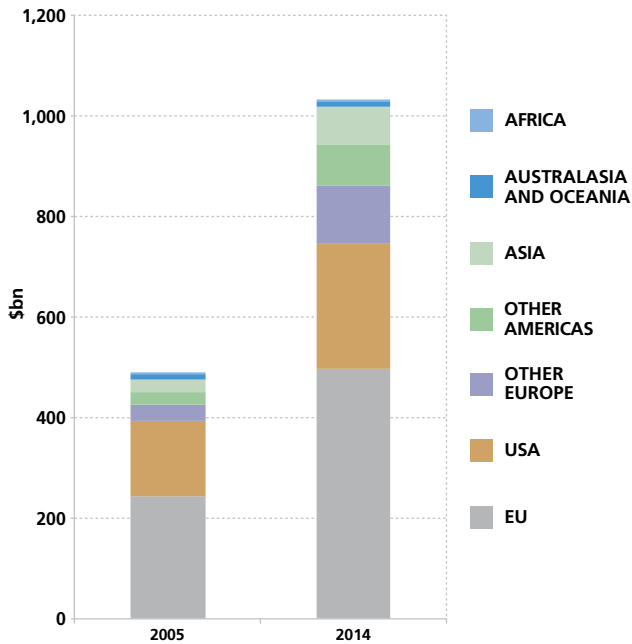
These patterns are consistent with the "gravity" models of trade flows whose theoretical foundations apply equally to factor input flows such as capital. The greatest FDI capital flows occur between geographically close and / or large economies. Of the total inward FDI from the EU, 86% is explained by investment from the Netherlands, Luxembourg, Germany, France and Spain.

Almost two-thirds of UK inward FDI stocks relate to services, and 26% to financial services alone. Manufacturing is the next largest receiver of inward FDI at 20%. A key difference in composition is with Germany that has a much smaller share of FDI in its manufacturing sector (Figure 4.15).

<sup>5</sup> See for example Bloom et al. (2012) and Haskel et al. (2007).

<sup>6</sup> Harrison and Rodriguez-Clare (2009).

**FIGURE 4.14: INWARD FDI STOCKS BY AREA/COUNTRY OF ORIGIN**



Source: ONS, Inward Foreign Direct Investment (FDI) Involving UK Companies, 2014 (Directional Principle).

Around 14% of UK private sector employment is in foreign owned firms. Affiliates owned by EU and US corporations account for 7% and 4% of UK's total employment respectively. The sectors with the highest shares are manufacturing, utilities and financial services (Figure 4.16).

**Demand and supply side considerations motivate FDI decisions, and the UK has historically done well on both.**

On the demand side, the UK has offered investors access to a large domestic market of 60 million consumers. But while the UK is a member of the EU, firms have border-free access to a further 440 million consumers via the European Single Market. This holds for both manufacturing and services sectors. Moreover, "passporting rights" have allowed financial services firms to operate seamlessly across country borders within the EU.

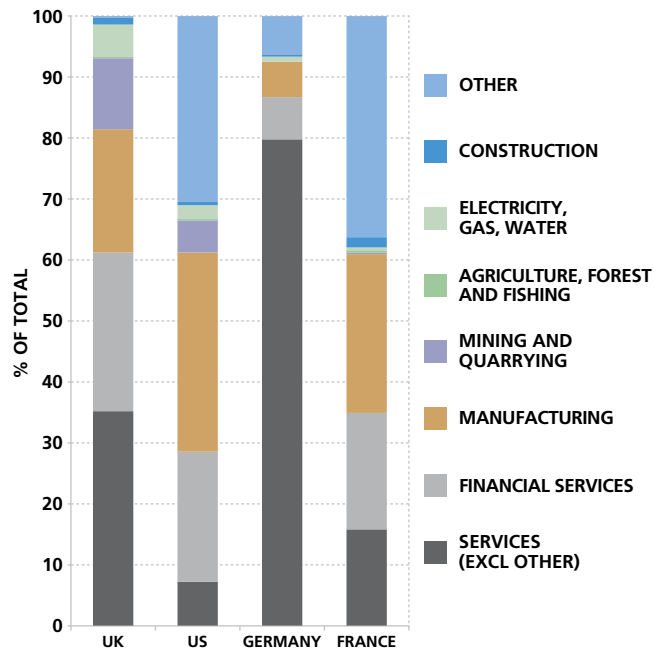
The UK has flexible labour markets, a skilled workforce and a strong rule of law – all of which make it attractive for FDI. Access to EU markets has made the UK particularly attractive for firms with "Global Value Chains".<sup>7</sup> Shipping of goods along the value chain is facilitated by the single market, with firms able to purchase inputs straightforwardly from other EU countries. Member countries do not need to comply with "rules of origin" concerning the inputs used in production (these are the criteria which determine the national source of a product,

<sup>7</sup>The process through which firms seek to optimise their production processes through locating different stages of production in different locations.

and hence the level of customs duty), trade is tariff-free within the EU, and it is subject to minimal non-tariff barriers. Moreover, the UK attracts highly skilled workers from the entire EU market.

The UK has also had high levels of outward FDI, though this has been declining as a share of GDP (Figure 4.17). This decline has coincided with decreasing returns on foreign investment. The patterns of outward FDI are similar to inward FDI in terms of international partners and sectors. Nearly 40% of outward FDI is into the EU, and 50% relates to the services sector.

**FIGURE 4.15: INWARD FDI STOCKS BY INDUSTRY (2012)**

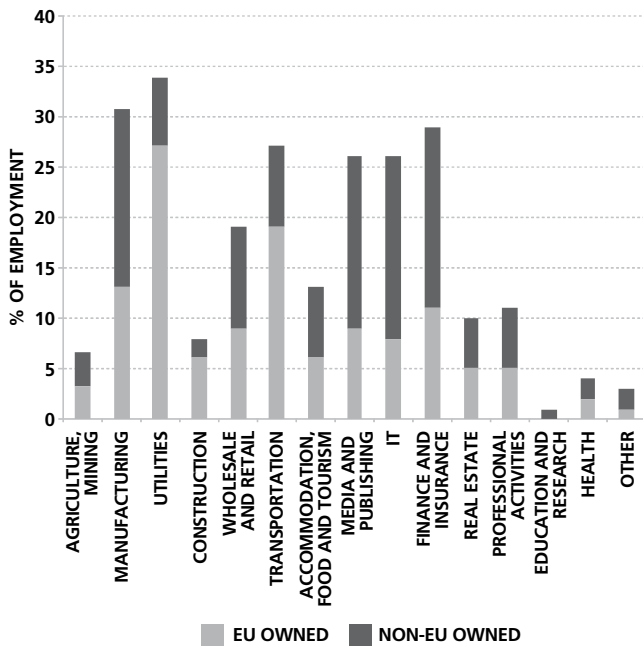


Notes: US data are for 2011, Other includes public corporations, property data, bank holdings and monetary financial institutions (MFI). Source: ONS.

**The impact of Brexit on FDI**

There are three reasons why Brexit might reduce inward FDI. First, being in the Single Market makes the UK an attractive export platform for multinational firms. Second, multinationals have complex supply chains and face co-ordination costs between their headquarters and local branches which would become more difficult to manage if the UK left the EU. For example, component parts would be subject to different regulations and costs; and intra-firm staff transfers would become more difficult with tougher migration controls. Third, uncertainty over the shape of the future trade arrangements between the UK and the EU would also tend to dampen FDI flows.

**FIGURE 4.16: SHARE OF EMPLOYMENT IN FOREIGN OWNED FIRMS (EU, NON-EU)**



Source: ONS. Data for 2014.

Based on a statistical model of bilateral FDI flows between 34 OECD countries from 1985 to 2013, Bruno et al. (2016) estimated that there is a positive effect of being in the EU of between 14% and 38% higher FDI inflows.<sup>8</sup> Since leaving the EU is likely to have a smaller proportionate effect than joining, this suggests that leaving the EU will reduce FDI inflows to the UK by about 22%. The same analysis finds that membership of the European Free Trade Association (EFTA) is not sufficient to restore the FDI benefits of being in the EU. It suggests that when it comes to FDI flows, a comprehensive free trade deal after Brexit is a poor substitute for full EU membership. This fall in FDI flows is likely to translate into a fall in national income of around 3.4%.

**The car industry and the finance sector provide two useful case studies of how high FDI sectors might be impacted by Brexit.**

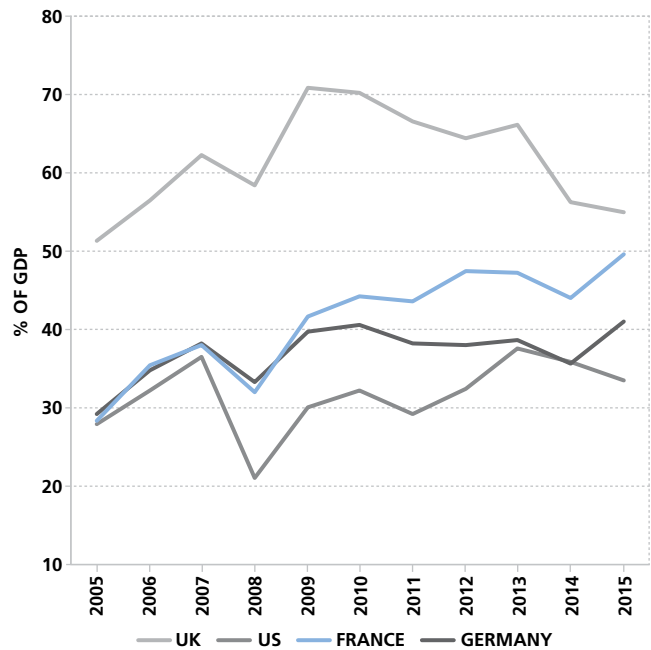
Cars are a recent success story for UK manufacturing. In 2014, the car industry employed nearly 300,000 workers and contributed around 5.1% to total UK exports; 40% of its car exports were to the EU. It is therefore useful to understand how Brexit might impact on international car company decisions on where to locate their production, as well as levels of car production and prices. Analysis described in Dhingra et al (2016b) assumes that Brexit would lead to an increase in trade costs (via tariff and non-tariff barriers), and

<sup>8</sup>Dhingra et al. (2016b).

coordination costs (for example if transfers of staff are more difficult due to immigration controls, or different regulatory standards make it more difficult to work across borders).<sup>9</sup>

It is estimated that total UK car production could fall by 12% or almost 180,000 cars per year, as car manufacturers move some production away from the UK. Prices faced by UK consumers also rise by around 2.5% in this scenario as the cost of imported cars and their components increase. The potential impact would be much smaller if the UK faced no trade barriers on cars and car components with the rest of the EU (for example, if it joined EFTA). Prices would be stable in this scenario, but coordination costs could lead to some firms relocating plants (the fall in car production in this scenario is around 2%).

**FIGURE 4.17: OUTWARD FDI STOCKS**



Source: OECD.

<sup>9</sup>Head and Mayer (2015).

The finance sector accounts for over a quarter of inward FDI stocks, and represents a high share of employment and GVA in the economy. Crucial for the cross border operations of this sector has been the “passporting” regime enjoyed by EU member states. This allows a financial institution located in the UK to provide services across the EU subject only to UK regulations. Even with such rights as those enjoyed by Norway, which as a member of the EEA has access to the Single Market, there still seem to be greater difficulties in doing business with the EU.

Outside the EEA, passporting rights seem unlikely. Switzerland (in EFTA) has no passporting rights, so Swiss financial institutions mostly get access to the EU via special bilateral treaties with the EU, which still require permissions to set up branches in EU member countries. This is one of the reasons that Swiss financial institutions have often set up subsidiaries in the UK. The Swiss example shows that while trade with the EU will still be possible it will be more costly after the UK leaves the EU.

The likely impact of Brexit on outward FDI is less clear. UK investors might increase investments in the EU (for example through setting up subsidiaries that can benefit from the Single Market), but this could displace investments to the rest of the world.

**The likelihood that access to the EU market will be more difficult following Brexit underlines the need to strengthen the business environment in the UK in a range of policy areas as outlined throughout this report.** We now discuss the different trade options facing the UK post-Brexit.

## Trade options outside the EU

The political and legal landscape surrounding Brexit is evolving at a fast pace and there is still a high degree of uncertainty over its likely form. A number of options appear to have been largely ruled out (these are shaded in grey in Table 4.1 which shows the key attributes of different Brexit models). In its recent White Paper on the UK's exit from the EU, Government has stated that border control will be a priority and that therefore, the UK cannot remain in the EU's Single Market.<sup>10</sup> Moreover, staying in the Customs Union appears unlikely as this limits the UK's capacity to negotiate its own trade deals which is another of the government's key objectives.

This implies that the UK will need to find a bespoke trade agreement with the EU. One option - which may be difficult politically - is re-joining EFTA, which would provide tariff-free trade in goods. The other option is to negotiate a bespoke deal of the type recently agreed with Canada. Neither would guarantee free trade in services, and would still result in significant non-tariff barriers in goods markets such as complying with rules of origin. The UK must therefore aim for a better deal than either of these options, in particular with respect to the services sectors where the UK has comparative advantage, acknowledging that there is likely to be some cost or concession to achieve it.

In order to revert to World Trade Organization (WTO) membership, the UK would first have to become an independent member of WTO. If this did happen and became the default, then under WTO rules, each member must grant the same ‘most favoured nation’ (MFN) market access, including charging the same tariffs, to all other WTO members. The UK would then have the same trading relationship with the EU as any other country. In the absence of any bilateral trade agreements with the EU (or any other countries) the UK would have to determine a universal set of tariff rates to apply with all trading partners. If tariffs are too high, imports will be more expensive, harming UK consumers and businesses which use significant imported inputs. While lowering tariffs would make imports cheaper, there is no guarantee that this would be reciprocated, and the UK will lose bargaining power: once duty-free access to the UK market has been offered, other countries will have no incentive to give the UK preferential access to their own markets.

It is crucial that the system replacing EU membership is able to maintain low tariffs with the EU. But equally crucial is the need to constrain non-tariff barriers to trade which add substantially to trade costs. Adherence to EU rules and regulations have been an essential component of reduced non-tariff barriers. So even outside the EU, it is likely that harmonised rules will be required in any deal that preserves high levels of market access.

There are some areas that could be particularly problematic. For firms participating in global value chains, with high shares of imported inputs, the bureaucratic cost of complying with EU rules of origin are high and may reduce the UK's attractiveness as a location for production processes. Moreover, the financial costs associated with expediting tax (VAT) and customs clearance are especially important for small exporters. As previously discussed, small and medium enterprises do not typically export and those that do currently focus on the EU market.<sup>11</sup>

<sup>10</sup> Norway, Liechtenstein and Iceland are not EU members, but have access to the Single Market via membership of the European Economic Area (EEA).

<sup>11</sup> 9% of SMEs export and a further 15% are in the supply chains of other businesses that export. Most of this relates to the EU. See BIS (2016a).

It has been argued that leaving the EU provides the UK with more freedom in designing domestic policies and regulatory frameworks aimed at increasing firms' profitability, which may compensate for the rise in administrative costs implied by Brexit. The UK would have the freedom to redesign all areas currently under the authority of the EU, including competition policy, international trade regulations, and areas that rely on EU funding like regional development and research. However, any new subsidies or regulations that do not comply with EU or WTO normative

standards may result in the imposition of further market restrictions from global trading partners. More generally, a lack of coordination in competition policies with the EU will provide more freedom for domestic policy design, but will leave UK firms vulnerable to anti-dumping measures and less able to export. Moreover, it is worth noting that any country that exports goods to the EU has to comply with EU product standards.

**TABLE 4.1: BREXIT OPTIONS**

	Current UK	EFTA plus EEA: Norway	EFTA plus EEA: Liechtenstein	EFTA plus bilateral agreements: Switzerland	EFTA only	Trade deal: Canada	WTO
Free trade in goods?	yes	yes	yes	yes	yes	mostly	MFN tariffs, non tariff barriers WTO compliant
Free trade in services?	yes	yes	yes	limited access	limited access	limited access	limited access
Ability to negotiate own trade deals with rest of world?	no	yes	yes	subject to EU consent	yes	yes	yes
Immigration control?	no	no	subject to EU consent	no	yes	yes	yes
Subject to EU rules and regulations?	yes	yes	some	some	EU product standards on exports	EU product standards on exports	EU product standards on exports
Subject to EU policies and programmes?	opt out from some EU programmes	opt out from some EU programmes	opt out from some EU programmes	opt out from some EU programmes	no	no	no
Payments to EU?	Budget contribution	Budget contribution	Budget contribution	Budget contribution	no	no	no

## New relationships with the rest of the world

By exiting the EU, the UK will be allowed control over trade deals with non-EU countries. While the UK will now be able to seek trade agreements tailored to UK interests, it will have reduced bargaining power with large trade partners like the US and China once it is outside the largest trading bloc in the world. There is a risk, therefore, that the UK will have less power to negotiate deals that are in its long-term interest.

Exploratory talks have already taken place with a number of countries, most recently the US, but also New Zealand, Australia and Gulf nations. The analysis of UK trade above shows that while all such deals are positive developments, the UK must prioritise deals with the US and EU.

Currently the UK and the US trade under WTO terms. Tariffs are already relatively low, and the largest gains would be from reducing non-tariff barriers, for example through regulatory harmonisation. This may now be more difficult. Under the previous US government, a wide-ranging deal was being negotiated with the EU (the TTIP), but the general consensus so far is that President Trump will be more protectionist than his predecessor.

In the coming years there are opportunities to increase exports to China and India. Both have rapidly growing middle classes with a preferences for goods and services where the UK has comparative advantage.

It is important to note that deepening international integration with non-EU countries – in particular emerging markets - implies different challenges than those faced in current partnership with the EU. European economies are relatively similar to the UK in terms of education, labour costs, and environment regulations. As a result, much of the gains from trade within the EU are based on economies of scale and access to broader varieties of goods and inputs. The gains from trade with labour-abundant economies such as China or India are based on complementary patterns of factor abundance.

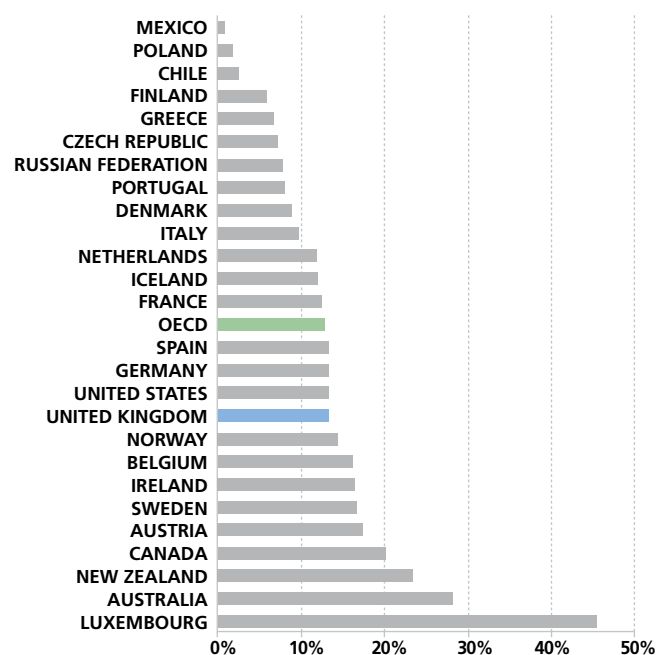
## Immigration

Having discussed flows of goods and services, we now consider flows of people.

Immigration to the UK has increased significantly over the past 20 years. There are now around 9 million individuals (and 7.4 million working age adults) living in the UK who were born abroad; 5.6 million of these are foreign nationals. As a share of the UK population this is 14.1%, and has risen from 5.8% in 1975.

Around half of the change has been from other EU countries. Following the UK's vote to join the EU in 1973, immigration from France and Germany more than doubled.<sup>12</sup> The pace of EU immigration increased after 2004 and the accession of eight Eastern European countries (known as the "A8").<sup>13</sup> The number of immigrants from other EU countries living in the UK has tripled from 0.9 million to 3.3 million over this period.

**FIGURE 4.18: IMMIGRATION – SHARES OF TOTAL POPULATION**



Source: OECD. Data for 2014.

This pattern has been seen by many OECD countries. The UK does not stand out from its advanced economy peers with regard to its share of immigrants in the population or with regard to the rate of new inflows. The UK is, and has been for some time, a middle ranking country in terms of its foreign-born population share (Figure 4.18).

<sup>12</sup> 1971 Census estimates 157,000 German-born and 36,000 French born. ONS in 2013 estimates 297,000 German-born and 150,000 French-born.

<sup>13</sup> The A8 comprises Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

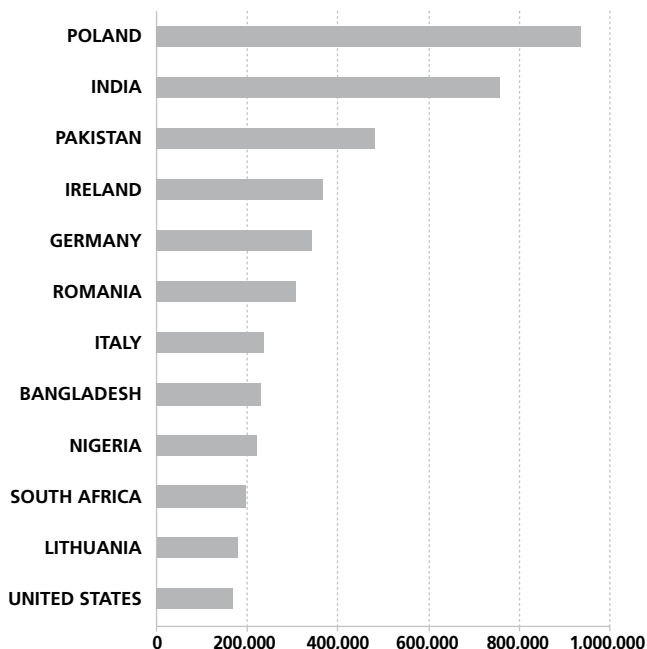


Immigration fluctuates over time, often reflecting divergences in economic growth between economies. For example, following Portugal's 2011 recession emigration more than doubled in a single year 2011-2012, with remittances from Portuguese nationals that had relocated to Angola increasing by 84% in this same year. UK immigration has seen ebbs and flows. When the A8 joined the EU in 2004, immigration from the EU rose significantly. It then fell back during the 2008 financial crisis and recession that followed, resuming shortly thereafter, as the UK returned to growth. In 2016, the 3.3 million EU immigrants living in the UK represent 5.3% of the population and make up 35% of all immigrants living in the UK.

Poland is now the largest source country of immigrants – at around 940,000 – followed by India (760,000) and Pakistan (480,000) (Figure 4.19). Lithuania supplies the most migrants per head of its own population: the 180,000 Lithuanian nationals living in the UK represent around 6% of Lithuania's total population.

Immigration is unevenly dispersed across the UK regions, with a much greater concentration of immigrants in London than in the rest of the country (Figure 4.20).

**FIGURE 4.19: IMMIGRANTS BY COUNTRY OF ORIGIN**

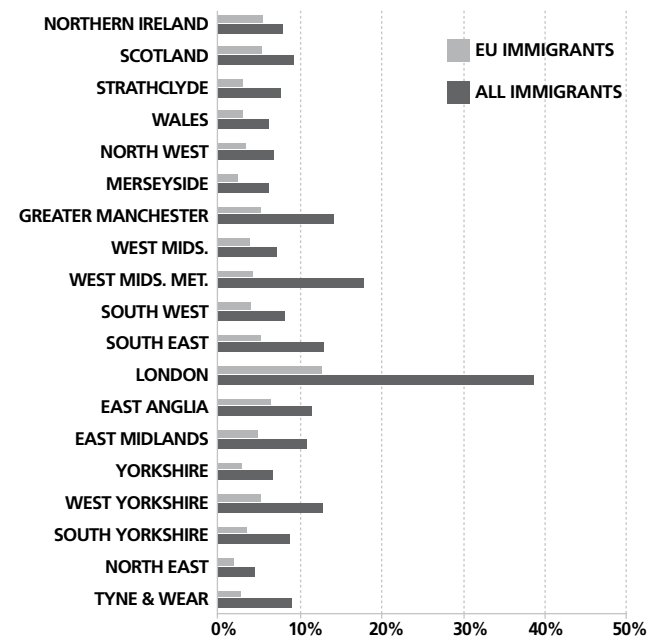


Source: ONS LFS.

Almost 40% of London's population was born abroad and more than a third (37%) of all migrants to the UK live in London. In contrast, less than 5% of those living in the North-East (excluding Tyne and Wear) were born abroad. Migrants from the EU are more evenly distributed across the UK, though again London accounts for the largest fraction. The rate of change of immigration is however greater outside London.

While immigration has risen considerably, opinion polling suggests the public perception is that it is higher still, with UK nationals over-estimating the size of the immigrant population.<sup>14</sup> Immigration was a key factor behind the EU referendum vote, and it seems highly unlikely that Britain's new relationship with the EU will preserve the freedom of movement in its current form. Given public concern it is important to investigate and clarify the evidence on immigration's effects on the UK labour market and wider economy.

**FIGURE 4.20: IMMIGRATION – SHARES OF UK LOCAL POPULATION**



Source: ONS LFS.

<sup>14</sup> <https://www.ipsos-mori.com/researchpublications/researcharchive/3466/Perceptions-are-not-reality-10-things-the-world-gets-wrong.aspx>



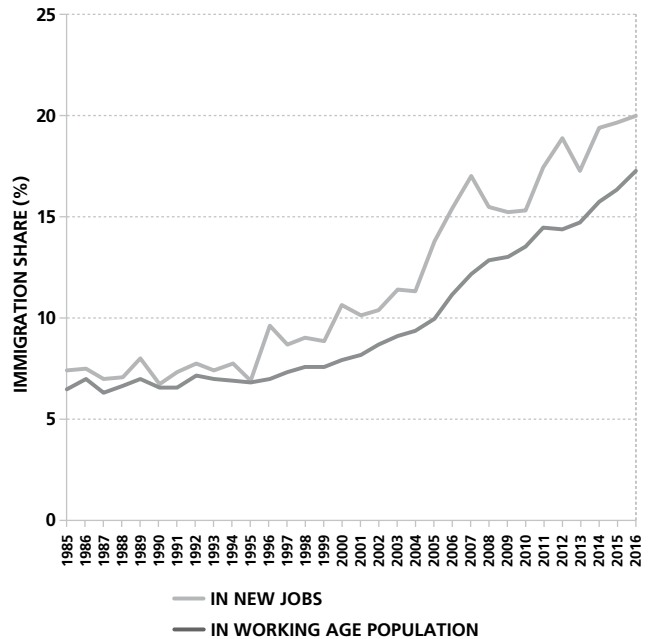
*Alonzi's Harbour Bar in Scarborough, Yorkshire. The Alonzi family have been selling ice cream in Scarborough since Giulian Alonzi emigrated there from Monte Cassino, Southern Italy, in the early 1900s.*

## Immigration and the labour market

Employment opportunities are an important driver of immigration. About 70% of EU immigrants say they come to the UK for work-related reasons, as opposed to study or joining their families.<sup>15</sup> Even though immigration increases the total number of people in work or looking for employment, this does not necessarily mean that the opportunities of UK workers have been harmed. Since immigrants consume local services and goods, this increases demand and so improves the job prospects of those who produce those goods and services. In general, there is no fixed stock of jobs in the economy – over the past 100 years, the UK population has grown by around 50% while the unemployment rate has not trended upward.

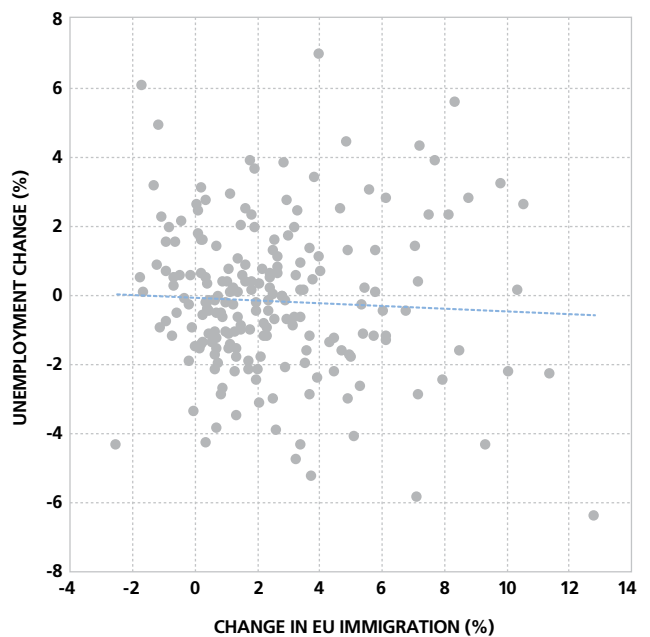
Immigrants do not take the majority of new jobs (jobs that are three months old or less). The latest data show that immigrants account for around 1 in 5 of all new hires. The immigrant share in new jobs follows the same trend as the share of immigrants in the working age population (Figure 4.21).

**FIGURE 4.21: IMMIGRATION AND JOBS**



Source: ONS LFS.

**FIGURE 4.22: IMMIGRATION AND UNEMPLOYMENT**



Source: ONS LFS.

<sup>15</sup> See ONS Migration Statistics Quarterly Report, Dec 2016.

A disaggregated analysis, looking at individual local areas suggests immigration is unlikely to have increased unemployment among the UK-born population. This is illustrated in Figure 4.22 where each dot represents one of the UK's 201 local unitary authorities, plotting the changes in unemployment rates of the UK-born against changes in EU immigration between 2008 and 2015. The line summarises the relationship: there is no statistically significant relationship – negative or positive – between changes in EU immigration and changes in unemployment rates of those born in the UK. The same is true for pay. There is no systematic link between changes in the real wages of UK-born workers and changes in EU immigration. **Thus immigration appears not to have had either a systematic positive or negative impact on unemployment or wages.**

This is not to say that immigration is cost free. One group that does seem to lose out from new immigration are other recent immigrants. One study in particular, examining male wages in the UK from the mid-1970s to the mid-2000s, found that immigration reduced the wages of other immigrants who had previously settled in the UK, with the strongest effect being found on university educated immigrants.<sup>16</sup> There were little discernible effects on the wages of the native-born.

If the analysis above is repeated for less skilled UK-born workers a similar lack of association emerges. Some studies however have found evidence of small wage losses for UK-born workers in the bottom 10% of the pay distribution alongside wage gains for those in the middle of the pay ladder as a result of immigration.<sup>17</sup> However, these wage changes are very small; EU immigration between 2004 and 2015 reduced wages for the bottom 10% of UK-born workers by only around 1% and raised wages for the average (median) worker by around 1.2%.

Another study has found small wage losses for all workers in particular occupations when immigration to the occupation increases.<sup>18</sup> The main result is that all EU immigration since 2004 (over a period of 8 years) has reduced semi/unskilled services sector wages by less than 1%. This effect is likely to have been outweighed by other labour-market factors such as minimum wages which have increased by 4% over the same period.<sup>19</sup>

<sup>16</sup> Manacorda et al. (2011).

<sup>17</sup> Dustmann et al. (2013).

<sup>18</sup> Nickell and Saleheen (2015).

<sup>19</sup> CER (2016).

## Immigration and public finances

**Immigration has had a positive impact on public finances although the size of the effect is small.** A larger population means a bigger tax base. EU immigrants are young – their average age is 38<sup>20</sup> (compared to the UK average age of 40), they are more likely to work and less likely to be on benefits.<sup>21</sup> The UK also gains when adult immigrants arrive, since UK taxpayers have not had to finance the childhood schooling and healthcare costs as they would do for a UK-born adult. In short, immigrants contribute more to fiscal revenues than they take up in expenditure.<sup>22</sup> By contrast, UK nationals, as a whole, received more in benefits than they paid in taxes.

Access to benefits is a major public concern according to YouGov polling although, just like UK nationals, immigrants are not eligible for contributory-related benefits until they have worked full-time for two years.<sup>23</sup> Furthermore, in 2016, government reduced access to benefits for immigrants from the EU. A further concern is that the large planned rises in the UK's minimum wage – the National Living Wage – would draw in many more immigrants. However, it is unclear how big a draw this will be since it depends, in part, on what other countries do to their own wages and on the relative cost of living.

Empirical studies have found no clear link between increased immigration and access to public services. In education, there is evidence of a positive effect from Polish children on UK-born pupils (with the disadvantages from having English as a second language seemingly outweighed by a stronger immigrant push to work hard at school).<sup>24</sup> Studies of the NHS find no greater usage of doctors and hospitals by immigrants relative to the UK-born; and little effect on NHS waiting times.<sup>25</sup> Moreover, immigration has helped on the supply side: the UK-born are more likely to be cared for by an immigrant than be behind one in the queue. Studies that investigate the links between migration and competition for social housing or crime also do not find significant effects on average.<sup>26</sup>

<sup>20</sup> The average age of immigrants from the A10 countries such as Poland and Latvia, is even lower at 32.

<sup>21</sup> CER (2016).

<sup>22</sup> Dustmann and Frattini (2014) find between 2001 and 2011 European migrants had a net fiscal contribution of £20 billion.

<sup>23</sup> They are, however, eligible for means-tested benefits. HMRC estimates that around 6% of tax-credit claims are from households that include an EU national; this is in line with the share of EU nationals in the UK (House of Commons, 2014).

<sup>24</sup> Geay et al. (2013).

<sup>25</sup> See Wadsworth (2013) and Giuntella et al. (2015).

<sup>26</sup> See Battiston et al. (2013) and Bell et al. (2013).

## The impact of Brexit on immigration

The government has stated that controlling migration is a key priority in any new deal with the EU. EU membership puts migration decisions solely in the hands of EU citizens, as a precondition of access to the Single Market is the free movement of people. The previous section shows that while there might have been localised costs associated with this (in particular areas or occupations), in aggregate the costs and benefits to the UK workforce and economy were broadly balanced.

Post Brexit, all migration and not just that for non-EU citizens will be based on UK policy decisions. While this is a change of direction, it puts the UK government on a par with most other countries around the world, few of which give unilateral free movement to the citizens of other countries. Moreover, this is not inconsistent with being a “pro-immigration” country in the spirit of Canada, Australia or New Zealand whose policies are intended to select the characteristics of migrants.

It is important that UK immigration policy post-Brexit should be based on a set of clearly defined criteria which reflect a coherent view of what type of immigration is desirable. Although not the only criterion, contributing to the skills-base and talent pool needed for the UK economy to flourish is a central consideration if immigration is to support economic growth effectively.

A starting point would be to extend the visa scheme that applies to non-EU immigrants to EU nationals. Current rules effectively exclude non-EU immigrants from all but graduate jobs and limit numbers arriving on work visas each year to around 55,000.<sup>27</sup> This could result in skills shortages. Some employers already find it hard to recruit and retain highly skilled and mobile non-EU workers which contributes to the skills shortages that are consistently reported by entrepreneurs and managers. **It is essential that the visa system processes applications in a timely way and is properly resourced in order to enable businesses to attract the skilled labour that they need.**

In the year to September 2016, the UK granted almost 94,000 high-skilled (Tier 2) visas to non-EU immigrants, a 1% increase on the year before.<sup>28</sup> Immigration from EU countries has not been dependent on skills, qualifications or educational attainment. Nevertheless, many of the EU migrants have been highly educated: of the EU migrants in the working age population 45% have high and 42% have a medium level of educational attainment. Around 48% of EU migrants were working in skilled jobs in 2016, according to ONS Labour Force Survey data.

<sup>27</sup> Non-EU migrants must apply for the Tier visas in a points based system.

<sup>28</sup> 57% of these applications came from Indian nationals; and US nationals were the second largest group accounting for 10% of the total. The main sectors employing these recent migrants were IT (42%), professional, scientific and technical activities (19%) and finance (12%). See ONS Migration Statistics Quarterly Report, Dec 2016.

Given the current free movement of workers within the EU, the system post-Brexit will pose a new administrative burden on businesses seeking visas for EU workers. This is likely to make it harder to recruit and retain top talent and might also put off skilled EU migrants from wanting to come to the UK in the first place. The potential impact of Brexit on the university sector is of particular concern. The students and academics that have contributed to the success of UK universities come from all over the world, and the sector is a source of skills, innovation and exports in its own right. Parliament has established a Select Committee on the topic and evidence presented so far suggests that applications (from both EU and non-EU students) have fallen since the EU referendum, and that academics now consider the UK a less attractive place to work and conduct their research.

The low end of the skill distribution is also a challenge. The prosperity of many industries depends on access to low-skilled EU workers. EU migrants constitute 31% of employment in food manufacturing, 23% in domestic personnel and 21% in accommodation.<sup>29</sup> Unless firms can easily find native workers to fill these jobs, the output and competitiveness of these sectors is likely to fall due to staff shortages, and/or higher staff costs. When the criteria for visas are set, this should be based on a wide assessment of the labour market needs of UK businesses.

## Policy recommendations

The UK has a long-standing commitment to openness and this should be maintained as the UK forges new relationships with the EU and rest of the world. This means low tariff and non-tariff barriers, facilitating FDI (including welcoming foreign ownership of UK based business) and openness to global talent.

Brexit could be interpreted as a reversal of this traditional commitment to openness and the government has the opportunity to signal that it is not. The UK's long-standing current account deficit underlines the importance of market access for exporters and protecting UK consumers and businesses from large increases in import prices. Research shows that Brexit will imply significant economic costs, but the “type” of Brexit will determine how large these costs are.

<sup>29</sup> Resolution Foundation (2016).

The political and legal frameworks governing Brexit are evolving quickly. At this stage, it seems that the UK will be seeking a bespoke deal with the EU. Though it is quite unlikely that the EU will offer the UK a similar arrangement, the government should look carefully at the Liechtenstein model where some of the economic benefits of market access are maintained, while retaining the capacity to control immigration and negotiate deals outside the EU. In particular:

- **The government should prioritize trade deals with its largest trade and investment partners – the EU and the US.** Striking a free trade agreement with the US with a focus on reducing non-tariff barriers could provide a blueprint for other bilateral negotiations. Government should also be mindful of the medium term potential of fast growing emerging markets.
- **The UK must negotiate market access for services, its key area of comparative advantage.** This is likely to require maintaining most EU rules and regulations in this area. Mutual recognition of the importance of regulations affecting services underlines the importance of minimising non-tariff barriers to trade and should be on the table in any negotiation. The costs associated with such regulations should be weighed against the benefits from maintaining some preferential access to the single market. Negotiating a comprehensive deal is likely to take time. A temporary agreement, like EEA membership, has the attraction that it may mitigate the uncertainty among businesses and would also buy time to work out a permanent settlement.
- **Trade and FDI must be considered in tandem.** Many of the sectors where the UK is a strong exporter are also host to high levels of FDI and are often engaged in global value chains. Barriers to trade (tariff and non-tariff) could lead firms to relocate activity into the single market in order to access intermediate goods more cheaply, as well as sell products more competitively. To counter these forces, an effective industrial strategy, improving the supply side environment through infrastructure, skills promotion, investment in science and coordinating government support for exporters will ensure that the UK continues to be an attractive location for firms in key sectors.
- **Continued strong engagement in international institutions.** To foster constructive internationalism and the context for world trade at a time when they are under threat, the UK must continue to engage strongly in international institutions for trade, investment, aid and public goods.

**The UK must preserve its status as a magnet for talented individuals from around the world.** An open approach to newcomers complements the natural advantages – including language, time zone and legal system – that make the UK a good place to study, work or build a business. The combined effect of immigration to date has been to create a stock of 7.4m working-age migrants, 3.4m of whom are highly educated. Yet the UK still faces skills shortages. The Commission proposes that:

- **Rather than pursuing a net migration target and limiting the numbers of visas for skilled workers granted, the UK should aspire to increase the stock of foreign-born skilled workers.** A stock of foreign-born skilled labour below its current level is likely to constrain UK growth. After the UK leaves the EU, we will need to ensure that the new visa system for skilled workers is properly resourced and operates on a timely basis so as not to discourage such workers coming to the UK.
- **The government should clarify the immigration rights (and right to remain) of those who will become leading entrepreneurs, scientists, professionals and skilled practitioners.** A dynamic economy relies on such people, refreshing the talent pool from those with a range of educational and cultural backgrounds as well as varied life experiences. At present, government policy is unclear on this issue which risks doing permanent damage to the economy. It is particularly important to maintain openness to bona fide students many of whom, if they stay in the UK after graduation, enhance the talent pool available to UK businesses.



*The Bank of England's main site on Threadneedle Street in London. The Bank was established in 1694.*

# 5. Finance and Growth

The UK financial system has been in a process of transition since the financial crisis of 2008. Fundamental reforms of bank regulation, including new capital requirements and the separation of retail and commercial banking from wholesale and investment banking, have made the system safer. The banking sector remains large – with assets 3.6 times annual GDP in 2016 – and an influential sector of the economy. Financial services are an important source of jobs and tax revenues, and a major component of the UK’s services exports, accounting for almost half of the UK’s services trade surplus.

Concerns with the UK financial system predated Brexit. There is longstanding evidence of the system’s shortcomings in financing productive investment and supporting long-term growth. In recent years, the UK has seen the establishment of several new “challenger” banks. These new players together with new forms of intermediation, including crowdfunding, should help in principle to ease financial constraints faced by the corporate sector. However, UK businesses raise relatively little in capital markets and would benefit from diversifying their sources of funding. Further measures to enhance the functioning of equity markets and smaller firms’ access to bond markets are needed.

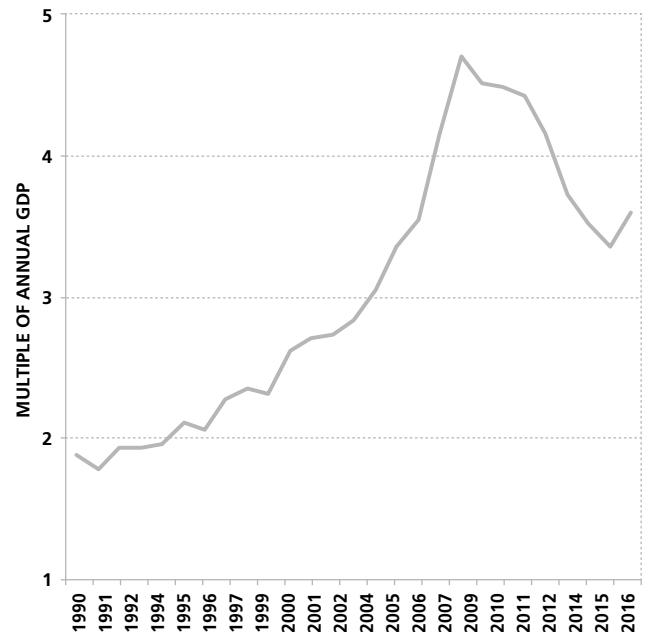
The EU referendum result means that the UK financial sector will face new challenges. Given the sector’s significance for the UK economy, both as an export industry and an intermediary, Brexit could have wide-ranging implications for employment and growth across the UK.

## The UK financial system – a snapshot

The UK has been an important financial hub for centuries and its prominence in Europe predated the creation of the Single Market.<sup>1</sup> The period before the financial crisis of 2008 saw the financial system balloon in size. On any measure, the financial system is many multiples of GDP. Between 1990 and 2016 the assets of the UK banking sector alone expanded from a multiple of about 2 to 3.6 times annual GDP (Figure 5.1).

<sup>1</sup> In the mid-1700s, London overtook Antwerp and Amsterdam as the centre of European finance (Carlos and Neal, 2011).

FIGURE 5.1: ASSETS OF THE BANKING SECTOR



Notes: Figures include central bank assets. Source: Bank of England, ONS.

The financial sector spans a number of markets, mainly banking, asset management, and insurance. It plays a major role in employment, output, and tax revenues in the UK. In the decade before the financial crisis, measured output growth in the UK financial services sector averaged over 6% per year, compared with total GDP growth of 3% per year.<sup>2</sup> In 2015 the financial sector employed around one million people directly. An additional one million people work in sectors that provide ancillary services, namely legal services, management consultancy, and accounting services. While those people are not directly employed by the financial services sector, their businesses form part of the ecosystem that supports it. The financial sector is also one of the UK’s leading export industries, with financial services trade alone accounting for 45% of the UK’s £95 billion surplus from trade in services. In 2016, key net exports included financial services (£43bn), business services (£31bn) and insurance and pension services (£18bn). The EU and the US are the UK’s top exports destinations for financial services, insurance and pension services, and other business services.

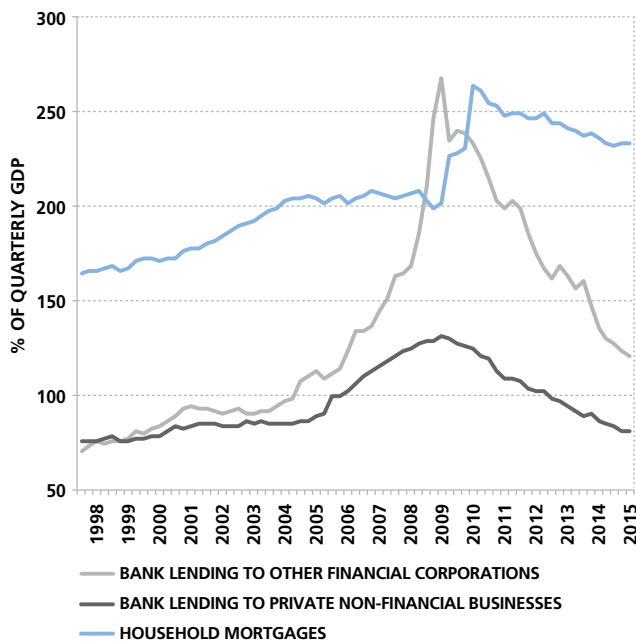
<sup>2</sup> Burgess (2011).

The financial crisis of 2008, which brought to light the dangers of an undercapitalised financial system, started a process of transition. Fundamental reforms of bank regulation, including the separation, or ring-fencing, of retail and commercial banking from investment banking, have made the system safer. New regulations induced banks to “deleverage” – reducing the ratio of their risk-bearing assets to their loss-absorbing equity. The capital position of UK banks has strengthened as a result of public recapitalisation and asset divestment. The sector has shrunk from its peak at the end of 2008 when its assets stood at 4.7 times annual GDP. It remains large today – with assets 3.6 times annual GDP in 2016.

### The financial sector as an intermediary – bank lending

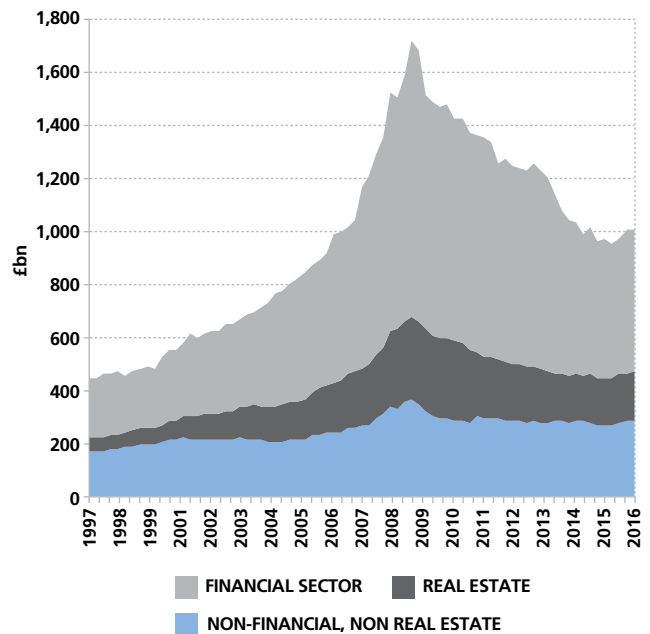
The key function of the financial sector is to support growth by providing products that allow households to save, borrow, and insure themselves against risk. Bank lending is an important part of this: UK banks lend to other financial institutions, to businesses and to households. Since the financial crisis all of these forms of lending have fallen as a share of GDP, with intra-financial lending, and lending to business falling the most (Figure 5.2).

**FIGURE 5.2: LENDING BY UK BANKS**



Source: Bank of England and ONS.

**FIGURE 5.3: LENDING TO BUSINESS**



Source: Bank of England, sterling and foreign currency lending by UK-based lenders.

**While the supply of credit to UK households has generally been robust in recent years, there are concerns about the supply of credit to businesses.** Over the past two decades the supply of credit to financial companies and the real estate sector boomed then contracted, leaving lending volumes to these sectors roughly 160% above their 1997 level.<sup>3</sup> By contrast, lending to non-financial and non-real estate companies expanded much less over the same period (by roughly 66%). Lending to the manufacturing sector was just under £37 billion at the end of Q3 2016, 17% below its 1997 level (Figure 5.3).<sup>4</sup>

The financial crisis of 2008 hit business lending hard. Evidence suggests that factors influencing both supply and demand played a role. Demand was subdued because some businesses reacted to the economic slowdown of 2008-09 by repaying existing bank debt (deleveraging) and delayed investment plans in light of economic uncertainty. Research also suggests that tight credit supply may have reduced growth in the UK. Firms faced with a contraction in credit supply experienced a reduction in labour productivity, wages and the capital intensity of production.<sup>5</sup> Surveys of SME managers show that

<sup>3</sup> Including finance, insurance and pensions, and auxiliaries.

<sup>4</sup> Source: Bank of England, Industrial analysis of monetary financial institutions' lending to UK residents.

<sup>5</sup> Franklin et al. (2015).



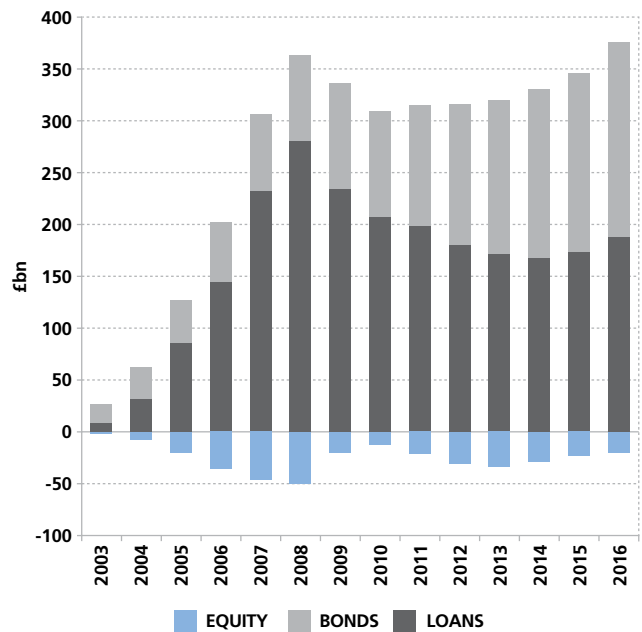
SMEs experienced a contraction in credit supply.<sup>6</sup> Business lending in the UK is highly concentrated. The top 6 banks account for 70% of the stock of lending to UK firms.<sup>7</sup> As a consequence, the level of credit supply by those banks can be an important determinant of firms' ability to grow and invest. While credit conditions have improved in recent years, both for SMEs and large firms, some types of firm have not benefited, especially small and riskier firms seeking growth financing – in line with longstanding evidence of the system's shortcomings in financing productive investment and supporting long-term growth.<sup>8</sup> **Overall, economic evidence suggests that tight credit supply to companies could be a factor in the UK's disappointing growth and productivity performance in recent years.**

### Capital markets

Firms in the UK have traditionally been dependent on bank finance. A recent report by the British Business Bank showed that SMEs, which make up the vast majority of firms in the UK, raised only £2.4 billion from equity markets in the first three quarters of 2015, compared to £53 billion from bank lending.<sup>9</sup>

Capital markets, in which firms sell their bonds and equity stakes to investors including pension funds, insurers and individual savers, are an alternative conduit for funds to be channelled from savers to borrowers. Bond markets are a particularly important source of finance in the UK, with an increase in bond-market borrowing by companies offsetting the post-2008 reduction in corporate lending in the UK to some extent (Figure 5.4).

**FIGURE 5.4: NET FUNDING RAISED BY UK FIRMS**



Notes: Cumulative net funds raised by private non-financial corporations. Source: Bank of England, BankStats.

While bonds made up on average about 40% of total gross capital issuance by UK businesses between 2003 and 2016, bond markets are usually only available to large companies. A study covering around 3,600 UK companies between 1989 and 2011 found that 90% of bond issues are larger than £60 million, and 90% of the issuers employ over 2,500 staff.<sup>10</sup>

Equity finance is relatively thin in the UK. Funds raised by UK firms in recent years have been negative, as companies “buy back” their own shares and reduce their equity outstanding (Figure 5.4). Such share buy-backs are a way to return cash to shareholders, and an alternative to dividends. Gross capital raising in the form of equity is relatively low too. Of the total capital issued in the UK between 2003 and 2016, just 12.5% on average was equity, with the remainder being debt, or debt-like instruments.

<sup>6</sup> SME Finance Surveys and SME Finance. See also BIS (2012).

<sup>7</sup> Bank of England (2015).

<sup>8</sup> See e.g. Bank of England (2017).

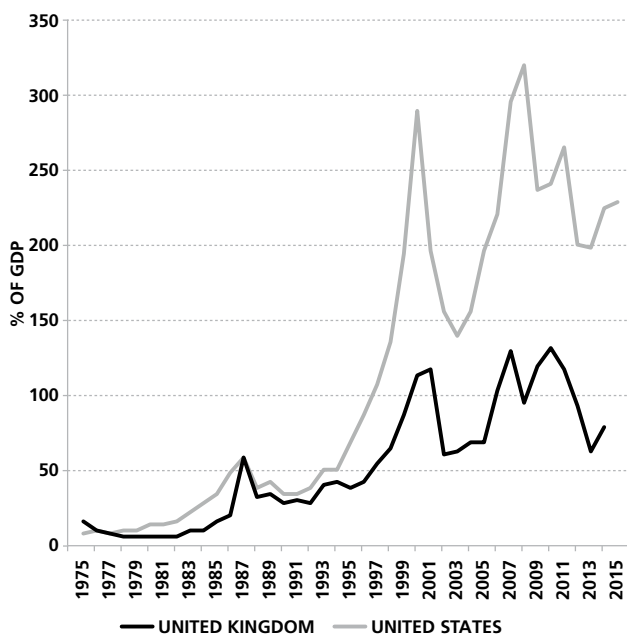
<sup>9</sup> British Business Bank (2016).

<sup>10</sup> Pattani and Vera (2011).

Many economists have noted that the pattern of corporate fundraising is influenced by the UK tax code. While the tax deductibility of debt in the UK is relatively generous by international standards, firms' costs of equity issuance do not benefit from tax breaks. This generates a "debt bias" in favour of borrowing via debt rather than equity markets.<sup>11</sup>

The volume of trading on UK equity markets is a lower fraction of GDP than in the US (Figure 5.5). Some of this difference may be due to the sectoral composition of these markets. Highly-traded technology stocks comprise 21% of the S&P 500 index, but just above 1% of firms listed on the London Stock Exchange. The relative lack of equity trading is a puzzle that appears to be growing. Since the 2008 crash the number of firms listed on an exchange in the UK has declined sharply year-on-year according to World Federation of Exchanges data, a pattern not seen in the US.

**FIGURE 5.5: TRADING ON EQUITY MARKETS**



Source: World Bank.

Heavy reliance on banks combined with a relative lack of equity financing and limited access to bond markets for SMEs raise a series of concerns. **Economies in which companies are highly leveraged are prone to lower investment, and lower growth.** Reliance on debt in the past, and the associated "debt overhang", has been cited as one of the potential reasons why global growth remains relatively sluggish in the aftermath of the crisis.<sup>12</sup> The financial crisis induced a process of deleveraging in the UK, whereby firms retain profits to repay their debts. Active deleveraging through debt reduction entails a reduction in assets and hence productive capacity, and possibly a cutback of investment, with adverse feedback effects on firms' earnings. The alternative is to increase the corporate equity base. A higher share of funding through equity would increase resilience and reduce corporate debt overhang. This would also improve loss absorbency and could kick-start investment.<sup>13</sup> Therefore, it is important that UK firms achieve a healthy balance of debt and equity.

**The UK also needs better equity markets in order to close the gap in the provision of growth capital for smaller and medium-sized businesses (SMEs) looking to expand.**<sup>14</sup> The issue is longstanding and was discussed in our first report. The lack of growth capital could help partially explain the dearth of mid-sized businesses in the UK: firms that employ between 50 and 249 people represent less than 1% of firms and only 12% of employment.<sup>15</sup> Some progress has been made in this area. For example, the Business Growth Fund (BGF) has invested over £1 billion in more than 160 firms across the UK since its establishment in 2011.<sup>16</sup> The British Business Bank combines private and public funds to make equity investments in high growth businesses. However, participants in our evidence session suggested that significant problems remain. In 2016 HM Treasury announced "The Patient Capital Review" to identify barriers to access to long-term finance for growing innovative firms seeking to scale up. This is a welcome development.

### New entrants – challenger banks

**Given the longstanding concentration of the UK banking system, the launch of several new "challenger" banks in recent years is a welcome development.** Research shows that firms' ability to substitute among alternatives can shield the real economy from financial downturns.<sup>17</sup>

<sup>11</sup> See, for example, Mirrlees et al. (2011).

<sup>12</sup> Jorda et al. (2013) and Lo and Rogoff (2015).

<sup>13</sup> Kalemlı-Özcan et al. (2015).

<sup>14</sup> BIS (2009) estimated that a growth capital gap exists between £2m and £10m.

<sup>15</sup> BIS (2016).

<sup>16</sup> The BGF was created to make long-term equity investments in growing SMEs. See BGF Portfolio Issue 5 for investments to date.

<sup>17</sup> De Fiore and Uhlig (2015).

The challenger landscape is varied. It includes large players like Clydesdale, Paragon and Yorkshire Banking Group; foreign entrants like Handelsbanken; the re-launch of old banks, including TSB. Established brands including Virgin, Asda, Marks and Spencer and Sainsbury's Bank, are increasingly active in the provision of financial services. Newly established financial technology (FinTech) challengers include Atom, Fidor Bank, Monzo, and Starling.<sup>18</sup>

The assets of challenger banks are growing, while those of the Big Five high street lenders decline. According to a recent report by KPMG, the lending assets of challenger banks increased by 31.5% between 2014 and 2015 while those of the Big Five declined by almost 5%. On average, challenger banks offer better savings rates. In addition, SME banking is one of the challengers' targeted niche markets. They have the potential to help close the funding gap in this market which is underserved by the Big Five.<sup>19</sup>

## The Brexit shock

Financial markets, including the markets in which bank debt and equity trade, were volatile following the EU referendum of June 23rd 2016. In the ten days that followed, banks' equity prices dropped by an average of 20%, the largest two-week fall since the market crash of 2008. The share prices of the two state-owned banks, the Royal Bank of Scotland and Lloyds Banking Group, fell by 37% and 29% respectively (Figure 5.6). Credit default swap (CDS) premia, a proxy for funding costs, rose for some banks. Trade-weighted sterling fell by 9%. Since then market turbulence has eased, with CDS premia falling to their levels before the EU referendum vote. Bank equity prices have recovered, though the two state-owned lenders, RBS and Lloyds are still well below the trading levels seen before the referendum.

With short-term pressure under control, questions turn to the medium and long-term impact of Brexit. Estimates show a significant impact is possible. For example, Oliver Wyman estimate that moving to a third-country status under World Trade Organisation (WTO) rules would put at risk 40-50% of EU-related financial services activity (approximately £18-20 billion in revenue) and up to 31-35,000 jobs, along with around £3-5 billion of annual tax revenues.<sup>20</sup> There is a lot of uncertainty around these medium and long-term repercussions. However, the UK banking sector – the part of the financial system that matters most for growth, relies mainly on domestic business for its revenues.

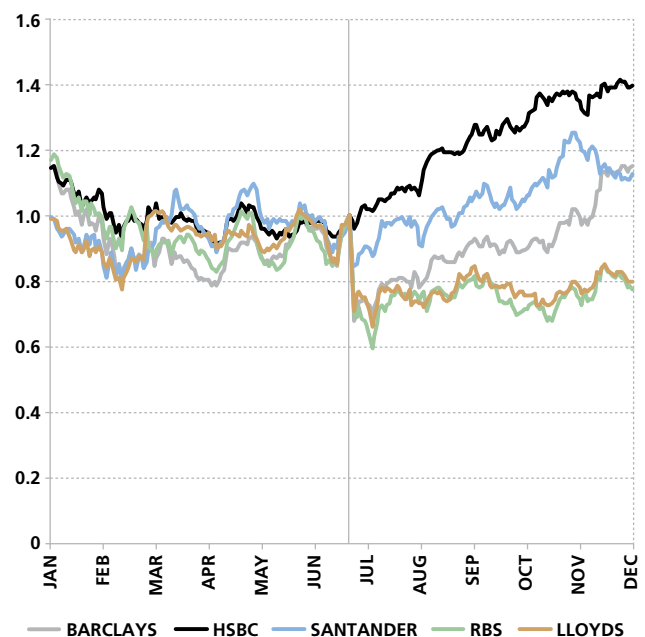
<sup>18</sup> See KPMG (2016).

<sup>19</sup> Challenger banks issued 32% of the UK's business mortgages and charges in the first half of 2016 (Burnmark, 2016).

<sup>20</sup> Oliver Wyman (2016).



FIGURE 5.6: TOP 5 UK BANKS' EQUITY PRICES IN 2016



Notes: Equity prices rebased to 1 on the day of the referendum vote, 23rd June 2016. Source: Bank of England.

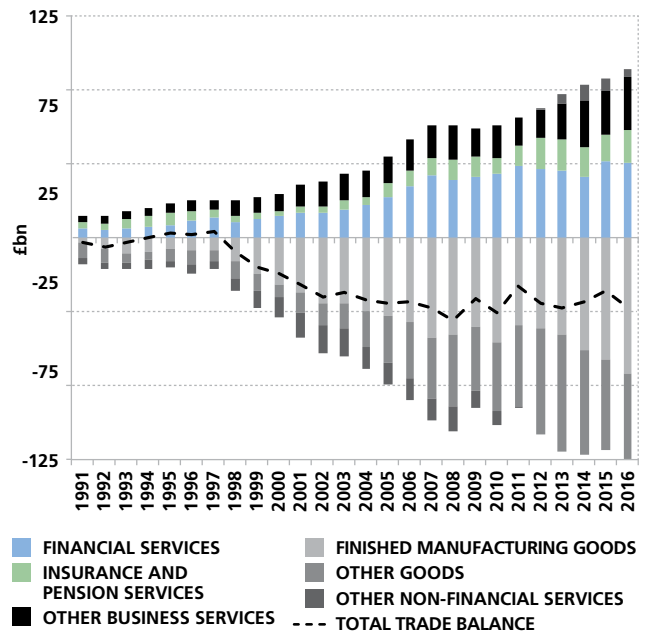


Traders at the London Metal Exchange, based in London. In 2016 their trade figures exceeded 10 trillion US dollars.

### The importance of financial services trade

Overall, the UK runs a large trade deficit, amounting to £39 billion in 2016 (Figure 5.7). But services exports – the sales by UK companies of a service to overseas residents – are a key strength for the UK. Services exports generate a persistent surplus, with financial services accounting for 45% of it. In 2016, key net exports included financial services of £43 billion, business services of £31 billion and insurance and pension services of £18 billion.<sup>21</sup> Business services include activities such as accounting, legal advice, and management consulting. These industries can be seen as “satellites” to the financial sector (among others), providing services that support financial and business transactions.

FIGURE 5.7: TRADE BALANCE



Notes: Data for 2016 only available up to Q3. Annual estimates are (Q1+Q2+Q3)\*(4/3). Source: ONS: Balance of Payments - 23 Dec 2016 Release.

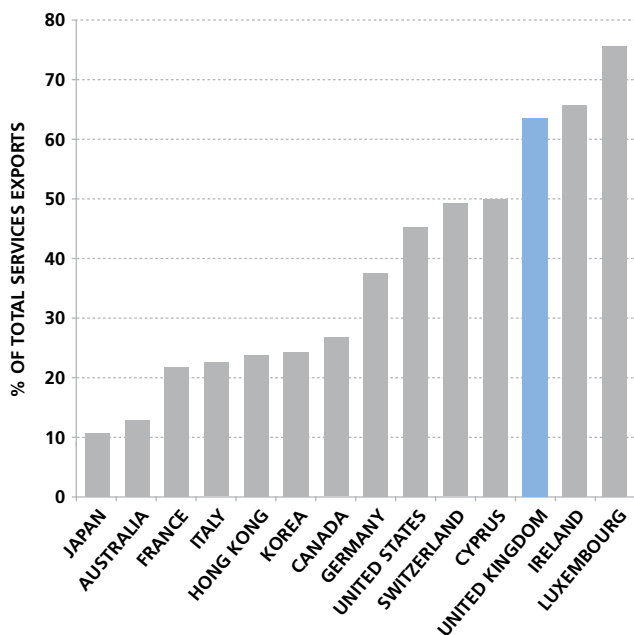
The UK is more reliant on financial services exports than any other G7 economy. Financial intermediation, insurance and real estate, and business services account for roughly 64% of the UK's total gross services exports (Figure 5.8).

### The importance of the EU in financial services trade

The EU and the US are the UK's top export destinations for financial services, insurance and pension services, and other business services (Table 5.1). The UK exported over £81 billion in services to the EU in 2014, 50% of which were in these three export markets combined. The EU represents 37% of the UK's total exports of services, and the equivalent figure for the US is only 23%.

<sup>21</sup> ONS: Balance of Payments – Release 23 December 2016. Data for 2016 only available up to Q3. Annual estimates are (Q1+Q2+Q3)\*(4/3).

**FIGURE 5.8: FINANCIAL AND RELATED SERVICES EXPORTS**



Source: OECD 2015. Most recent available data: 2011.

The UK is currently a hub for international companies. This is true of financial institutions but also of non-financial businesses in general. The UK is home to over 250 foreign banks – more than any other hub. London hosts more than 40% of the European headquarters of the world’s largest 250 non-financial companies.<sup>22</sup> Moreover, London is home to 60% of the top non-European companies with headquarters in Europe – with a strong presence of Asian companies. **The UK currently hosts more headquarters of non-EU firms than Germany, France, Switzerland and the Netherlands put together.**<sup>23</sup> Outside the EU it may be harder to attract internationally mobile businesses: as an EU-based global financial centre, London has benefited from a “platform effect” through the EU’s passporting regime, whereby non-EU financial firms locate in the UK to gain a foothold in EU markets. London’s status as Europe’s main financial hub may have made the UK more attractive for foreign non-financial corporations, too.

<sup>22</sup> Its closest rival is Paris hosting just 8% of European headquarters (Deloitte, 2014).  
<sup>23</sup> Deloitte (2014).

**TABLE 5.1: UK EXPORTS OF FINANCIAL AND RELATED SERVICES BY DESTINATION (£bn)**

	EU	US	World
Insurance & pension	2.5	9.3	20.1
Financial services	20.2	12.4	49.2
Other business services	18.3	14.4	57.1
Total finance & related services	41.0	36.0	126.5
Total services	81.3	50.6	219.8

Source: ONS Pink Book 2015. Latest available data 2014.

### Financial services and the UK regions

**Financial and related services companies are not based solely in London. Many have large offices in the UK regions.** These decisions to locate outside London reflect the fact that many UK regions have financial expertise. Edinburgh and Glasgow are key centres for asset management, life assurance and banking with over 148,000 employees in Scotland. Newcastle and Sunderland are hubs for professional services. The North West hub consisting of banking, insurance, law and accountancy in and around Manchester and Liverpool employs 218,800 workers alone.

The South West employs 147,000 people with Bristol and Exeter as the centres of clusters of insurance and pensions businesses. Of the two million people employed in financial services and in associated professional services, The City of London Corporation estimates that more than half work outside London and the South East.<sup>24</sup> This suggests that any decision to relocate as a result of Brexit would have implications for employment across the UK and not just for London.

### Passporting and financial services trade

Research into the factors that support trade in services shows that the “gravity model” framework often used to analyse trade in goods is helpful.<sup>25</sup> Trade flows between any two countries are influenced by their relative sizes and “proximity” (their physical distance but also economic and cultural proximity, measured by similarities between political and legal institutions, shared languages and colonial legacies). The more physically and economically “distant” two trading partners are, the greater the trade costs. As would be expected, empirical studies confirm that higher trade costs discourage trade in both goods and services.<sup>26</sup>

<sup>24</sup> City of London Corporation (2013).

<sup>25</sup> See e.g. Ebell (2016).

<sup>26</sup> See Head and Mayer (2014).

**The major threat for financial services trade is the loss of passporting rights when the UK leaves the EU.**

The passporting regime is the foundation of the EU Single Market for financial services. It enables financial firms that are authorised in any EU or EEA (European Economic Area) country to trade freely in any other member state with minimal additional authorisation. In other words, a financial firm based in the UK (whether UK-owned or foreign-owned) has the right to provide a range of financial services anywhere in the EU/EEA, while being regulated by UK authorities.

Financial services passports cover a range of services, including traditional banking (such as lending and deposit taking), sales and trading of securities, and asset management. The basis for passports is the common adherence to EU Directives, which ensures harmonised standards for financial regulation and supervision. Passporting rights do not apply to third-country firms, i.e. firms incorporated outside the EU/EEA. Once the UK has left the EU and assuming it does not become a member of the EEA (since this would require free movement of people), it would become such a “third country”.

There are alternatives to passporting rights but they are costly and time-consuming. First, UK-based firms can create subsidiaries within the EU/EEA. Second, some EU legislation provides for third-country regimes that allow non-EU based firms to obtain a license to offer services in the EU if their home country regulatory regime is accepted by the EU as being equivalent to EU standards – that is the so-called “equivalence” principle. However these licences are not available in all EU countries, only apply to a limited number of services and are usually limited to one country at a time, meaning that the UK would have to negotiate with each individual country separately. They also provide less certainty, since they can be withdrawn unilaterally if the EU considers that the other party’s regulatory regime is no longer sufficiently equivalent to EU law. New research being undertaken by NIESR and the CEP suggests that free trade agreements are a poor substitute for Single Market membership. The loss of passporting rights could entail a reduction of over 25% in the UK’s total financial services trade.<sup>27</sup>

**The future of trade in financial services**

Emerging markets are both competitors and clients of the UK financial services industry. Financial centres in emerging markets, particularly China, are capturing an increasing share of the global profit pool and are eroding the UK’s leading position in some markets. Since the financial crisis, Hong Kong has overtaken the UK as an Initial Public Offering (IPO) hub, and the UK lags behind Hong Kong, Singapore and the US in terms of offshore debt financing for Chinese corporates. However, **emerging economies remain large importers of financial and related professional services from the UK, and there is scope for the UK to strengthen its position as a financial hub for emerging markets.**

London already has a strong position in the trading of emerging-market financial instruments. For example, it is vying to become the leading offshore market for renminbi bonds. In 2016 the world’s first ever rupee- denominated bond issued outside of India by an Indian company was issued in London. The UK is also a global leader in foreign-currency clearing, overtaking Singapore as the largest clearing centre for the renminbi outside of greater China in 2016. Recent initiatives to increase collaboration between the UK and the financial sectors of India and China should help support this position.<sup>28</sup>

Another group of countries, the so-called “frontier economies” represent a long-term opportunity for countries, like the UK, that are home to financial hubs. This group includes Kenya, Vietnam, Bangladesh, Nigeria, Uganda, and Pakistan. Of the 25 countries forecast to grow the fastest over the next five years, 19 are frontier economies. Many of them have high demand for funds due to significant infrastructure financing needs related to the development of road and rail networks, airports and ports, and power generation. As these frontier economies issue debt overseas there is a role for the UK. **Ensuring that the UK financial sector has strong links with this next generation of fast-growing economies is a long-term priority.**

It is important to note that deepening trade links with emerging markets and frontier economies will imply different challenges than those faced in the UK’s current relationship with the EU. European economies are similar to the UK in terms of institutional, legal, and regulatory frameworks. Differences in those areas, which generate trade costs for financial transactions, are expected to be higher with trading partners in emerging markets.

<sup>27</sup> See Ebell and Roland (2017).

<sup>28</sup> Notably the “Chinese Pilot Free Trade Zones” (FTZ) and the “India-UK Financial Partnership” initiatives (IUKFP).

The growth of Islamic finance is another opportunity. The UK is already a strong player in this fast-growing area, which market analysts expect to be worth \$3 trillion by 2018. The UK is the leading Western centre for Islamic finance with nearly twice as many institutions offering these services than in the US. The UK was the first Western country to issue a sovereign Islamic bond (“sukuk”). The UK continues to distinguish itself by its willingness to create a level playing field for Islamic institutions. Notably, the Bank of England has plans to put in place Shari’ah compliant central bank facilities.<sup>29</sup>

There are also prospects for improved services exports within the EU. The EU’s single market for services is much less developed than the market for goods. A recent all-party Parliamentary inquiry noted that while services account for over 70% of Europe’s output, they account for only 20% of trade, concluding that “there is no ‘single market in services’ in any meaningful sense of the term.” Several studies have found that trade costs are much higher in the services sector than in goods.<sup>30</sup> The factors holding back services trade include the complexity of national and EU regulation and the diversity of services which mean that the single services market is hard to “complete” by defining one single harmonised set of rules. Economic research confirms this, finding that within the EU there are considerable differences in services trade costs across member countries.<sup>31</sup>

There are many plans to build up the EU’s single market for services, including financial services. A number of initiatives were set out in the European Commission’s 2015 “Single Market Strategy”. These include proposals to introduce a “Services Passport” and remove barriers to the trade of business services. Other initiatives include the development of the Digital Single Market and plans to create a Capital Markets Union. An EU digital single market may benefit the UK FinTech industry if it can access it. The Capital Markets Union will aim to develop a more diversified financial system (less reliant on bank financing) and facilitate equity and corporate debt investments across borders – resulting in a better connection between financing and investment projects across the EU and more capital market funding for SMEs.

These efforts to complete the EU’s single market for services are predicted to yield significant gains for the EU’s members.<sup>32</sup> **While the UK will not enjoy all the benefits of deeper EU integration outside the EU, it is likely that improvements in the market for financial services spill-over to the EU’s trading partners. The UK could therefore benefit.** The extent to which the UK gains will depend on the pace of EU reforms, and the UK’s ability to negotiate access to newly integrated markets for services and capital. Finally, the UK will also benefit indirectly from greater financial stability within the Eurozone resulting from the Banking Union.

## Brexit and the supply of finance

The EU referendum result of June 2016 implies new challenges for the UK financial system. The transition to a new relationship with the EU could put a drag on growth either via heightened uncertainty or the intensification of existing financial constraints.

### Uncertainty

Increases in uncertainty are associated with declines in investment.<sup>33</sup> Since large investment decisions (for example, building new factories or buying new equipment) are difficult to unwind, CEOs need to be relatively confident about their firm’s future path before they commit. Demand for finance is already subdued. The proportion of SMEs that are expecting not to seek new funds in the future has increased from 63% in 2012 to 76% in Q2 2016.<sup>34</sup> Uncertainty may be playing a role in this. Decreased investment can in turn reduce future growth prospects. Economic uncertainty reached record highs in June and July 2016, at the time of the referendum and in its immediate aftermath (Figure 5.9).<sup>35</sup> There was another spike around the time of the High Court ruling on the Brexit process in November 2016.

<sup>29</sup> Islamic banks are currently unable to use the Bank’s existing liquidity facilities because interest-based facilities are not deemed Shari’ah compliant.

<sup>30</sup> See Miroudot et al. (2015) and Sáez and Taglioni (2016).

<sup>31</sup> See e.g. Miroudot, Sauvage, and Shepherd (2013).

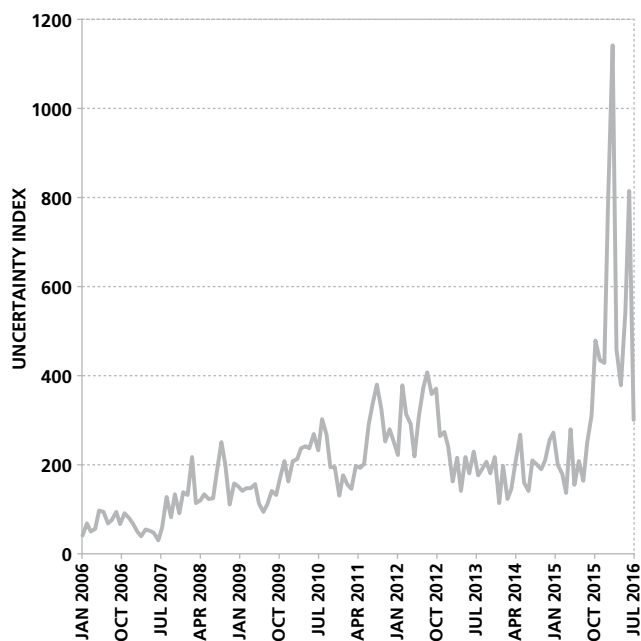
<sup>32</sup> The potential annual gains from a Digital Single Market are estimated at 3 to 3.6 per cent of EU GDP (Dunne (Ed.), 2015). The Capital Markets Union could facilitate large amounts of additional bank credit to the private sector and SMEs by reviving securitisation (European Commission, 2015).

<sup>33</sup> See Bloom, Bond, and Van Reenen (2007).

<sup>34</sup> BDRC Continental (2016).

<sup>35</sup> Baker, Bloom, and Davis (2015).

FIGURE 5.9: POLICY-RELATED ECONOMIC UNCERTAINTY



Notes: The index is based on newspaper articles regarding economic policy uncertainty. Source: Baker et al. (2017).

Studies on the economic implications of political uncertainty suggest that it can dull growth. Unclear political outcomes can lead to higher debt-financing costs.<sup>36</sup> Equity financing, already limited in the UK, can also become more expensive, particularly when underlying economic conditions weaken.<sup>37</sup> Other studies show that firms can pause investment, awaiting the resolution of political uncertainty.<sup>38</sup>

**This suggests there is a risk that political uncertainty surrounding the Brexit process may compound the negative impact on growth of economic uncertainty.**

While economic uncertainty and policy will affect all types of firms, it is likely that its implications will be different for large firms and SMEs. Among others, two important factors will play a role in determining the severity of the impact on any particular firm: the financial constraints it faces and its degree of export orientation. A firm will more likely be affected if it is export oriented and financially constrained.

**Firms that focus on the domestic market may be somewhat insulated from uncertainty around the Brexit negotiations**, as their business model does not depend on the shape of the UK's future relationship with the EU. As only 9% of SMEs are export oriented and a further 15% are in the supply chains of other businesses that export, uncertainty surrounding new trade agreements is likely to mainly affect larger firms directly. At the same time, any firm using imported inputs may face cost pressures if import prices rise.<sup>39</sup>

#### Threats to bank lending to corporates

**SMEs are more likely than large firms to be affected by financial constraints.** Difficulties will be compounded for those that are growing, or have plans to start serving new export markets. Survey data around the time of the referendum suggest that during the referendum campaign, the proportion of SMEs rating either the current economic climate or political uncertainty as major barriers increased for larger SMEs and those engaged in international trade.<sup>40</sup> These firms are heavily reliant on bank debt and banks dislike the increased credit risk that goes with heightened uncertainty.

Recent evidence shows that financial frictions faced by firms can amplify the impact of uncertainty shocks on firms' investment. This is because uncertainty induces firms to hoard cash as a precautionary motive, at the expense of capital investment and labour demand.<sup>41</sup> This is a serious concern given that around 60% of the UK labour force works for micro and small and medium sized firms that are typically exposed to financial constraints.

**Market-based finance for UK companies may also be affected by the downgrade of the UK's sovereign rating.** Shortly after the referendum in June 2016, two major rating agencies downgraded the UK's rating. The three major agencies warned that more downgrades could follow and that the most likely trigger for another downgrade would be the UK's loss of access to the Single Market. Since sovereign ratings tend to form a ceiling for the ratings of individual corporates, companies' ratings could also fall, and their debt costs rise. Thankfully, this possibility has not materialised yet with the latest Bank of England data showing no deterioration in corporate credit conditions.<sup>42</sup>

<sup>36</sup> See e.g. Waisman et al. (2015).

<sup>37</sup> See e.g. Pastor and Veronesi (2013).

<sup>38</sup> See e.g. Julio and Yook (2012).

<sup>39</sup> BIS (2016a).

<sup>40</sup> BDRC Continental (2016).

<sup>41</sup> Alfaro, Bloom and Lin (2016).

<sup>42</sup> Bank of England, Credit Conditions Review Q4 2016.



## Overseas financing and currency risk

UK companies depend on a range of finance sources from overseas. This is another area where Brexit may have an impact. At Q2 2016, UK resident financial corporations had 63% of their debt securities denominated in foreign currencies (mainly USD and EUR). The share stood at 38% for UK resident non-financial corporations.<sup>43</sup> Liabilities in foreign currencies create exchange rate risk exposure and the need to insure against this risk. Large companies on the whole look well insulated. Many have foreign currency earnings, providing a “natural hedge”. As sterling has depreciated the equity value of many FTSE companies has risen, reflecting the increased sterling value of their foreign currency earnings. Smaller companies involved in import and export of goods are likely to be less well insulated.

In the absence of a natural hedge, companies can use the foreign exchange (FX) market to protect (‘hedge’) themselves against unexpected changes in the exchange rate that affect their returns. There are a number of instruments for hedging currency risk. A large proportion of FX market turnover is simply transactions in the spot market, but UK non-financial corporations also make use of other instruments, in particular swaps and forward contracts.

Hedging of currency risk by UK corporates rose before the referendum vote. The survey of over 2,600 companies conducted over four weeks in March 2016 shows that over half had hedged against FX exposures, including over a fifth of SMEs, in preparation for currency fluctuations following a leave vote in the referendum<sup>44</sup>. Yet many SMEs may still be exposed to currency risk: survey evidence shows that small companies are far less likely to hedge against currency risk than larger ones. **Setting a clear path for the UK’s exit from the EU should help alleviate exchange rate volatility.**

## EU funding and foreign direct investment

**The UK economy benefits from a wide range of EU funding programmes**, especially through the European Investment Bank Group, comprised of the European Investment Bank (EIB) and the European Investment Fund (EIF), and through the recently established European Fund for Strategic Investments (EFSI). These schemes target market failures, particularly the lack of financing for growing SMEs and large infrastructure projects. The UK is among the largest beneficiaries of EIF and EFSI funding: over 2011–2015 the EIB invested around £23.5 billion in the British economy. Some of the EIB’s major projects in the UK include a £150m loan for the Liverpool port expansion approved in 2012, a £200 million loan for Oxford University for the expansion of research and teaching facilities approved in 2015, and £360 million to support the roll-out of smart meters to reduce energy use across the UK approved in 2015.

While the EFSI is focussed on large-scale strategic investments (such as renewable energy, digital infrastructure, transport and R&D), the EIF has a strong focus on SMEs. The EIF supports SMEs through three funding channels: private equity and venture capital (VC) funds, guarantees and securitisation transactions, and microfinance. Between 2011 and 2015, the EIF committed £2.3 billion to its equity programmes, £438 million for guarantees and securitisation, and £15 million for microfinance in the UK. Importantly, EIF commitments mobilise funds from private investors and institutions, so mobilised funds are a multiple of EIF commitments. **Outside the EU it is not clear whether and to what extent the UK will continue to benefit from these funds.**

**The British Business Bank (BBB) could act as a substitute for these funds.** Since EU State Aid rules will no longer apply after Brexit, there is a potential for the BBB to do more. However, the BBB remains small and does not mobilise as much additional private capital as the EIB. Boosting the BBB’s funds will be a priority should the UK lose access to the EU schemes.

**A new infrastructure bank should be established** to work closely with the NIC, in order to reduce and manage risk in the critical early stages of infrastructure projects. This type of institution was proposed in the Growth Commission’s first report, and would be still more valuable should the UK lose access to EIB and other EU funds. It is also important to ensure that the Green Investment Bank continues to operate effectively as a development bank.

<sup>43</sup> Bank for International Settlements, Debt Securities Statistics.

<sup>44</sup> East & Partners (2016).

Foreign direct investment (FDI) is another alternative source of funds. **The UK is one of the largest recipients of FDI in the EU, and the bulk of UK inward FDI has come from EU countries. Around 26% of UK inward FDI stocks relate to financial services alone.** Outside the EU, firms in the UK might find it more difficult to raise funds; empirical studies have shown that FDI is supported by EU membership.<sup>45</sup>

### Competition from EU banks

The UK's exit from the EU may affect corporate financial conditions by making it harder for European providers of finance in Britain. The share of lending to UK private sector residents coming from EU banks is larger than that coming from US banks and banks from the rest of the world. Decreased lending activities by EU banks in the UK could result in weaker competition. This in turn could increase the cost and decrease the supply of bank finance. Recent research at the OECD finds that countries that have less restrictive commercial banking systems have more efficient and competitive credit and insurance markets.<sup>46</sup> However, the magnitude of this kind of supply shock is likely to be small. UK banks account for the lion's share of loans to private sector residents. Most of the UK's cross-border banking assets and liabilities are with other banks and non-bank financial institutions, as opposed to non-financial firms.

**While the EU is clearly important to the UK, it is important to note that the UK is vital to the EU financial system too.** At the end of 2016, 98 companies incorporated in the EU were listed on the London Stock Exchange, with a market capitalisation of £424 billion. Furthermore, it is unclear whether businesses that decide to leave the UK would relocate to EU financial centres, such as Paris or Frankfurt, or to global financial hubs, such as New York, Hong Kong, and Singapore. Should businesses relocate outside the EU, this would have negative consequences for the European Union as a whole, not just the UK.

## Policy recommendations

The Commission's evidence gathering and submissions suggest that growth supporting measures include ensuring access to EU markets, building new links with emerging markets, widening small firms' access to capital markets and encouraging long-term investment ("patient capital").

**Ensure access to EU markets by developing a substitute for the financial services passport.** The government should ensure access for UK services firms, including financial and business services. The loss of passporting rights is a threat to UK financial services across the country and some institutions have already warned of job losses and relocation of business out of the UK. Existing models of access, including that followed by the Swiss, come with concessions, both on contributions to the EU budget and the free movement of people and may be hard for the UK to secure. Nevertheless, it is key to secure access rights that are as close as possible to those granted by passports.

It is therefore likely that harmonised rules and regulations will be required in any deal with the EU. Since negotiations may be a lengthy process, a transitional agreement may help mitigate uncertainty among businesses.

**Strengthen existing links with fast-growing economies, and forge new ones.** Build new links with non-EU global financial centres, especially in fast-growing emerging markets such as China, India and Korea, and get a foothold in frontier economies, such as Nigeria and Kenya. The UK already has a strong position as a hub for emerging market finance, with particularly strong links with China and India. Emerging markets remain large importers of financial services and their process of financial deepening is in its infancy. Chinese financial markets are gradually opening up and the UK can play an important role in this process. Therefore, the Financial Services Trade and Investment Board (FSTIB) should continue to aim to strengthen the UK's position as the centre of emerging market finance.

<sup>45</sup> Dhingra et al. (2016b).

<sup>46</sup> Nordås and Rouzet (2015).

**Widen access to bond markets.** The British Business Bank (BBB) could play a key role in creating a corporate bond market for SMEs, including efforts to kick-start SME loan securitisation along the lines of its ENABLE Funding programme for asset-based financing.<sup>47</sup>

**Boost equity tax relief schemes for investors in growing small and mid-sized companies.** Outside of the EU, the Equity Investment Scheme (EIS) and the Seed Equity Investment Scheme (SEIS) could be expanded since they would no longer be subject to EU regulations on State Aid.

**Improve the provision of patient capital.** The new “Patient Capital review” led by the Treasury is a welcome development. It should explore how corporate governance requirements, including reporting and investor engagement, should be designed to create incentives for long-term equity investment.<sup>48</sup> It should also explore how large institutional investors, such as pension funds and life insurers, could play a stronger role in supplying long-term finance for growing innovative firms. Institutional investors are “natural” long-term investors due to the often long-term nature of their liabilities. Finally, the BBB should scale up its current activities to mobilise long-term funding from the private sector.

**Support challenger banks.** The UK’s new breed of challenger banks are well placed to make the UK banking market more competitive and innovative. Their development could be supported by utilising flexibility on capital requirements for smaller lenders that will now be possible outside the EU.

**Support the FinTech sector.** Along with steps on visas for high-skilled workers set out in previous chapters the government should develop initiatives to boost investment in this sector, including giving FinTech investors clear and enhanced access to tax relief schemes, such as the Equity Investment Scheme (EIS) and the Seed Equity Investment Scheme (SEIS).

**Strengthen the British Business Bank.** Where market failures exist, expand the role of the BBB using flexibilities not possible under EU rules. This added flexibility could give the BBB a pivotal role in supporting the UK’s Industrial Strategy.

**A new infrastructure bank.** This should be created to improve the financing of infrastructure projects. It is also crucial to preserve the strengths of the highly successful Green Investment Bank.

Some of these steps are easier than others. Together, they should ensure that the UK financial system contributes to growth across the UK. One risk is the temptation to improve the UK’s short-term competitiveness as a financial hub by eroding regulatory quality, at the cost of lower financial systemic stability in the long-term. So while leaving the EU provides some flexibility, the UK must continue to play a leading role in the international groups that have a financial stability remit, including the IMF and the FSB.<sup>49</sup> **Outside the EU the UK must be true to its history and compete on the quality of its financial sector, not on the laxity of its financial stability requirements.**

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<sup>47</sup> Launched in 2014, ENABLE Funding is a programme aimed at pooling and securitising the asset finance receivables of smaller UK businesses. The programme is still in the pooling stage where receivables from various originators are being warehoused. Once a critical mass has been reached the BBB plans to securitise the aggregated pools of receivables by issuing asset backed securities or other forms of debt to institutional investors.

<sup>48</sup> Kay (2012).

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<sup>49</sup> See e.g. HM Government (2014).

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