UK Economic Outlook

Special features on:

- The outlook for consumer spending and the impact of automation
- Regional growth trends and prospects

Contents

Highlights and key messages for business and public policy

Key projections

	2018	2019
Real GDP growth	1.5%	1.6%
Consumer spending growth	1.1%	1.3%
Inflation (CPI)	2.7%	2.3%

Source: PwC main scenario projections

Recent UK developments and prospects

- UK economic growth slowed in 2017 as inflation rose sharply, squeezing household spending power.

- In our main scenario, we project UK growth to remain modest at around 1.5% in 2018 and 1.6% in 2019. This is due to continued subdued real consumer spending growth and the drag on business investment from ongoing economic and political uncertainty relating to the outcome of the Brexit negotiations.

- The stronger global and Eurozone economies, and the competitive value of the pound particularly against the euro, should also boost exports, however, which will offer some support for overall UK GDP growth.

- Service sector growth should remain modest but positive in 2018-19, while manufacturing retains momentum after ending 2017 strongly. But the construction sector has fallen back due to the weakness of commercial property investment and this looks set to continue this year.

- The Bank of England could raise interest rates once or twice this year, though the pace of increase will remain limited and gradual.

What are the longer term prospects for consumer spending?

- We project households will spend over 30% of their budget on housing and utilities by 2030, up from around 27% in 2017. Spending on financial services and personal care will also tend to increase relatively rapidly over time, while the share of total spending on food and clothing will tend to decline in the long run.

- Automation could have a major impact on retail jobs in the long run, but will also bring benefits to consumers in lower prices. This will allow consumers to increase their real spending levels, potentially creating new jobs in less automatable services sectors such as health and personal care. Emerging technologies like artificial intelligence (AI) could also bring great competitive advantage to businesses that deploy them effectively.

Regional trends and prospects

- London has grown significantly faster than other UK regions for most of the past two decades, but recently there have been signs from both the labour and housing markets that London's relative performance has been less strong.

- We expect this to continue in 2018-19, with London growing at close to the UK average rate.

- As manufacturing has bounced back recently on the back of a stronger global economy and a more competitive value of the pound, this has helped parts of the UK with stronger industrial bases in the North and the Midlands.

1 – Summary

Recent developments

The UK economy held up well in the six months after the EU referendum, but growth slowed markedly from early 2017 as consumer spending growth moderated.

A key factor behind that moderation was the increase in the rate of consumer price inflation (CPI) from around zero on average in 2015 to 3% in the year to January 2018, as global commodity prices have picked up from lows in early 2016, and the effects of the weak pound after the Brexit vote have fed through supply chains. Higher inflation has squeezed real household incomes and this has taken the edge off consumer-led growth. Brexit-related uncertainty has also dampened business investment growth.

On the more positive side, UK exports have been boosted by the upturn in global growth over the past year, notably in the Eurozone. The weaker pound, although bad for UK consumers, has been helpful to exporters and inbound tourism.

Table 1.1: Summary of UK economic growth and inflation prospects

Indicator (% change on previous year)	OBR forecasts (March 2018)		Independent forecasts (February 2018)		PwC Main scenario (March 2018)	
	2018	2019	2018	2019	2018	2019
GDP	1.5	1.3	1.6	1.5	1.5	1.6
Consumer spending	0.9	0.9	1.2	1.3	1.1	1.3
Inflation (CPI)	2.4	1.8	2.6	2.2	2.7	2.3

Source: Office for Budget Responsibility (March 2018), HM Treasury survey of independent forecasters (average value of new forecasts made in February 2018 survey) and latest PwC main scenario.

Future prospects

As shown in Table 1.1, our main scenario is for UK GDP growth to remain moderate at around 1.5% in 2018 and 1.6% in 2019. Our views on growth and inflation are broadly similar to the latest consensus and OBR forecasts (see Table 1.1).

Consumer spending growth is expected to moderate to only around 1% in 2018 but may pick up slightly next year as real wages recover. Longer term trends and prospects for consumer spending are discussed further below.

On the positive side, the stronger global economy should continue to have some offsetting benefits for net exports (though there are downside risks here if recent US tariff policy changes were to lead to a wider trade war). Brexit-related uncertainty may continue to hold back business investment, but this should be partly offset by planned increases in public investment and some easing of austerity over the next two years as announced in the November 2017 Budget.

There are always uncertainties surrounding our growth projections, as illustrated by the alternative scenarios in Figure 1.1. There are still considerable downside risks relating to possible pitfalls on the road to Brexit, but there are also upside possibilities if these problems can be contained and global growth continues to pick up. In our main scenario, we expect the UK to continue with moderate but steady growth in 2018-19, but businesses need to monitor and make contingency plans for potential alternative scenarios related to Brexit and other factors.

Inflation should fall back gradually over the course of 2018 and 2019 assuming no major shifts in exchange rates or global commodity prices. Given continued uncertainties around Brexit, we expect the Monetary Policy Committee to be cautious about the pace of future interest rate rises, but one or two increases seem possible this year.

Longer term outlook for consumer spending and the impact of automation

As shown in Table 1.1, we expect consumer spending growth to slow to only around 1% this year and pick up only modestly to around 1.3% in 2019, but in the longer term it should return to an estimated trend rate of around 2% per annum on average in the 2020s.

As discussed in detail in Section 3 of this report, we project that households will spend over 30% of their budget on housing and utilities by 2030, up from around 27% in 2017 (see Table 1.2). Spending on financial services and personal care (classified under 'miscellaneous services' in Table 1.2) will also tend to increase relatively rapidly over time, while the share of total spending on food and clothing will tend to decline in the long run.

Automation could have a major impact on retail jobs in the long run, but will also bring benefits to consumers through lower prices. This will allow consumers to increase their real spending levels, potentially creating new jobs in less automatable services sectors such as health and personal care. Technologies like artificial intelligence (AI) could also bring great competitive advantage to businesses that deploy them effectively.

Figure 1.1 – Alternative UK GDP growth scenarios
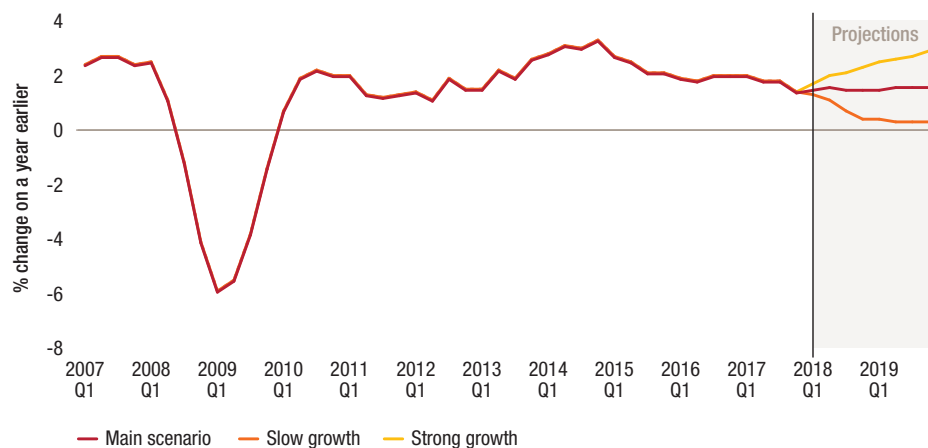
Sources: ONS, PwC scenarios

Table 1.2: Household budget share projections to 2030 and implied average annual real growth rates by household spending category in main scenario

	Shares of total spending			Implied average real growth rates	
	2018p	2020p	2030p	2018-20p	2021-30p
Alcohol and tobacco	3.5%	3.4%	2.9%	0.6%	0.3%
Clothing and footwear	5.5%	5.3%	4.3%	-0.4%	-0.2%
Communications	2.0%	2.0%	2.0%	1.3%	2.3%
Education	1.8%	1.8%	1.7%	1.5%	2.0%
Food	7.9%	7.5%	5.5%	-1.2%	-1.1%
Furnishings	5.0%	5.0%	4.9%	1.8%	1.7%
Health	1.8%	1.8%	2.0%	1.6%	2.6%
Housing and utilities	27.1%	27.5%	30.8%	2.5%	3.1%
Miscellaneous services	13.4%	13.7%	14.9%	2.7%	2.8%
Recreation and culture	9.6%	9.7%	9.9%	2.0%	2.3%
Hotels and restaurants	9.3%	9.3%	9.4%	1.4%	2.1%
Transport	13.1%	13.0%	11.8%	0.6%	1.1%
Total spending	**100%**	**100%**	**100%**	**1.5%**	**2.0%**

Sources: ONS data for Q1-Q3 2017 and PwC estimates and main scenario projections for later periods

Regional growth trends and prospects

As analysed in detail in Section 4 of this report, London has consistently outperformed other UK regions for most of the past two decades in terms of economic growth, both before and after the global financial crisis.

Outside London, there is less of a clear North-South divide in historical regional growth patterns. Some Northern regions and Northern Ireland did better than some Southern regions in the decade before the financial crisis, though they have performed less well since the crisis (see Figure 1.2).

The Midlands struggled before the crisis but has performed relatively better since 2010 when compared to other regions except London.

More recently, there have been signs that London's relative performance has been less strong and we expect this to continue in 2018-19, with London growing at close to the UK average rate.

As manufacturing has bounced back recently on the back of a stronger global economy and a more competitive value of the pound, this has helped parts of the UK with stronger industrial bases such as the North and the Midlands.

Figure 1.2 – London led the way on real GVA growth both before and after crisis
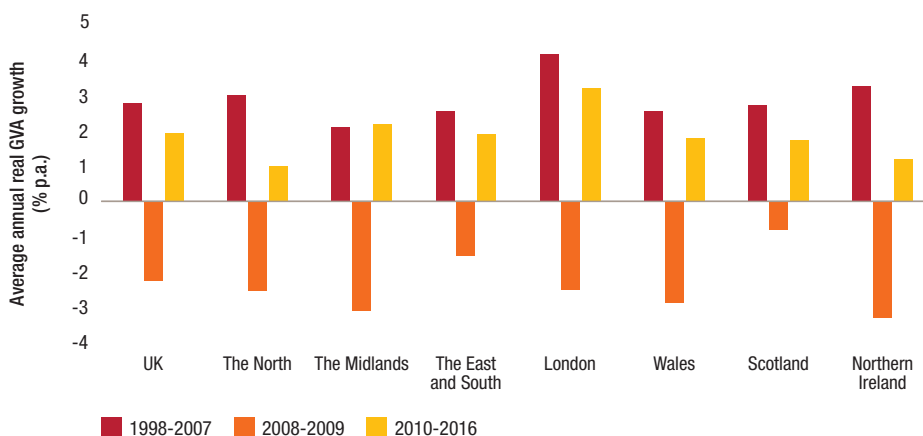
Sources: PwC analysis of ONS data

2 – UK economic prospects

Key points

- In our main scenario, we project UK growth to continue at moderate rates of around 1.5% in 2018 and 1.6% in 2019.

- Europe and the world economy have strengthened, but the UK will lag behind in 2018-19 due to the drag on domestic demand from higher inflation and Brexit-related uncertainty.

- A key factor behind the UK slowdown is subdued consumer spending growth as real incomes have been squeezed by higher inflation and further rises in borrowing become hard to sustain.

- Government investment has picked up recently, but business investment will remain constrained by uncertainties related to Brexit despite the stronger global economy.

- We expect growth to become more balanced across the UK regions in 2018-19, with London no longer growing ahead of the UK average and all regions growing at 1% or above.

- Wage growth is projected to pick up during the course of this year, with positive real wage growth resuming in 2019 as consumer price inflation slowly moderates

- The Bank of England is expected to continue with gradual interest rates rises over the next two years, with the next increase possibly coming as soon as May.

Introduction

In this section of the report we describe recent developments in the UK economy and review future prospects. The discussion covers:

Section 2.1   Recent developments in the UK economy

Section 2.2   Economic growth prospects: national, sectoral and regional

Section 2.3   Outlook for inflation and real earnings growth

Section 2.4   Monetary and fiscal policy options

Section 2.5   Summary and conclusions.

2.1 – Recent developments in the UK economy

The UK economy initially remained resilient in the second half of 2016 followed the Brexit vote, but growth slowed markedly during the first half of 2017 as inflation bit into consumer spending power and Brexit-related uncertainty dampened business investment. The UK economy has benefitted from an upturn in the global and Eurozone economies, which helped to boost UK growth somewhat in the second half of the year, although it remained below trend in 2017 as a whole.

Manufacturing sector output is still slightly below pre-crisis peak levels, but has generally been on a rising trend since 2015. Most recently, manufacturing output bounced back strongly in the second half of 2017. Higher demand for UK goods exports because of stronger global and European demand, as well as the competitive value of sterling, could help to explain this recent upward trend.

The construction sector has been volatile over time, but had generally been growing relatively strongly in 2014-16 before dipping again over the past three quarters. Commercial construction activity was particularly weak in 2017, perhaps reflecting the impact of Brexit-related uncertainty. But public infrastructure investment has been stronger, following a boost to spending on this in the 2016 Autumn Statement, and private housebuilding has also held up reasonably well.
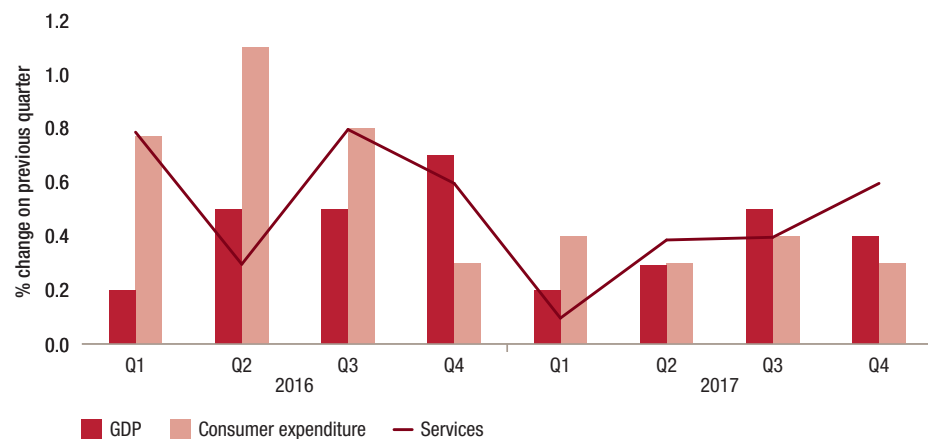
The dominant influence on UK growth comes from the services sector, however, which now accounts for almost 80% of UK GDP (compared to just 10% for manufacturing and 6% for construction).

Figure 2.1 – Sectoral output and GDP trends
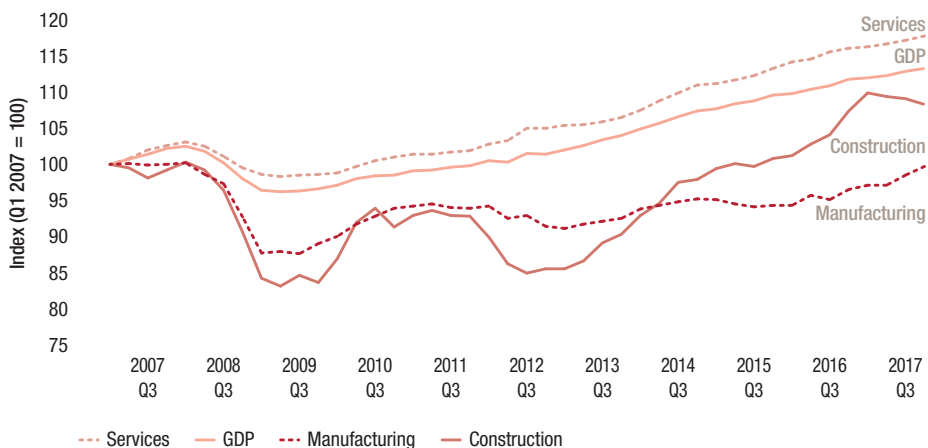
Source: ONS

Figure 2.2 – Trends in GDP, consumer spending and the services sector

Source: ONS

Services sector output has shown relatively steady growth ever since the recession bottomed out in mid-2009, although there have been some fluctuations in the pace of services growth more recently as Figure 2.2 shows. The fourth quarter of 2017 saw stronger services growth, however, led by financial and business services and communications and transport.

Figure 2.2 also shows the influence of slower consumer spending growth on overall GDP growth in recent quarters. This reflects the dampening effect of higher inflation on real household spending power. Past trends and future prospects for consumer spending are discussed in much more detail in Section 3 below.

While official data are more comprehensive, business surveys can provide a more timely indication of short term economic trends. In particular, it is worth keeping an eye on the Markit/CIPS purchasing managers' indices (PMIs) for services and manufacturing, as shown in Figure 2.3. Despite some volatility, the manufacturing PMI has been reasonably strong in recent months, while services has shown positive but relatively modest growth in early 2018.

A key factor underpinning recent trends has been the relative weakness of the pound since the Brexit vote, as shown in Figure 2.4. Sterling has regained some ground against the dollar since mid-2017, but remains weak against the euro (reflecting the relatively robust economic recovery in the euro area over the past year). A weak currency makes UK exports relatively cheaper to overseas customers, promoting the sale of British goods and services while also improving tourist inflows. But depreciation also raises the prices of imports and this has pushed inflation up to 3%, so squeezing consumer spending power.

Figure 2.3 – Purchasing Managers' Indices of business activity
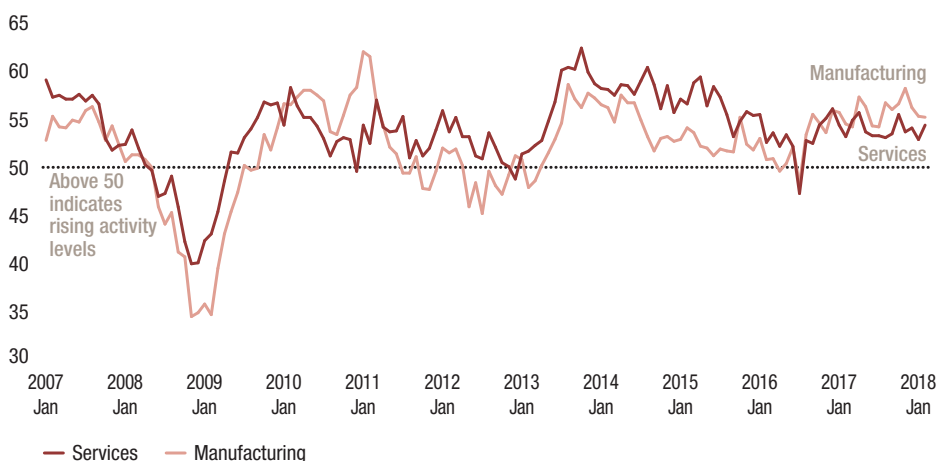
Source: Markit/CIPS

Figure 2.4 – US dollar and euro exchange rates against the pound
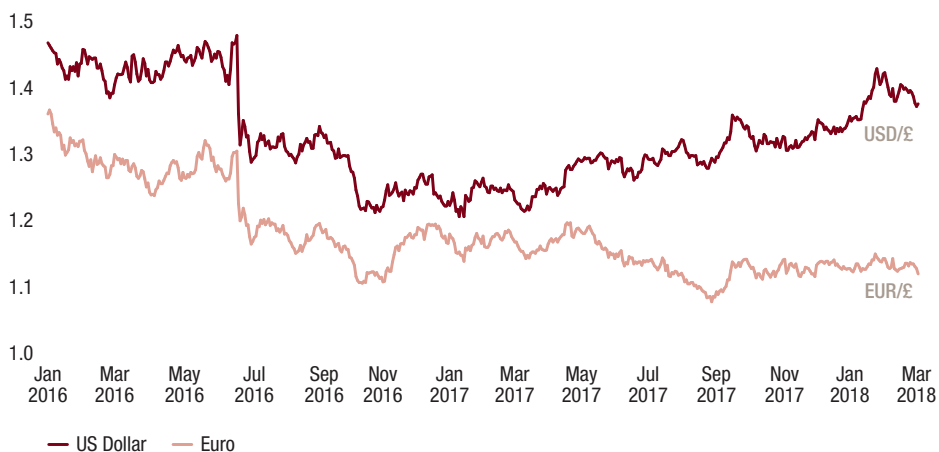
Source: Bank of England

Figure 2.5 – Trends in productivity and employment

Index 2008 Q1 = 100

Legend:
- Productivity (per worker)
- Employment

Employment
Productivity

Source: ONS

UK creates record numbers of jobs, but productivity growth subdued since the crisis

In the July 2017 edition of UK Economic Outlook, we discussed how the recent combination of low wage growth and low unemployment indicated a flattening of the traditional Phillips Curve (which describes the historical negative relationship between wage inflation and unemployment). One of the key reasons for subdued real wage growth has been relatively weak UK productivity growth since the financial crisis as illustrated in Figure 2.5 for output per worker. The positive side of this has been strong jobs growth, particularly since 2012.

As discussed in an article by Andrew Sentance in the previous edition of this report[1], weaker post-crisis productivity growth rates in financial services and property-related sectors have played a significant part in this slowdown.

In the second half of 2017 there were some signs of productivity bouncing back, though this was more due to weaker jobs growth (and falling average hours worked affecting productivity measured on a per hour basis) than particularly strong output growth. The ideal combination of strong jobs growth and robust productivity growth, as seen before the crisis, has generally proved elusive over the past decade.

Why has productivity been weak since the crisis?

Many possible explanations have been put forward for recent weak productivity growth, including measurement error (in particular, not capturing the full benefit of digital innovations like smart phones). Soon after the recession, some put it down to labour hoarding by firms or credit constraints by banks, but both these explanations are less convincing now after eight years of recovery since mid-2009.

Reduced competition in some sectors might be a possible explanation, but against that some other sectors have seen their markets disrupted by technology-savvy new entrants, which would usually be associated with increased innovation and productivity growth.

The most convincing explanation from our perspective is that business investment, while picking up since the recession, has not done so to the extent seen in most past recovery cycles. Many businesses have been reluctant to invest in new labour-saving automation technologies that are relatively risky when compared to the alternative of using more low cost labour, including migrant workers from the EU (although this inflow is now dropping back). Uncertainty around Brexit has been a further dampener on business investment over the past 18 months, which has been broadly flat at a time when global economic conditions and very low interest rates might normally have been expected to lead to much stronger UK business investment growth.

Looking 10-15 years ahead, emerging technologies like robotics and artificial intelligence could hold the potential for faster productivity growth[2], albeit at the cost of some existing job losses as we have argued in past reports[3]. But, at least for the next few years, productivity growth may remain relatively subdued, with any recovery being at the expense of slower growth in jobs and hours worked.

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1   https://www.pwc.co.uk/economic-services/ukeo/ukeo-nov17-productivity pdf
2   See, for example, our report on the potential impact of AI on the UK economy here, which suggests gains of up to 10% of GDP by 2030:
    https://www.pwc.co.uk/services/economics-policy/insights/the-impact-of-artificial-intelligence-on-the-uk-economy.html
3   See, for example, this article on whether robots will steal our jobs from our March 2017 UK Economic Outlook:
    https://www.pwc.co.uk/economic-services/ukeo/pwcukeo-section-4-automation-march-2017-v2.pdf

2.2 – Economic growth prospects: national, sectoral and regional

Our main scenario is for real GDP growth of around 1.5% in 2018 and 1.6% in 2019, somewhat below the estimated longer term trend growth of around 2%. Further details of this main scenario projection are set out in Table 2.1.

We expect UK growth to remain moderate in 2018-19, but we think it unlikely that the economy will fall into recession unless there are major new adverse shocks. We assume here that the Brexit negotiations will proceed reasonably smoothly, and therefore that the UK will avoid an extreme 'hard Brexit' where it falls out of the EU in 2019 without any trade deal or transitional arrangement, so reverting immediately to WTO rules. But clearly this is a key downside risk.

The projected deceleration in growth as compared to 2016 has been driven primarily by slower consumer spending growth due to the squeeze on real household incomes from higher inflation. So far consumers have increased borrowing to keep spending growth going at a reasonable pace but, as discussed in detail in Section 3 below, there are limits to how much further this can go. We therefore expect consumer spending growth to slow to only around 1% this year before picking up modestly in 2019 as real wages start to recover.

Table 2.1 – Main scenario projections for UK growth and inflation

% real annual growth unless otherwise stated	2016	2017	2018	2019
GDP	1.9	1.7	1.5	1.6
Consumer spending	3.1	1.8	1.1	1.3
Government consumption	0.8	0.3	1.0	0.8
Fixed investment	1.8	3.9	2.2	2.1
Domestic demand	2.2	1.5	1.3	1.3
Net exports (% of GDP)	-0.8	0.3	0.2	0.3
CPI inflation (%: annual average)	0.7	2.7	2.7	2.3

Sources: Latest ONS estimates for 2016-17, PwC main scenario for 2018-19

Total fixed investment growth was reasonably strong in 2017, buoyed by increased public sector infrastructure investment, but is expected to slow in 2018 as Brexit-related uncertainty drags on business investment. Overall, UK domestic demand growth is expected to average only around 1.3% per annum in 2018-19, down from 2.1% in 2016.

Weaker domestic demand growth is expected to be offset to a degree by a positive contribution from net exports, reversing the strongly negative contribution in 2016. This reflects a boost to exports from the recovery in growth in the Eurozone in particular, as well as the relatively competitive level of the pound against the euro.

**Alternative growth scenarios –
businesses need to make
contingency plans**

To reflect the uncertainties associated
with any such projections, particularly
in light of Brexit, we have also considered
two alternative UK growth scenarios,
as shown in Figure 2.6.

- Our **'strong growth' scenario**
  projects that the economy will
  rebound to around 2.2% on average
  in 2018 and around 2.7% in 2019.
  This is a relatively optimistic scenario,
  which assumes that good early progress
  is made in UK-EU negotiations and
  that there are strong favourable trends
  in the global economy, pushing world
  growth even higher in 2018-19 and
  boosting UK exports.

- Our **'mild recession scenario'**,
  by contrast, would see UK growth
  stall later this year as the global
  outlook worsens and there is little
  or no progress in negotiations with
  the EU over the next year, suggesting
  that the UK may have to fall back
  on WTO rules with a consequent
  imposition of tariffs on trade with
  the EU. The associated uncertainty
  would be likely to reduce investment,
  jobs and growth. Even in this downside
  case, however, we do not expect the
  UK to fall into a serious recession over
  this period, barring some very major
  new adverse shock.

Figure 2.6 – Alternative UK GDP growth scenarios
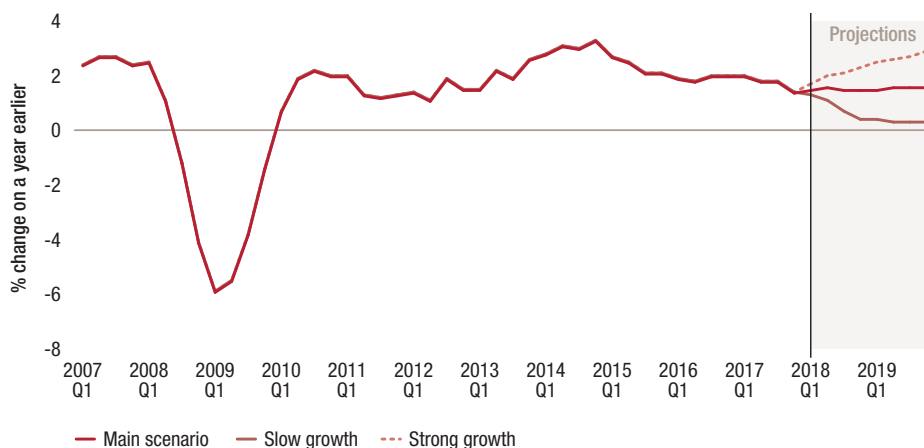
Sources: ONS, PwC scenarios

We do not believe that either of these
two alternative scenarios is the most
likely outcome, but they are certainly
possible. At present, risks to growth
appear to be weighted somewhat to
the downside given the political and
economic uncertainties around Brexit.
Businesses would therefore be well
advised to make appropriate contingency
plans for such less favourable outcomes,
but without losing sight of the more positive
possibilities for the UK economy should
these downside risks not materialise
and the global economy continues
to accelerate.

More generally, companies should consider making detailed contingency plans for the potential impact of Brexit[4] on all aspects of their businesses, covering the kind of questions listed in Table 2.2.

Table 2.2: Key issues and questions for businesses preparing for Brexit

Issues	Implications	Questions
Trade	The EU is the UK's largest export partner, accounting for around 44% of total UK exports – leaving the EU is likely to make trade with EU more difficult, but the extent of this will depend on the type of deal, if any, agreed with the EU27.	• How much do you rely on EU countries for revenue growth? • Have you reviewed your supply chain to identify the potential impact of tariffs and additional customs procedures on your procurement and logistics? • Have you identified which third party contracts would require renegotiation in different Brexit scenarios (EEA/FTA/WTO)?
Tax	The UK would gain more control over VAT and some other taxes. But Brexit could also open the door to new tax initiatives within the EU that the UK might currently have sought to block.	• Have you thought about the impact of potential changes to the UK and EU tax regimes after Brexit? • Have you upgraded your systems to deal with a significant volume of tax changes?
Regulation	The UK is subject to EU regulation. Brexit could mean less red tape in some areas. But it could also mean that UK businesses need to adapt to a different set of regulations, which could be costly.	• Have you quantified the potential regulatory impact of Brexit to keep your stakeholders up-to-date? • How flexible is your IT infrastructure to deal with potential changes to Data Protection laws? • Is your compliance function ready to deal with any new reporting requirements arising from Brexit?
Sectoral effects	The UK is the leading European financial services hub, which is a sector that could be significantly affected by Brexit. Other sectors which rely on the EU single market could also feel a strong impact.	• Have you briefed potential investors on the impact of Brexit for your sector and organisation? • How up-to-date are your contingency plans in place to deal with Brexit? • Are you aware of the impact of potential volatility in financial markets on your capital raising plans?
Foreign direct investment (FDI)	FDI from the EU makes up around 45% of the total stock of FDI in the UK. Brexit could put some of this inbound investment at risk.	• How much do your rely on FDI for growth? • How does Brexit affect your location decisions? • How are your competitors responding to the risk of Brexit? Are they relocating any key functions?
Labour market	The UK may change its migration policies. Currently EU citizens can live and work in the UK without restrictions. Businesses will need to adjust to any change in this regime. We discuss possible economic impacts of EU migration changes after Brexit in Section 3.	• How reliant is your value chain on EU labour? • Have you communicated with your UK-based employees who are nationals of other EU countries? What advice should you give them on registering for UK residency? • Have you considered the additional cost of hiring EU labour after Brexit? • Could changes in access to EU labour increase the case for automation?
Uncertainty	Uncertainty has increased since the referendum and this seems likely to continue through the Brexit negotiation period.	• How well prepared are you to manage future volatility in the Sterling exchange rate as Brexit negotiations proceed? • Have you communicated your approach to Brexit to your key stakeholders, customers and suppliers? • Is your organisation ready for a worst-case scenario where there is a prolonged period of uncertainty and/or a 'hard Brexit'?

Source: PwC

4   For more material on the potential impact of Brexit on your business, please see our EU Referendum hub here: http://www.pwc.co uk/the-eu-referendum.html

Manufacturing growth projected to be relatively strong in 2018 but retail sales slow

The sector dashboard in Table 2.3 shows latest ONS estimates of growth rates for 2017 along with our projected growth rates for 2018 and 2019 for five of the largest sectors within the UK economy. The table also includes a summary of the key trends and issues affecting each sector.

The most marked downward trend in growth is in the distribution, hotels and restaurants sector, which recorded output growth of almost 5% in 2016, but this slowed to just 1.7% in 2017 and we expect only around 1% growth in 2018 as real consumer spending power is squeezed.

Manufacturing should see a continued revival this year due to stronger exports, but may see growth moderate again in 2019 as earlier competitiveness gains from a weak pound fade. Construction was strong going into 2017, which boosted average growth for that year, but this disguises declining output for the past three quarters. Even if this decline bottoms out, average growth seems likely to be close to zero in 2018 that it could revive in 2019 as public investment and housing remain relatively strong.

Business services and finance growth should remain relatively steady at around 2% per annum, although there are downside risks if Brexit negotiations go less smoothly than we assume in our main scenario. UK financial services companies could be particularly badly affected by any loss of access to EU markets, notably through the possible loss of 'passporting' rights for UK-based firms, although there is also positive longer term potential for the sector beyond Brexit[5].
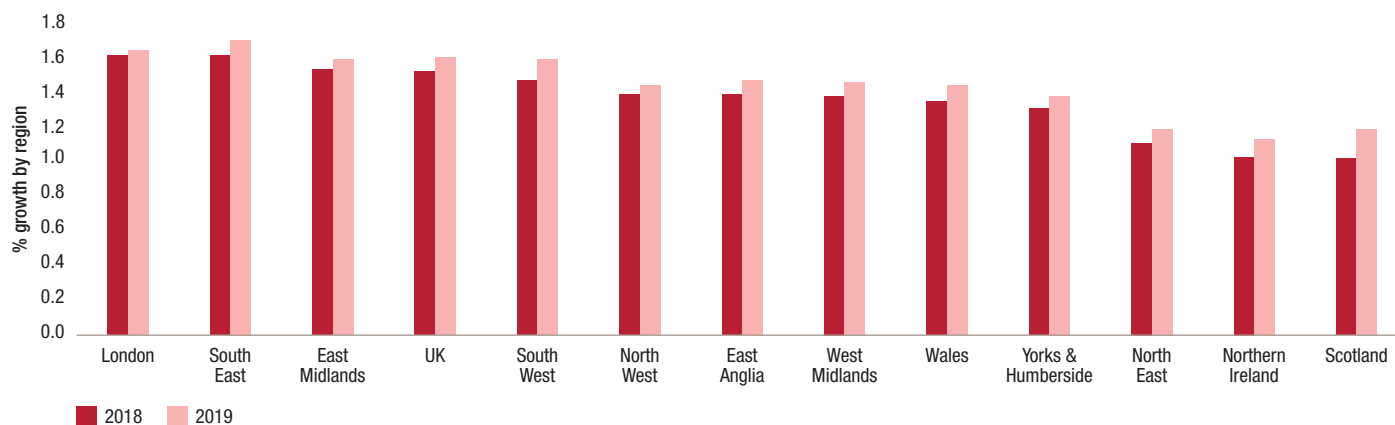
Table 2.3: UK sector dashboard

	Growth			
Sector and GVA share	2017	2018	2019	Key issues/trends
Manufacturing (10%)	2.8%	2.7%	1.7%	Manufacturing PMI has been relatively robust in recent months.
				Exporters have gained from a weaker pound and a stronger Eurozone recovery.
Construction (6%)	5.1%	0.1%	1.6%	Construction PMI has been relatively weak in recent months.
				The construction sector saw relatively strong growth in the first quarter of 2017, but has declined since then.
				The government has boosted infrastructure investment to try to offset weakness in commercial construction due to Brexit.
Distribution, hotels & restaurants (14%)	1.7%	1.0%	1.4%	A weaker pound since 2016 has boosted tourism, both from overseas and domestically, leading to increased expenditure in the hospitality sector.
				But its broader effect has been to push up import prices and inflation, slowing down real spending growth.
Business services and finance (31%)	1.8%	2.2%	2.0%	The financial sector remains particularly concerned about the possible implications of Brexit, especially if this involves the loss of EU passporting rights.
				Some banks are preparing to relocate certain functions and staff overseas, though we have not seen large moves yet.
				The Bank of England has increased the counter-cyclical capital buffer to constrain consumer debt levels, which may impact lending by retail banks.
Government and other services (23%)	0.2%	0.9%	1.2%	Public services continue to face tight budgets, but austerity has been eased for at least the next two years.
Total GDP	1.7%	1.5%	1.6%	

Sources: ONS for 2017 estimates, PwC for 2018 and 2019 main scenario projections and key issues.
These are five of the largest sectors but they do not cover the whole economy – their GVA shares only sum to around 85% rather than 100%

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5   For more on the future of UK financial services after Brexit, see our report with TheCityUK here:
     https://www.pwc.co.uk/industries/financial-services/insights/vision-for-transformed-world-leading-industry.html

Figure 2.7 – PwC main scenario for output growth by region in 2018 and 2019

Source: PwC analysis

Regional prospects: all parts of the UK likely to see moderate growth in 2018-19 with London no longer clearly leading the pack

In contrast to previous years where London has generally had one of the strongest growth rates of any UK region, as discussed in detail in Section 4 below our latest projections suggest London's growth rate may fall to close to the UK average in 2018-19 (see Figure 2.7). This is partly due to the greater exposure of some London activities (e.g. the City) to adverse effects from Brexit-related uncertainty, as well as growing constraints on the capital in terms of housing affordability and transport capacity[6].

Most English regions, as well as Wales, are projected to expand at close to the UK average of around 1.5% in 2018, although Northern Ireland and Scotland are predicted to lag behind somewhat with growth of around 1% this year. Longer term regional trends and prospects are discussed in much greater detail in Section 4 of this report.

It is important to note that, since regional output data are published on less timely basis than national data, the margins of error around these regional output projections are even larger than for national growth projections. Therefore, they can only be taken as illustrative of broad directional trends.

2.3 – Outlook for inflation and real earnings growth

As mentioned earlier, consumer price inflation (CPI[7]) picked up from just 0.7% on average in 2016 to 3% in the year to January 2018 due in large part to the feedthrough from a weaker pound into import prices. The rise in global oil prices from their low point in early 2016 to over $60 a barrel at the time of writing has also played a part here.

Over the next two years, we expect CPI inflation to decline gradually, eventually returning to close to target by the end of 2019 (see Figure 2.8), as earlier effects from the weak pound fade. Annual average rates of inflation in our main scenario would be around 2.7% this year and around 2.3% in 2019.

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6   For more on local economic trends see our latest Good Growth for Cities report: https://www.pwc.co.uk/industries/government-public-sector/good-growth.html
7   The ONS switched to CPIH as its main inflation indicator in March 2017, despite some continuing methodological concerns about the reliability of the way that CPIH captures owner occupied housing costs through estimates of equivalent market rents rather than actual outlays on mortgage payments. For the moment, we have stuck to CPI as our key inflation indicator, but we may consider switching to CPIH in the future if this becomes more widely used (in particular if it becomes the MPC's target measure of inflation). In the long run, however, we would not expect significant differences between average inflation on these two measures (based on long-term historical averages).

Alternative inflation scenarios

There is always considerable uncertainty over inflation projections as they are particularly sensitive to movements in exchange rates and global commodity prices, both of which are very hard to predict with any confidence. As such, we also present two alternative scenarios for UK inflation in Figure 2.8:

- In our **'high inflation' scenario** we project UK inflation to rise to over 4% by early 2019 as a result of renewed falls in the pound and a pick-up in global commodity prices if other economies grow more strongly and/or oil supply is constrained by producers. Wage growth could also pick up faster than expected in this case.

- In our **'low inflation' scenario**, by contrast, the UK and global economies weaken by more than expected in our main scenario leading global commodity prices to fall back sharply over the next year. In this case, UK inflation could fall back to well below the Bank of England's 2% target rate by 2019.

As with our GDP growth scenarios, neither of these two alternative variants is as likely as our main scenario. But given recent volatility and uncertainty, businesses should plan for a broad range of outcomes.

Real earnings squeeze projected to ease gradually

As Figure 2.9 shows, real earnings growth was squeezed from 2009-14 but then regained some ground in 2015-16 as low global commodity prices pushed down UK inflation to close to zero. But the real earnings squeeze resumed in 2017 as wage inflation failed to pick up in response to higher consumer price inflation.

We expect negative real earnings growth to continue in early 2018 but to ease over the course of the year and be reversed in 2019 (see Figure 2.9), although this will be a gradual process. It is difficult for earnings to pick up significantly on a longer term basis, however, unless productivity growth picks up on a sustained basis, which is not guaranteed as we discussed in Section 2.1 above.

Figure 2.8 – Alternative UK inflation (CPI) scenarios
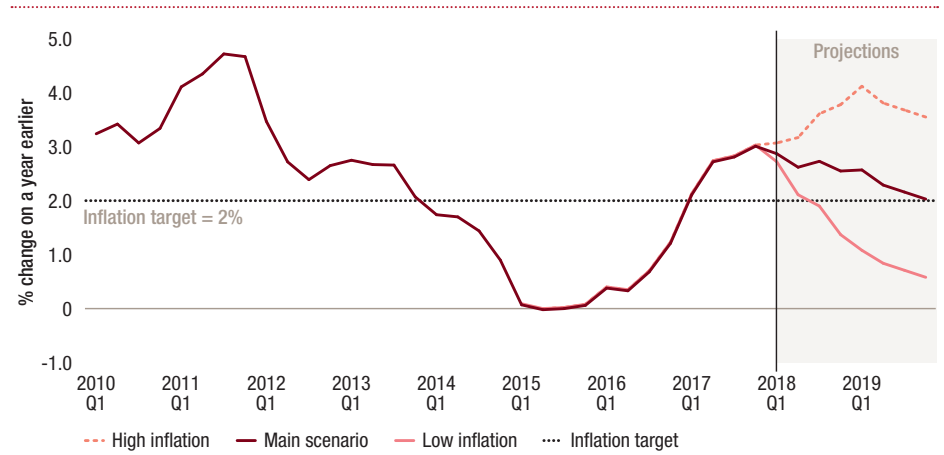
Sources: ONS, PwC scenarios

Figure 2.9 – CPI inflation vs average earnings growth
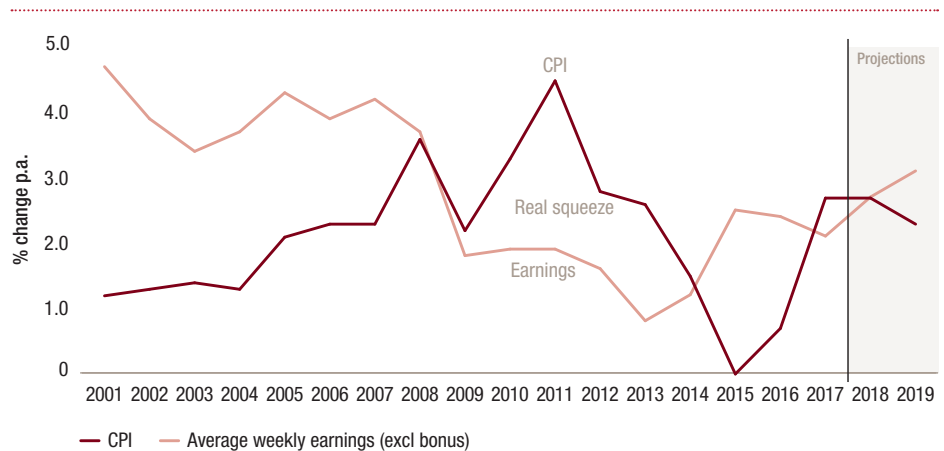
Sources: ONS, PwC analysis

2.4 – Monetary and fiscal policy options

The Monetary Policy Committee (MPC) voted by a majority of 7-2 at its meeting in November to increase interest rates by 0.25%, the first increase in a decade, but has kept rates on hold since then.

However, the latest MPC minutes suggest that the next rate rise will come later this year, possibly as soon as May. There could then be a second quarter point rise later in 2018 if growth and inflation evolve as the Bank expect, which is similar to what is envisaged in our own main scenario. There is still a long way to go to full monetary policy normalisation, however, which may now mean base rates ending up at around 2-2.5% as opposed to the 5% pre-crisis norm.

As regards fiscal policy, the Chancellor made no significant tax or spending changes in his Spring Statement, despite the shortfall in public borrowing in the 2017/18 financial year. We can expect more substantial changes in the Budget in November.

2.5 – Summary and conclusions

UK economic growth has slowed over the past year to around 1.5% as inflation has squeezed consumers and Brexit-related uncertainty has dampened business investment growth. There has been some offset from a stronger global economy, but not enough to keep UK growth from falling below its long term trend rate of around 2%.

In our main scenario, we expect this period of modest, sub-trend growth to continue in 2018-19, with GDP growth of around 1.5-1.6% and real consumer spending growth of just over 1%.

The impact of slower growth will be felt across most major industry sectors, although manufacturing exports have received a short-term boost from the depreciation of the pound since 2016 and recent stronger Eurozone growth. Construction has faced the most marked slowdown although this follows a period of considerable strength up to early 2017.

We expect one or two further interest rate rises this year as the MPC seeks to bring inflation back down to target but any such increases will be limited and gradual.

It is important to note that there are considerable uncertainties around any such projections at present. So organisations should stress test their business and investment plans against alternative economic scenarios and also review the potential wider implications of Brexit for all aspects of their operations.

3 – The outlook for consumer spending and the impact of automation[1]

Key points

- Consumer spending slowed during 2017, but has nonetheless grown by an average of 2.3 percentage points per annum faster than inflation over the past five years, supporting the UK recovery over that period.

- This has reflected rising employment levels, continued historically low interest rates, and a declining household savings ratio driven by higher borrowing and rising house prices.

- Looking ahead, we expect real household income growth to pick up gradually in real terms from about 0.8% per annum in 2018 to 1.4% per annum by 2020, while the household savings ratio continues to decline.

- As a result, in our main scenario we expect real consumer spending growth to rise gradually from an estimated 1.1% per annum in 2018 to around 1.7% in 2020.

- We project households will spend over 30% of their budget on housing and utilities by 2030, up from around 27% in 2017. Spending on financial services, personal care, recreation and culture will also tend to increase relatively rapidly over time, while the share of total spending on food, clothing, alcohol and tobacco, and transport will tend to decline in the long run.

- Automation could have a major impact on retail jobs in the long run, but will also bring benefits to consumers in lower prices. This will allow consumers to increase their real spending levels, potentially creating new jobs in less automatable services sectors such as health and personal care. Technologies like artificial intelligence (AI) could also bring great competitive advantage to businesses that deploy them effectively.

Introduction

Consumer spending accounts for more than two thirds of UK GDP and is therefore the most important driver of UK economic growth. Strong consumer spending growth has played a central role in the recovery of the UK economy since 2012, but it slowed in 2017 as real incomes were squeezed. Will this slowdown continue in 2018 and 2019? And, looking further ahead, which areas of consumer spending might grow the fastest in the next decade?

To answer these questions, we have looked at past trends and future prospects for the two key determinants of household spending growth:

- **real household disposable income (RHDI) growth**, which in turn is driven by trends in real income from employment, state benefits and pensions and other private income; and

- **changes in the household savings ratio**, which are particularly influenced by the relative indebtedness of households and wealth effects (e.g. from house price changes).

We also consider the longer term potential impact of automation on retailing and related sectors.

The discussion is structured as follows:

- Section 3.1 provides an overview of recent trends in each of the key determinants of real household disposable income growth;

- Section 3.2 looks at potential future trends in household disposable income growth;

- Section 3.3 looks at past trends and future prospects for the household savings ratio;

- Section 3.4 brings these analyses together to set out our main scenario for future consumer spending growth and assess risks around this as captured in alternative scenarios;

- Section 3.5 examines how consumer spending growth might vary by expenditure category over the period to 2030;

- Section 3.6 considers the potential longer term impact of automation on jobs in retailing and related sectors; and

- Section 3.7 summarises our key findings and concludes.

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1 This article was written by Barret Kupelian, John Hawksworth and George Mason of PwC's economics practice.

3.1 – Recent trends in household disposable income

The ONS defines household disposable income as the sum of earnings, state transfers (e.g. social security benefits) less direct taxes (mainly income tax and national insurance), and other net income accruing to households (e.g. from interest, dividends, rent and other transfers).

Table 3.1 shows how the key elements of household disposable income have changed over the five years to Q3 2017[2]. This is the period which saw the UK economy start to recover on a more sustained basis. Real growth rates in the final column of the table have been calculated by deflating the nominal growth rates using the household expenditure deflator (which over this five year period averaged 1.7% per annum).

The most notable feature of this analysis is that household disposable income grew on average by around 1.6% per annum in real terms, while household expenditure grew 0.7 percentage points faster on average at 2.3% per annum. This was associated with a decrease in the household savings ratio (adjusted to exclude changes in pension entitlements) from 5.4% to around 2.5% over this period.

Table 3.1 shows that wages and salaries saw a real increase of 1.8% per annum over the five years, supported by a 3.9 percentage point increase in the employment rate during the period. However, this was outstripped by the profits earned by the self-employed and business owners, which grew at an average rate of 2.8% per annum over the four years.

Table 3.1: Key drivers of real household disposable income

	£ billion		Average growth rates per annum		
	2012 Q3	2017 Q3	Nominal	Deflator	Real
Wages and salaries	176	209	3.5%	1.7%	1.8%
Household share of gross operating profits	63	78	4.4%	1.7%	2.8%
Pre-tax earnings	**238**	**287**	**3.8%**	**1.7%**	**2.1%**
Income tax paid	-47	-57	3.6%	1.7%	1.9%
National insurance contribution by workers	-32	-37	2.9%	1.7%	1.2%
Post-tax earnings	**159**	**193**	**4.0%**	**1.7%**	**2.3%**
Social security benefits	81	88	1.7%	1.7%	0.0%
Post-tax earnings and benefits	**240**	**281**	**3.2%**	**1.7%**	**1.6%**
Net property income received (interest, dividends, rent etc.)	40	49	4.1%	1.7%	2.5%
Net current transfers	13	14	1.4%	1.7%	-0.3%
Household disposable income	**293**	**344**	**3.3%**	**1.7%**	**1.6%**
Adjustment for change in pensions entitlements	15	10	-6.5%	1.7%	-8.2%
Available household resources	**308**	**355**	**2.9%**	**1.7%**	**1.2%**
Memo: Household expenditure	**277**	**336**	**4.0%**	**1.7%**	**2.3%**

Sources: PwC analysis of ONS data

Note*: Totals may not correspond exactly to the sum of sub-categories due to rounding

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2 This is the last period for which detailed household income data were available at the time of writing.

This divergence reflects an increasing shift towards self-employment and small business start-ups since around 2010, encouraged by a wide range of factors including the greater ability of small businesses to compete through the internet and mobile technology, the rise of the 'gig economy', generally lower national insurance rates paid by those who are self-employed and a broader push towards entrepreneurialism driven by successive governments. The effect of the rise of the self-employed can also be seen in the national insurance contributions by households, which grew at a relatively slow rate of around 1.2% per annum as compared to wages and salaries. Income tax payments, by contrast, grew at a similar average rate to wages and salaries (1.9% compared with 1.8%).

Table 3.1 also shows two areas that have dampened growth in real household disposable income over the period:

- **Social security benefits**: this category has shown no growth in real terms over the period. Whilst benefits paid to those who have retired have seen an increase in recent years, with total state pension expenditure growing at a real annual average rate of 2.7% during the 2012-2017 period[3], there has been a squeeze on working age benefits.

- **Net current transfers**: this income category includes transfers to and from UK households in the form of financial gifts (e.g. to and from overseas family members), and some insurance claims, but excludes government transfers. These net transfers have decreased sharply since Q2 2013, largely as a result of falling insurance claims over the period. However, this is a comparatively small element of household income (around 4% of the total) so the effect on overall household income growth is not that great.

The final row in Table 3.1 shows that total real household resources grew by 1.2% per annum after taking into account the change in pension fund entitlements (referred to as 'net equity' in pension funds in the national accounts). However, such changes in pension values are unlikely to be perceived by most households as usable income, so we prefer to exclude this from the analysis by focusing on an 'adjusted household savings ratio' defined as the difference between household disposable income and household expenditure, expressed as a percentage of disposable income. This is lower than the standard ONS definition based on household resources rather than disposable income, but provides a more intuitive indication of the difference between household income and spending (see Figure 3.1).

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3   Department for Work & Pensions Expenditure Caseload forecasts (2017).

3.2 – Future trends in household disposable income

So how will household disposable incomes fare in the future? There are many uncertainties here, but Table 3.2 sets out what we consider to be a plausible main scenario for real growth to 2020 for each of the key elements of household disposable income growth. In particular we assume that:

- **Total income from wages and salaries** will grow at a modest real rate of 0.5% in 2018 and around 0.8% in 2019 due to higher inflation and softer employment growth, before gradually picking up to around 1.4% per annum in 2020 as real wage growth returns to positive territory.

- **Income of households from gross operating profits** will continue to grow more strongly than wages and salaries from 2018 onwards as the trend towards increased self-employment continues.

- **Income tax receipts** will grow broadly in line with wages and salaries in the medium term.

- **Social security benefits** will rise by only 0.4% in real terms in 2018 due to higher inflation and the government's continued welfare cap for working age benefits. Beyond 2018, the average rate of benefits growth is projected to be a little stronger, driven by state pensions, but still relatively modest in real terms as welfare reform programmes continue.

Table 3.2: Main scenario projections of real gross household disposable income growth

	2017e	2018p	2019p	2020p
Wages and salaries	1.2%	0.5%	0.8%	1.4%
Household share of gross operating profits	-0.1%	1.0%	1.8%	2.2%
Pre-tax earnings	**0.9%**	**0.6%**	**1.1%**	**1.6%**
Income tax paid	2.5%	0.4%	0.8%	1.2%
National insurance contribution by workers	0.3%	-0.3%	1.0%	1.5%
Post-tax earnings	**0.5%**	**0.9%**	**1.1%**	**1.8%**
Social security benefits	-0.6%	0.4%	0.5%	0.9%
Post-tax earnings and benefits	**0.2%**	**0.7%**	**0.9%**	**1.5%**
Net property income received (interest, dividends, rent etc.)	-5.3%	1.3%	0.8%	1.2%
Net current transfers	26.3%	-0.2%	1.6%	1.6%
Household disposable income	**0.2%**	**0.8%**	**1.0%**	**1.4%**

Sources: PwC main scenario projections

- **Net property income** will increase by 2.1% in 2018 following a relatively strong decline in 2017, but real growth in the longer term will be more modest as the Bank of England gradually increases its policy rate and this feeds through to mortgage rates.

Based on these assumptions, we project that real household disposable income growth will be only around 0.8% in real terms in 2018 (up from an estimated 0.2% in 2017) before rising gradually to 1.4% in 2020. To see how this translates to consumer spending growth we also need to consider how the household savings ratio might change over this period.

3.3 – Household saving ratio: trends and projections

The official household savings ratio is defined by the ONS as the difference between available household 'resources' (household disposable income plus an adjustment for the change in pension entitlements) and household expenditure, expressed as a proportion of household resources.

As discussed above, we prefer to focus on an adjusted savings ratio excluding changes in net equity in pension funds. Figure 3.1 shows how this adjusted ratio compares to the standard ONS headline measure.

Both saving ratios show broadly similar trends over time, but at significantly lower levels for the adjusted savings ratio. We can see that the latter dropped gradually from around 4.3% in 2001 to around 1.5% on average in 2007 just before the recession began. This took place in a prolonged period of economic stability and easy credit conditions, allowing house prices and household debt levels to increase.

Following the shock of the recession, household confidence and borrowing slumped and the adjusted savings ratio jumped sharply to 6.2% on average in 2009. Since the end of the recession in mid-2009, however, the adjusted savings ratio has fallen back again as confidence and consumer borrowing have revived, although it has been volatile from quarter to quarter. The latest adjusted savings ratio for Q3 2017 is estimated to be around 2.5%, which is still some way above pre-crisis lows but also well below post-crisis highs.

So how much further, if at all, might the household savings ratio fall in the future?

Figure 3.1 – Historical trends in headline and adjusted UK household savings ratios
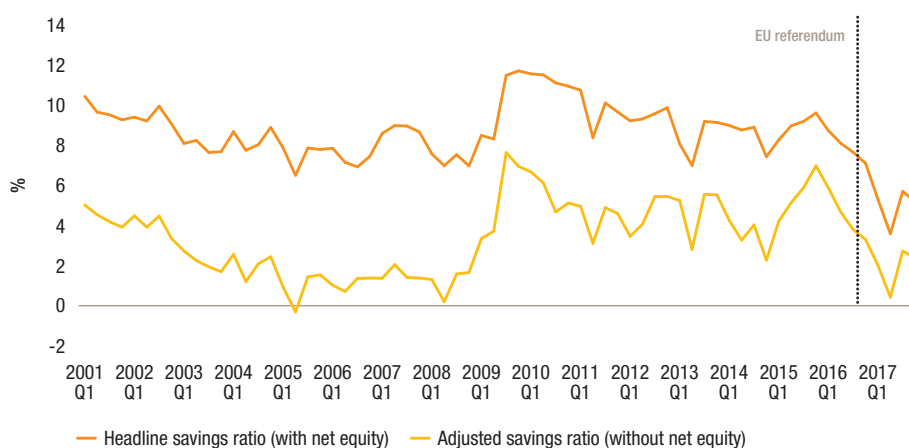
Source: PwC analysis of ONS data

Table 3.3: Projections of the adjusted household savings ratio in alternative PwC scenarios (% of household disposable income)

	2017e	2018p	2019p	2020p
Lower savings ratio	1.9%	1.0%	0.2%	-0.4%
Main scenario	**1.9%**	**1.6%**	**1.3%**	**1.1%**
Higher savings ratio	1.9%	2.2%	2.4%	2.5%

Sources: PwC analysis based on ONS data for Q1-Q3 2017

Projecting the adjusted household savings ratio

Projecting forward the savings ratio is subject to considerable uncertainties, reflecting the fact that it reflects the difference between two much large numbers: gross disposable income and consumer spending. To address this issue we generated two additional scenarios in addition to our main scenario projections. All but one of the scenarios assume some further decline in the adjusted savings ratio between 2018 and 2020 driven by increased household borrowing, but the medium term level of the ratio could range from around -0.4% to around 2.5% in the alternative scenarios for 2020.

In summary, the adjusted household savings ratio has been on a downward path since 2010 and has continued this trend even after the EU referendum. This helps explain why consumption has not fallen further in the aftermath of the referendum vote despite the squeeze on real incomes from higher inflation. In our main scenario, we expect some further falls in the adjusted saving ratio in 2018, but the extent of any further decline beyond that is subject to considerable uncertainty. On the one hand, households may keep borrowing more on the basis of collateral and confidence effects from the expected continued but modest rises in house prices; on the other hand, the expected gradual rise in UK interest rates in the medium to long run could dampen this confidence and deter borrowing.

3.4 – Alternative scenarios for consumer spending growth to 2030

We now combine our household disposable income projections from Table 3.2 with our alternative savings ratio scenarios from Table 3.3 to derive scenarios for real consumer spending growth to 2020. We also make illustrative further assumptions on longer term growth of spending to 2030. Specifically, as set out in Tables 3.4-3.6:

- Our **main scenario** projects real household consumer spending growth will slow down from around 1.8% in 2017 to around 1.1% in 2018 followed by a slight uptick to 1.3% the following year. The main factor behind this slowdown is higher inflation, which has squeezed real disposable income growth and living standards as the pound has depreciated in value following the EU referendum. Real disposable income growth is projected to be somewhat stronger after this year, supported by a gradual fall in the savings ratio. In the longer term, consumer spending growth is assumed to average 2% per annum in the 2020s in line with our estimate of longer term UK economic growth[4].

- Our **optimistic scenario** is stronger in the short-term due primarily to a sharper further rise in household borrowing in 2018-19 that pushes down the savings ratio to -0.4% by 2020. This type of scenario could be associated with better than expected progress being made in the UK-EU Brexit negotiations together with generally strong global growth conditions. In the long-run, we assume that real disposable income grows faster than the main scenario due to higher UK productivity growth and so supports average real household expenditure growth of around 2.5% per annum in the 2020s.

Table 3.4: Main scenario projections of growth in real household expenditure (% per annum)

	2017e	2018p	2019p	2020p	Average 2021-30p
Real household expenditure	1.8%	1.1%	1.3%	1.7%	2.0%
Real household disposable income	0.2%	0.8%	1.0%	1.4%	
Adjusted saving ratio	1.9%	1.6%	1.3%	1.1%	

Sources: ONS data for Q1-Q3 2017, PwC estimates and projections for later periods. The figures for 2021-30 are illustrative assumptions for consumer spending only based on alternative views of long-term trend UK GDP growth.

Table 3.5: Optimistic scenario projections of growth in real household expenditure (% per annum)

	2017e	2018p	2019p	2020p	Average 2021-30p
Real household expenditure	1.8%	2.0%	2.1%	2.3%	2.5%
Real household disposable income	0.2%	1.0%	1.3%	1.7%	
Adjusted saving ratio	1.9%	1.0%	0.2%	-0.4%	

Sources: ONS data for Q1-Q3 2017, PwC estimates and projections for later periods. The figures for 2021-30 are illustrative assumptions for consumer spending only based on alternative views of long-term trend UK GDP growth.

Table 3.6: Downside scenario projections of growth in real household expenditure (% per annum)

	2017e	2018p	2019p	2020p	Average 2021-30p
Real household expenditure	1.8%	0.4%	0.6%	1.0%	1.5%
Real household disposable income	0.2%	0.7%	0.8%	1.1%	
Adjusted saving ratio	1.9%	2.2%	2.4%	2.5%	

Sources: ONS data for Q1-Q3 2017, PwC estimates and projections for later periods. The figures for 2021-30 are illustrative assumptions for consumer spending only based on alternative views of long-term trend UK GDP growth.

- Our **downside scenario** assumes that the savings ratio reaches 2.2% in 2018 and then edges up again while real disposable income growth is relatively sluggish. This type of scenario could be associated with less confident UK consumers due to problems in both the global economy and the Brexit negotiations in the medium term, together with disappointing UK productivity growth in the longer term beyond 2020.

While we consider our main scenario to be the most plausible, the other two alternatives are well within the bounds of possibility given current political and economic uncertainties. Consumer-focused businesses would do well to make contingency plans for the downside scenario in particular given the uncertainties associated with the Brexit process over the next few years.

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4   This is calibrated to match the long-term trend GDP growth rate of around 2% per annum for the UK in the 2020s as estimated in our latest World in 2050 report here: http://pwc.com/world2050 . We do not try to break down longer term consumer spending growth between household income and savings ratio changes since this is not needed for the analysis and it is hard to anticipate that far ahead how consumer borrowing behaviour in particular will evolve.

3.5 – Projected consumer spending growth by category

Total consumer spending is projected to grow reasonably steadily in our main scenario, but from a business perspective it is important to understand which sectors are likely to see the strongest growth rates. To make these projections, we have updated our in-house longer term consumer spending model, results from which we last published in March 2017.

This econometric model uses factors such as real income levels, relative price levels, demographics and income distribution to project how future consumer spending growth could vary across the main categories of spending. We project these factors forward to 2020 on an annual basis and then also provide some more illustrative longer term projections to 2030. In these projections, as summarised in Figure 3.2 and Table 3.7, we have assumed that:

- total UK household expenditure grows at rates set out in the main scenario in Table 3.4;

- income inequality remains at the latest level estimated by the ONS; and

- population shares by age group evolve according to the latest ONS forecasts, which imply a steady rise in the proportion of people above the age of 65.

Figure 3.2 – Historic and main scenario projections for household budget shares to 2030

1985 Rank		Spending Share	2018 Rank		Spending Share	2030 Rank		Spending Share
1	Housing & utilities	27.5%	1	Housing & utilities	27.1%	1	Housing & utilities	30.8%
2	Transport	12.4%	2	Miscellaneous	13.4%	2	Miscellaneous	14.9%
3	Food	12.0%	3	Transport	13.1%	3	Transport	11.8%
4	Miscellaneous	9.3%	4	Recreation & Culture	9.6%	4	Recreation & Culture	9.9%
5	Hotels and restaurants	8.7%	5	Hotels and restaurants	9.3%	5	Hotels and restaurants	9.4%
6	Recreation & Culture	7.8%	6	Food	7.9%	6	Food	5.5%
7	Clothing and footwear	5.9%	7	Clothing and footwear	5.5%	7	Furnishing	4.9%
8	Alcohol and tobacco	5.4%	8	Furnishing	5.0%	8	Clothing and footwear	4.3%
9	Furnishing	5.2%	9	Alcohol and tobacco	3.5%	9	Alcohol and tobacco	2.9%
10	Health	3.5%	10	Communication	2.0%	10	Communication	2.0%
11	Communication	1.6%	11	Health	1.8%	11	Health	2.0%
12	Education	0.6%	12	Education	1.8%	12	Education	1.7%

Sources: ONS for historical data, PwC for main scenario projections

Table 3.7: Household budget share projections to 2030 and implied average annual real growth rates by household spending category in main scenario

	Shares of total spending			Implied average real growth rates	
	2018p	2020p	2030p	2018-20p	2021-30p
Alcohol and tobacco	3.5%	3.4%	2.9%	0.6%	0.3%
Clothing and footwear	5.5%	5.3%	4.3%	-0.4%	-0.2%
Communications	2.0%	2.0%	2.0%	1.3%	2.3%
Education	1.8%	1.8%	1.7%	1.5%	2.0%
Food	7.9%	7.5%	5.5%	-1.2%	-1.1%
Furnishings	5.0%	5.0%	4.9%	1.8%	1.7%
Health	1.8%	1.8%	2.0%	1.6%	2.6%
Housing and utilities	27.1%	27.5%	30.8%	2.5%	3.1%
Miscellaneous services	13.4%	13.7%	14.9%	2.7%	2.8%
Recreation and culture	9.6%	9.7%	9.9%	2.0%	2.3%
Hotels and restaurants	9.3%	9.3%	9.4%	1.4%	2.1%
Transport	13.1%	13.0%	11.8%	0.6%	1.1%
Total spending	**100%**	**100%**	**100%**	**1.5%**	**2.0%**

Sources: ONS data for Q1-Q3 2017 and PwC estimates and main scenario projections for later periods

Table 3.7 shows that, by 2030, we estimate that households will need to allocate over 30% of their spending to housing and utilities, compared to around 27% now. This reflects our expectation, based on past research[5], that supply shortages will keep house prices and rents growing faster than incomes on average.

The miscellaneous services category, which includes financial services (including credit cards and insurance) and personal care, is expected to be the second largest expenditure item by 2020 (replacing transport), and to rise further to almost 15% of total household spending by 2030. This makes sense as interest rates are expected to increase gradually in the medium-term, and insurance premiums, including tax, may also tend to rise.

We can also see that the leisure categories (recreation, culture, hotels and restaurants) are also relatively income-elastic and so tend to increase their share of total spending over time as real incomes increase. In contrast, more basic items like food, alcohol and tobacco, and clothing will tend to see their spending shares decline in the long run, continuing the historic trends shown in Figure 3.2. Particularly in the case of food, however, there could be some volatility around this declining trend due to fluctuations in global food prices and exchange rates.

The transport sector is also expected to see a decline in its household budgetary share in the long term, although it may still see modest real growth in absolute terms. The projected decline in the share of household spending on transport reflects an ageing population, coupled with the growth of internet shopping, food delivery companies, disruptive entrants into the transport sector like Uber and streaming services like Netflix which are expected to impact on transport spend per person.

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5   See, for example, the article on housing market prospects in the July 2017 edition of UK Economic Outlook here: https://www.pwc co.uk/economic-services/ukeo/pwcukeo-section3-housing-july-2017.pdf

Figure 3.3 – Share of UK retail and wholesale jobs at potential risk of automation by mid-2030s

Source: PwC analysis of OECD PIAAC data

3.6 – Potential long-term impact of automation on jobs in retailing and related sectors

The retail and wholesale sector is one of the largest employers in the UK, accounting for around 15% of all jobs. It is also closely linked to other sectors such as consumer goods manufacturing and transport and logistics, which are also significant employers.

In the future, however, the world could look very different.

First, almost a fifth of retail sales are already made online according to the latest official ONS data and this percentage continues to rise steadily over time. This tends to shift jobs from shops to warehouses, but companies like Amazon are already seeking to automate some warehouse activities (e.g. using Kiva robots to shift shelves of goods to workers who pick out items for dispatch) and this is likely to increase significantly in the future as robotics technology advances in areas like dexterity to allow more manual tasks to be automated[6].

Second, even where people still go to shops, the experience may be very different from what they are used to, as illustrated by the recent Amazon Go launch[7]. In these shops shoppers can scan their phones at the entrance, scan items they want to buy as they pick them up from the shelves and be automatically charged for them as they leave the store. No need for check-outs or cashiers, though some human workers will still be needed to stack shelves and deal with customer queries or technical glitches.

In future, even the need to refill shelves may be reduced as the stores may just have samples of products that people can scan on their phones but which can then be delivered from warehouses to their home later. If these warehouses are by then heavily automated, and deliveries are by driverless cars or drones, then employment in the sector could be further reduced.

So how fast might these employment effects emerge and on what scale? In a recent report[8], our conclusion was that the short term impacts would be relatively small as it will take time to perfect the relevant technologies, make them economic, deal with legal and regulatory issues and roll them out at scale. By the late 2020s, however, our model estimates – based on a detailed analysis of the tasks involved in over 5,500 UK jobs – suggested that around 20% of all UK jobs could be impacted by automation and up to 30% by the mid-2030s. For retail and wholesale, the impacts could be even higher in the long run with up to 44% of jobs in the sector being impacted by automation by the mid-2030s. As the chart shows, this could range from just 16% of managerial jobs to over 50% of clerical jobs in the sector.

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6   Boston Dynamics, for example, has already developed a robot dog that can not only walk around but also open a door.
7   https://www.amazon.com/b?node=16008589011
8   Will robots really steal our jobs? (PwC, February 2018): https://www.pwc.co.uk/services/economics-policy/insights/the-impact-of-automation-on-jobs.html

Benefits of automation

But there is a more positive side to this story. First, some of these technological innovations will themselves create new jobs, from online website designers and AI specialists to those involved in designing, supervising, repairing and maintaining robots.

Second, the efficiency improvements from automation will allow consumer prices to be kept lower than would otherwise be the case, leaving more money to be spent on other goods and services. Even if some of these goods and services are also automated to a degree, some additional human jobs will be created, although it is hard to pin down exactly where they will be. This assumes that the robotics and AI revolution will have the same impact as in every other agricultural and industrial revolution in human history, but since human wants are essentially limitless, it seems highly likely that some such process will continue to operate.

Third, profits may also be raised for the companies at the forefront of applying the new technologies, but we can expect these to be spent or reinvested in the economy through a variety of channels. This will also eventually create new demands for goods and services and for the people involved in producing them.

Overall, our analysis[9] therefore suggests that, for the economy as a whole, job gains would broadly offset job losses in the long run. Retail and wholesale, and associated sectors like transport and manufacturing, seem likely to be among those seeing net job reductions in the long run. But other less automatable sectors, such as health and education and other consumer services requiring social skills and the human touch, may see significant net job gains.

3.7 – Summary and conclusions

Growth in consumer spending has slowed over the past year due to a weakened pound, rising inflation and a slowdown in wage growth. However, it has continued to outgrow inflation over the past 5 years and support the UK's recovery, largely as a result of continued low interest rates, rising employment growth and a declining household savings ratio driven by higher borrowing and rising house prices.

Looking ahead our analysis suggests that a downward trajectory in the adjusted savings ratio is expected to continue but there are limits to how low this can go. Meanwhile, real disposable income growth will be squeezed by rising inflation over the next year, though it is expected to pick up to 1.4% by 2020 as real wages recover.

In our main scenario, we therefore project that real consumer spending growth will ease from around 1.8% in 2017 to around 1.1% in 2018 and 1.3% in 2019, before returning to around 2% trend growth on average in the 2020s. Other scenarios show long term real consumer spending growth rates in the range of around 1.5-2.5% per annum.

We project that housing and utilities will continue to make up a rising share of total consumer spending, reaching over 30% by 2030 compared to around 27% in 2017. We also expect that financial services and personal care will take a rising share of total consumer spending, while clothing, food, alcohol and tobacco, and transport will continue their relative long-term decline.

Automation could also have significant impacts on retailing and related sectors in the long run. By the mid-2030s, we estimated that over 40% of existing jobs in the UK retail and wholesale sector could potentially be displaced by automation. On the other hand, this will also reduce prices for consumers, stimulating demand for other services and new jobs in providing those services where these are less automatable. It will also creative competitive advantage for retail and consumer businesses that can make the most of technologies like AI, robotics, driverless delivery vehicles and drones.

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9   As set out in this February 2018 report on the macroeconomic impact of AI:
    https://www.pwc co.uk/economic-services/assets/macroeconomic-impact-of-ai-technical-report-feb-18.pdf

4 – Regional growth trends and prospects[1]

Key points

- London has consistently outperformed other UK regions for most of the past two decades in terms of economic growth, both before and after the global financial crisis.

- Outside London, there is less of a clear North-South divide in historical regional growth patterns. Some Northern regions and Northern Ireland did better than some Southern regions in the decade before the financial crisis, though they have performed less well since the crisis.

- The Midlands struggled before the crisis but has performed relatively better since 2010 when compared to other regions except London.

- More recently, there have been signs that London's relative performance has been less strong and we expect this to continue in 2018-19, with London growing at close to the UK average rate.

- As manufacturing has bounced back recently on the back of a stronger global economy and a more competitive value of the pound, this has helped parts of the UK with stronger industrial bases in the North and the Midlands.

Introduction

It is well-documented that the UK has been characterised in recent decades by an increasing economic growth divide between London and other regions of the country. But what exactly has driven the opening up of this growth divide and can we expect it to continue?

In this article we begin by reviewing new data on regional growth since 1997 published by the ONS in December 2017 (Section 4.1) and then consider what factors may have driven these historical growth differentials (Section 4.2). We then look at how regional growth rates might evolve in 2018 and 2019 (Section 4.3). Section 4.4 summarises and concludes.

4.1 – Historical trends in UK regional growth

When economists compare national growth rates they do so in real terms, after adjusting for price changes. The reason is that people are not, in aggregate, better off if national income increases just because prices are higher. Living standards only rise if average incomes increase in real terms after adjusting for price inflation.

Until recently data on UK regional incomes were only available in nominal (i.e. cash) terms. In December 2017, however, the ONS published new data giving an analysis of real regional gross value added (GVA[2]) levels from 1997 to 2016, broken down in detail by industry sector. These combine data from the income and output methods of calculating GVA for the first time.

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1   This article was written by John Hawksworth and George Mason, with research assistance from Ravi Desor.
2   GVA is the regional equivalent of GDP, with some minor definitional differences of no great consequence for our analysis here.

Figure 4.1 shows overall regional trends in average real GVA growth over three periods: before the global financial crisis (1998-2007), during the crisis (2008-9) and since the crisis (2010-16). For ease of presentation, we group together English regions in the North, Midlands and the East and South outside London.

The fact that London had the highest average real growth rate (4.2%) before the crisis is well known, but the fact that Northern Ireland (3.3%) and the North of England (3.0%) were the next fastest growing regions may be more surprising. Furthermore, the rest of East and South England outside London had a somewhat below average growth rate of 2.6%, with only the Midlands (2.1%) seeing lower average real growth over this period. All regions saw average growth of over 2% per annum over this period which was a relatively strong one for the UK economy.

In retrospect, however, these pre-crisis growth rates look unsustainably high, as shown both by the sharp falls in output during the crisis and the relatively modest recoveries thereafter. London was certainly not immune from the crisis, with an average annual real GVA decline of 2.5% per annum putting it in the middle of the regional pack. Scotland suffered the smallest decline in output during 2008-9, while Northern Ireland was the worst hit, followed by the Midlands.

After the crisis, London bounced back more quickly than other regions, helped by a resurgent business services sector and despite relatively sluggish growth in financial services after 2009. London's growth rate did not match its own rapid pre-crisis rates but still exceeded 3% per annum on average. But other regional rankings differed from those before the crisis, with Northern Ireland and the

Figure 4.1 – London led the way on real GVA growth both before and after crisis
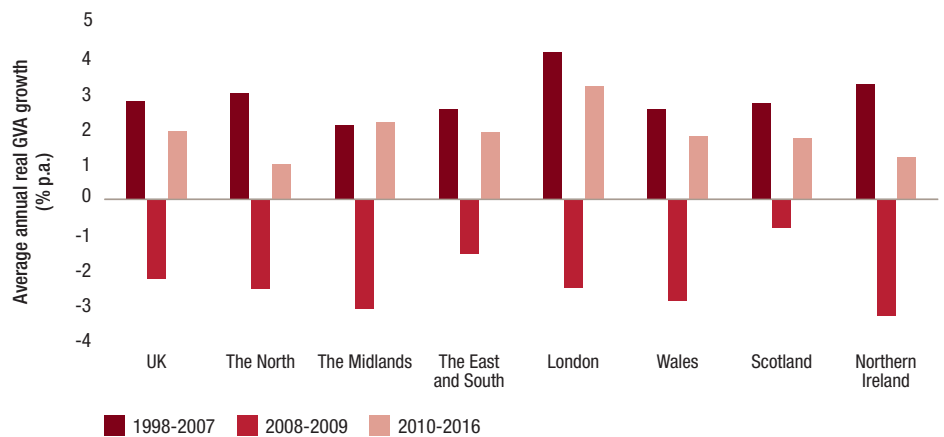
Sources: PwC analysis of ONS data

Figure 4.2 – London is the only region which increased its share of total UK GVA

Sources: PwC analysis of ONS data

North of England lagging behind, but the Midlands performing relatively better. Indeed the Midlands was the only region to see a marginally higher average real growth rate in 2010-16 (2.2%) than in 1998-2007 (2.1%).

The big picture over the last two decades, however, is that London has steadily increased its share of UK GVA from just over 19% in 1997 to 23.4% in 2016, while all other regions have seen their share of GVA decline or at best remain flat (see Figure 4.2). We next need to consider why this has happened.

4.2 – Explaining regional growth variations over time

In simple mathematical terms, relative regional growth rates will reflect a combination of two factors:

- **industry mix**: variations in the sectoral composition of output across regions; and

- **industry-by-industry performance**: variations in the relative growth rates across regions of output in particular industry sectors.

Variations in industry mix

The industries that matter most for regional performance are those that are both relatively large and have seen average national growth rates significantly higher or lower than the economy-wide UK average.

As Figure 4.3 shows, manufacturing is a relatively large sector that has tended to grow more slowly than the UK average, while professional, scientific and technical activities has been a relatively large and fast-growing sector throughout the last two decades. It is therefore useful to look in more detail at regional performance in relation to these two sectors.

Looking first at manufacturing, we can see that the average share of this sector in GVA correlates negatively with average regional GVA growth. This is most dramatically the case for London but also holds, with some minor variations, for other UK regions.
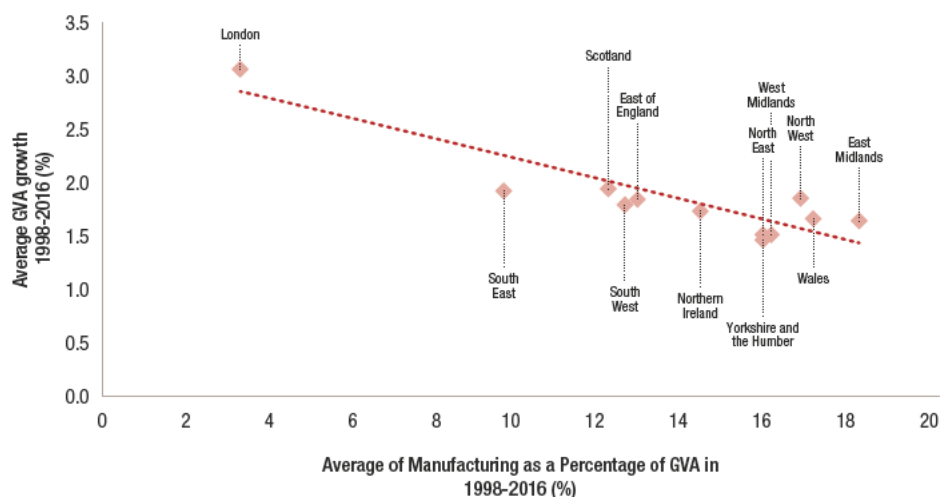
Figure 4.3 – Real GVA growth rate by sector (1998 – 2016)
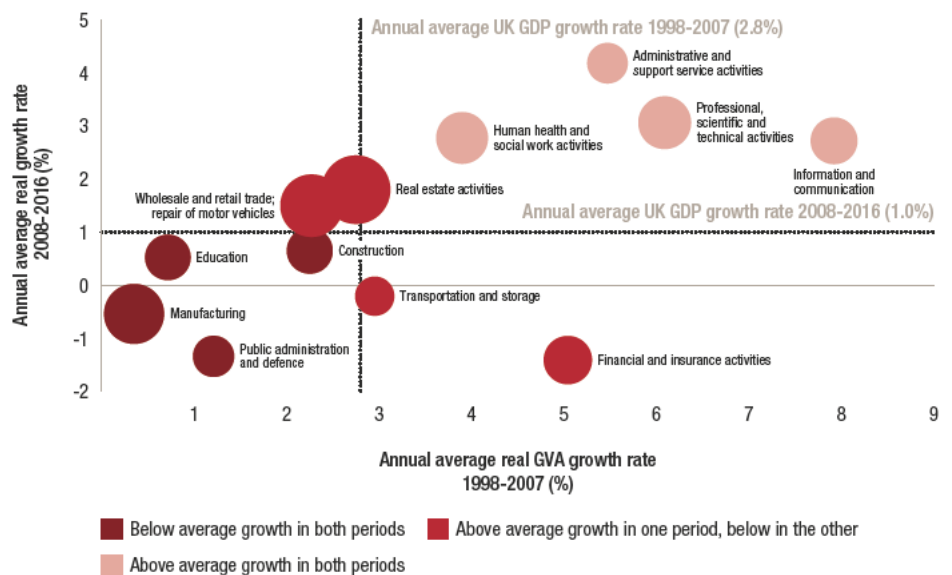
Sources: PwC analysis of ONS data

Note: Size of bubbles indicates relative sectoral GVA in 2016. Mid-point of the bubbles indicates average real GVA growth rates in the two periods shown on the axes.

Figure 4.4 – Share of manufacturing output negatively correlated with regional GVA growth
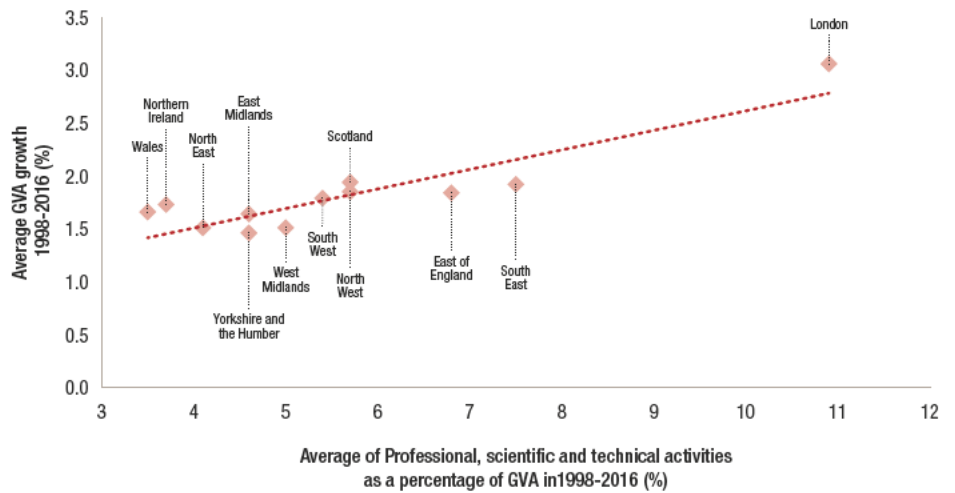

Sources: PwC analysis of ONS data

By contrast, the share of GVA in professional, scientific and technical services is positively related to relative regional GVA growth, as shown in Figure 4.5.

In other cases, industry mix has had varied impacts over time. In particular, the public sector grew relatively fast between the early 2000s and 2009, but then slowed markedly as austerity set in from 2010. This is illustrated in Figure 4.6 by the negative correlation between the share of public sector employment in total employment by region and relative regional GVA growth in 2010-16.

The squeeze on public spending since 2010 has been a particular drag on growth in Northern Ireland and the North East of England, together with other factors such as a relative lack of new business start-ups compared to other regions.

Figure 4.5 – Share of professional, technical and scientific services shows a positive correlation with relative regional GVA growth

Sources: PwC analysis of ONS data

Figure 4.6 – Regions with relatively high public sector employment have seen slower growth since 2010
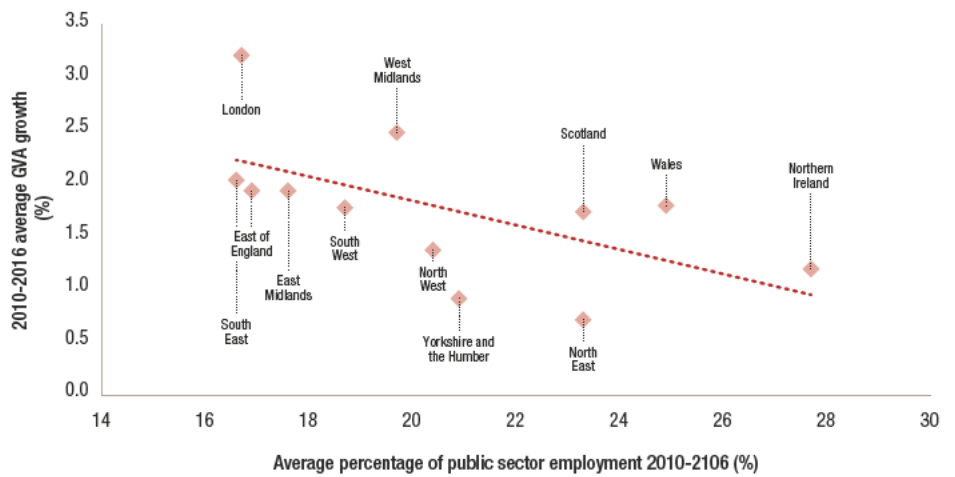
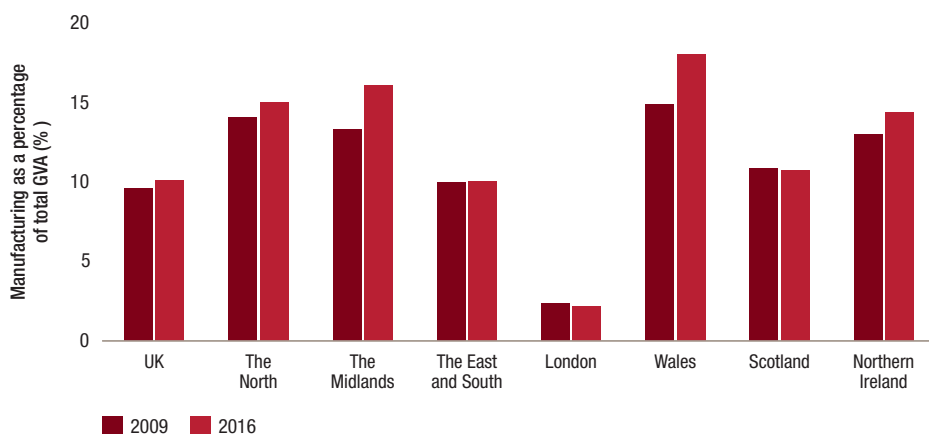
Sources: PwC analysis of ONS data

Variations in industry-by-industry performance

At least as important as industry mix, however, has been the relative performance of different regions within large industry sectors.

Manufacturing, for example, has increased its share of total GVA within regions that have a strong industrial base (see figure 4.7 below). This has helped to drive recovery in areas that, before the financial crisis, were growing below the national rate. For example, between 1998 and 2007, the West Midlands had an annual average real GVA growth rate of around 1.8% (compared to a national average of 2.8%). However, an increasingly strong global economy (and a more competitive value of the pound) has encouraged the growth of its export-focused manufacturing sector, which in turn has seen its annual average GVA growth rate rise to 2.5% since 2010, compared to the UK average of just 1.9% per annum over this period.

Real estate activities[3] have also seen an improvement in their share of total GVA across the majority of regions since the financial crisis, though London is the only region to exceed its 1998 peak (see figure 4.8 below). In contrast, Wales and Ireland have seen a decline over the period, experiencing a fall of 6.7 and 5.0 percentage points since their height in 1998.

Figure 4.7 – Wales and the Midlands have seen the highest increase in manufacturing since 2009

Sources: PwC analysis of ONS data

**Figure 4.8 – Real estate has become increasingly important to the majority of regions since 2009**
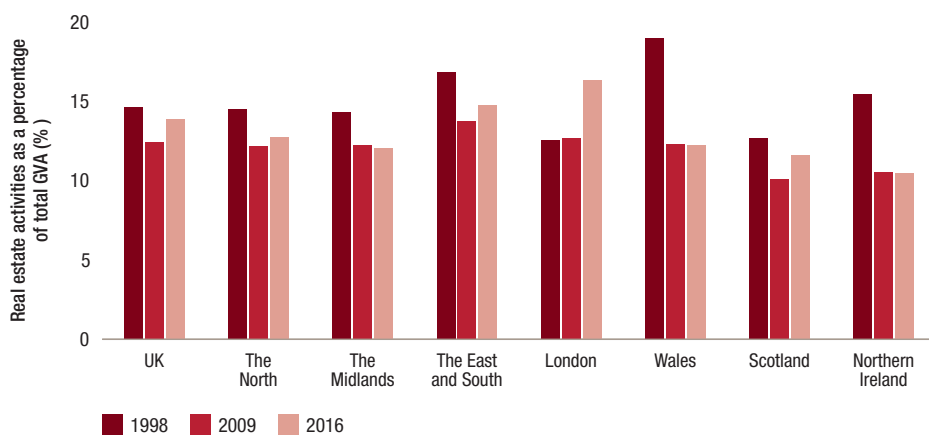
Sources: PwC analysis of ONS data

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3   However, it should be noted that ONS data include imputed rent on owner-occupied property in real estate GVA statistics, which is not actual income.

In the case of professional, technical and scientific services, London both had a relatively high initial share of activity and grew relatively fast in that sector. While all regions have seen this sector rise as a share of their GVA since 1998, this has been particularly marked in London (see Figure 4.9), helping to drive its overall relatively strong performance.

Figure 4.9 – Professional, scientific and technical activities have been increasingly important to all regions, but particularly so in London

London has seen a notable increase from 9.5% in 1998 to 12.3% in 2016
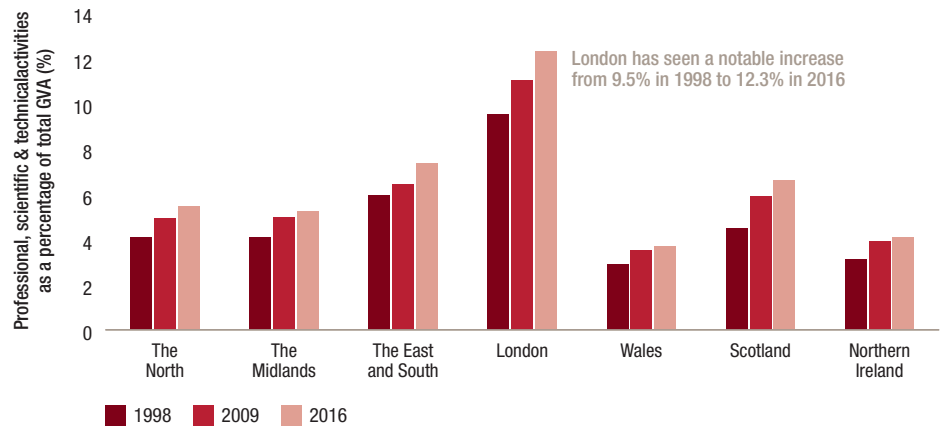
Sources: PwC analysis of ONS data

## Underlying factors driving relative regional success

A complex mix of factors drive relative regional growth, but some are more easily quantified than others. In particular, attracting and retaining skilled people is critical as the correlation of relative regional growth since 2007 with average education levels over this period makes clear (Figure 4.10).

London again stands out here in terms of its share of graduates, though the West Midlands is something of an outlier in terms of regional growth rates since 2010 that were higher than might have been expected just based on the proportion of graduates in the region. This seems to be explained in part by a relative recovery in manufacturing in the Midlands since the crisis, as well as diversification into business services. There may also be some positive spill-over effects from growth of London and the South East.

Entrepreneurship is also important in regional growth, as indicated by the data on business birth rates in Figure 4.11, with London again standing out. In practice, however, it is not just the birth of new businesses that matter but whether they can scale up to be larger companies driving long term growth of output and employment.

Many other factors will also be relevant here, including some that may be less favourable to London such as the affordability of housing and transport congestion[4], and others that may reinforce its lead such as the number of world-class universities in the region and the ability to attract world class talent to London due to its position as both a global financial centre and a leading cultural centre[5].

Figure 4.10 – Regional growth is positively correlated with average regional education levels
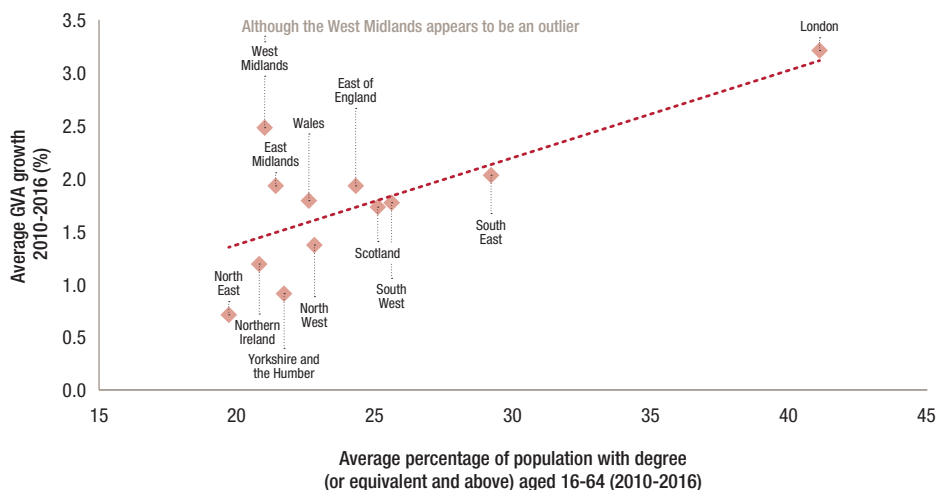
Sources: PwC analysis of ONS data

Figure 4.11 – There has been a positive relationship between business birth rates and regional growth (2011-2016)
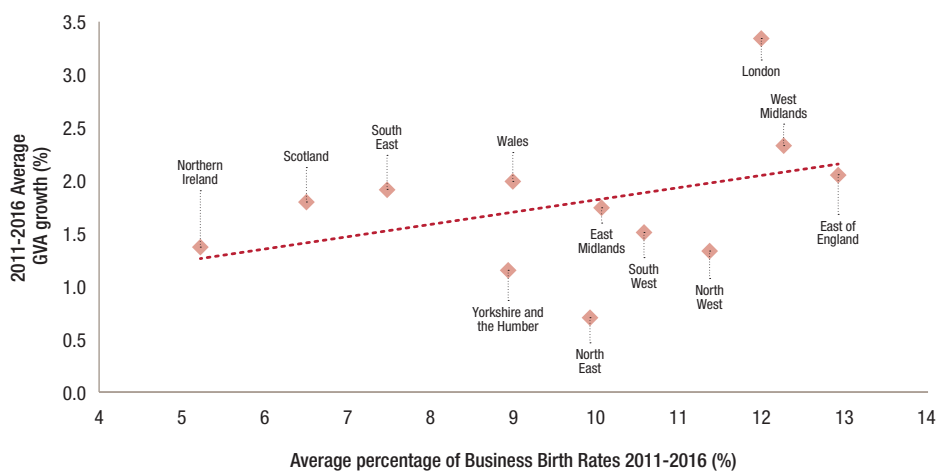
Sources: PwC analysis of ONS data

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4   These factors help to explain why London is not the most successful city in our Good Growth for Cities index, which looks at a broader set of measures of well-being than just GVA. In fact, cities in the Midlands and the North have seen the greatest improvements in index scores in recent years. Our latest report can be downloaded here: https://www.pwc.co.uk/industries/government-public-sector/good-growth.html

5   As reflected in London's consistently high ranking in our global Cities of Opportunity study, the latest edition of which is available here: https://www.pwc.com/us/en/library/cities-of-opportunity.html

4.3 – Regional growth prospects for 2018-19

While London has grown relatively strongly for most of the past two decades, there have been some recent signs that other regions are starting to catch up.

In the housing market, for example, London house prices have seen the weakest growth of any UK region in the year to December 2017 (see Figure 4.12), reversing the relatively strong growth in London house prices seen in previous periods.

The labour market has also seen some other regions showing faster employment growth than London over the past year (see Figure 4.13).
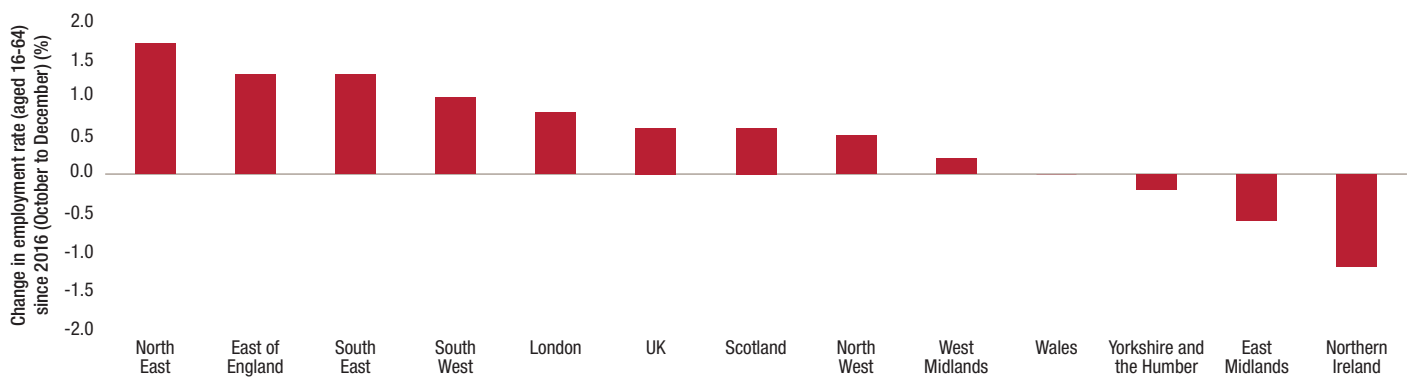
Figure 4.12 – London has seen the weakest house price growth over the past year
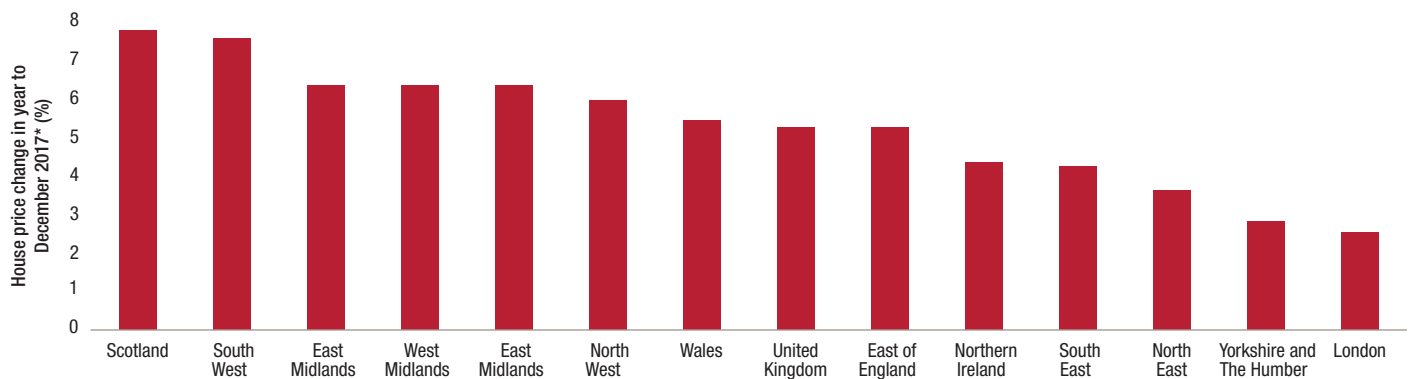
Source: ONS house price index based on Land Registry data

*Except for Northern Ireland where data are for year to Q4 2017 as monthly data are not available

Figure 4.13 – The North East has witnessed the largest rise in its employment rate over the past year, with London close to the UK average

Source: ONS

Figure 4.14 – PwC main scenario for output growth by region in 2018 and 2019
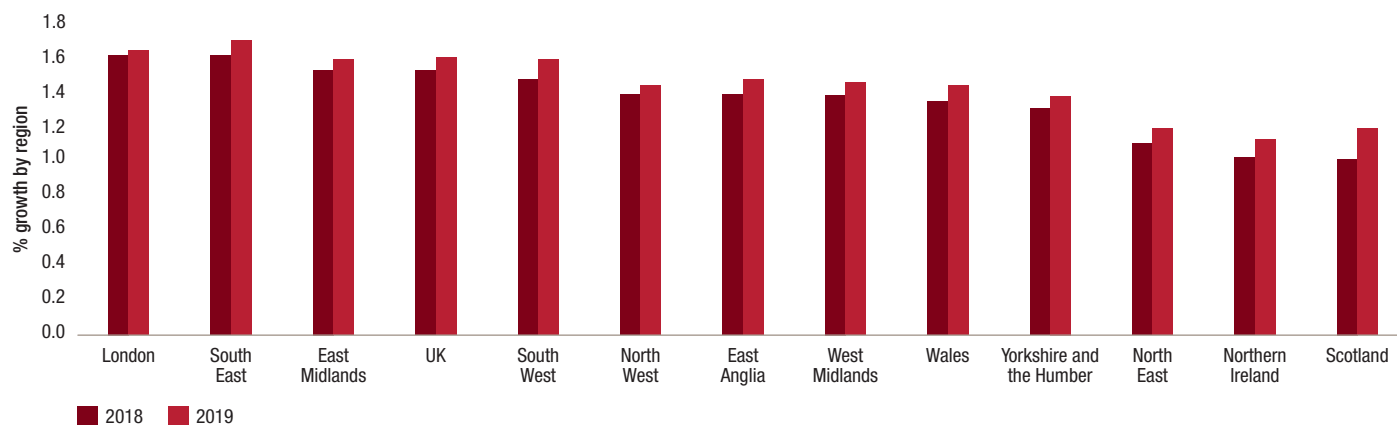
Source: PwC analysis

This is also reflected in our latest regional growth projections for 2018-19, which show London only marginally ahead of the UK average as shown in Figure 4.14.

To some extent this may just be a normal cyclical phenomenon. Because the economic recovery since 2010 has been significantly stronger in London than other regions (as Figure 4.1 above shows), this has left it with less spare capacity now. It has also led to constraints on growth from factors like transport congestion and lack of affordable housing that are more severe in London than elsewhere in the country (with the exception perhaps of a few other 'hot spots' like Oxford and Cambridge). These constraints can only be addressed through a major programme of new investment that will take time to have its effect, though Crossrail will come into operation soon.

Depending on the nature of the future UK-EU relationship on financial services, Brexit could also have an adverse effect on London given its particularly heavy reliance on this sector[6]. However, other regions will clearly also be affected by Brexit to varying degrees depending on the nature of the future UK-EU relationship, not least as regards Northern Ireland given the importance of retaining frictionless trade with the Republic of Ireland with no hard border. At present, therefore, Brexit remains an important source of uncertainty for all UK regions.

6   For a detailed vision of how the UK financial and professional services sector could continue to prosper in the longer term beyond Brexit, see our joint report with TheCityUK here: https://www.thecityuk.com/research/a-vision-for-a-transformed-world-leading-industry/

4.4 – Summary and conclusions

London has consistently outperformed other UK regions for most of the past two decades in terms of economic growth, both before and after the global financial crisis. This reflects both the fact that London has a higher share of activity in relatively fast-growing sectors such as business services, and that it has grown faster than most other regions in these fast-growing sectors.

Outside London, there is less of a clear North-South divide in regional growth patterns. Some Northern regions and Northern Ireland did better than some Southern regions in the decade before the financial crisis, though they have performed less well since the crisis. The Midlands struggled before the crisis, but has performed relatively better since 2010 when compared to other regions except London.

More recently, there are signs that London's relative performance has been less strong and we expect this to continue in 2018-19, with London growing at a rate close to the UK average. As manufacturing has bounced back recently on the back of a stronger global economy and a more competitive value for the pound, this has helped parts of the UK with stronger industrial bases in the North and the Midlands. All regions, however, continue to be affected by uncertainties relating to the future UK-EU relationship after Brexit.

Appendix A
Outlook for the global economy

Table A.1 presents our latest main scenario projections for a selection of economies across the world.

World economic growth strengthened through 2017 and this is expected to continue, increasing the global weighted average real growth rate to over 3% in both 2018 and 2019 (using GDP at market exchange rates as weights). This growth is expected to be driven by the large emerging economies with continued strong growth of around 7.5% in India and around 6.5% in China. The outlook for emerging markets has also brightened as a result of somewhat improved economic conditions in Russia and Brazil, which are now moving gradually out of recession. Indonesia is also expected to continue to grow strongly at over 5% in 2018-19.

There has been a clear upswing in Eurozone economic activity over the past two years, increasing projected growth to over 2% this year. Relative to the rest of the G7, strong US growth of just under 3% is projected in 2018 as fiscal stimulus strengthens an already recovering economy. But this could be offset by gradual rises in US interest rates to keep inflation under control, causing some slowing of growth next year. Any shift towards greater protectionism by the US could be a longer term downside risk to growth both in that economy and in the world more generally.

These projections are updated regularly in our Global Economy Watch publication, which can be found at www.pwc.com/gew

Table A.1: Global economic growth and inflation prospects

	Share of world GDP	Real GDP growth (%)		Inflation (%)	
	2016 at MERs	2018p	2019p	2018p	2019p
US	24.7%	2.8	2.3	2.3	2.2
China	14.9%	6.5	6.3	2.3	2.4
Japan	6.6%	1.0	0.8	0.5	1.1
UK	3.5%	1.5	1.6	2.7	2.3
France	3.3%	2.1	1.9	2.6	2.1
Germany	4.6%	2.4	2.3	2.1	1.7
Greece	0.3%	2.7	2.4	1.0	1.4
Ireland	0.4%	3.5	3.0	1.0	1.2
Italy	2.5%	1.2	1.0	1.3	1.3
Netherlands	1.0%	2.6	2.3	1.6	1.9
Portugal	0.3%	2.0	1.7	1.4	1.4
Spain	1.6%	2.8	2.5	1.6	1.6
Poland	0.6%	3.4	3.2	2.2	2.7
Russia	1.7%	1.8	1.6	4.1	4.1
Turkey	1.1%	3.2	3.8	8.4	8.1
Australia	1.7%	2.9	3.0	2.2	2.5
India	3.0%	7.4	7.6	4.5	5.0
Indonesia	1.2%	5.3	5.4	4.0	3.8
South Korea	1.9%	2.9	2.7	1.8	2.0
Argentina	0.7%	3.0	3.2	19.5	n/a
Brazil	2.4%	1.8	2.1	4.1	4.2
Canada	2.0%	2.1	2.0	1.8	1.9
Mexico	1.4%	2.1	2.2	4.2	3.9
South Africa	0.4%	1.3	1.5	5.3	5.6
Nigeria	0.5%	2.0	3.4	12.1	10.7
Saudi Arabia	0.8%	1.3	1.9	3.7	3.0
World (PPP)		3.8	3.7	3.0	2.9
World (Market Exchange Rates)	100%	3.3	3.1	2.6	2.5
G7	47.1%	2.2	1.9	2.0	1.9
Eurozone	13.9%	2.2	2.0	1.9	1.7

Source: PwC main scenario for 2018 and 2019; IMF for GDP shares in 2016 at market exchange rates (MERs).

Appendix B
UK economic trends: 1979 – 2017

Annual averages	GDP growth	Household expenditure growth	Manufacturing output growth*	Inflation (CPI**)	3 month interest rate (% annual average)	Current account balance (% of GDP)	PSNB*** (% of GDP)
1979	3.7	4.8			13.7	-0.6	4.2
1980	-2.0	0.1			16.6	0.5	3.9
1981	-0.8	0.3			13.9	1.5	3.0
1982	2.0	1.2			12.2	0.6	2.3
1983	4.2	4.4			10.1	0.2	3.0
1984	2.3	2.5			10.0	-0.5	3.3
1985	4.2	5.1			12.2	-0.3	2.5
1986	3.2	6.1			10.9	-1	2.0
1987	5.4	5.1			9.7	-1.6	1.3
1988	5.8	7.4			10.4	-3.5	-0.6
1989	2.6	3.9		5.2	13.9	-4.1	-0.6
1990	0.7	1.0		7.0	14.8	-3.1	0.6
1991	-1.1	-0.6		7.5	11.5	-1.3	2.6
1992	0.4	0.9		4.3	9.6	-1.5	5.6
1993	2.5	2.8		2.5	5.9	-1.3	6.7
1994	3.9	3.2		2.0	5.5	-0.5	5.8
1995	2.5	2.1		2.6	6.7	-0.7	4.6
1996	2.5	3.9		2.5	6.0	-0.6	3.3
1997	6.6	8.7		1.8	6.8	-0.1	1.9
1998	3.1	4.0	0.4	1.6	7.3	-0.7	0.2
1999	3.2	4.9	0.5	1.3	5.4	-2.6	-0.8
2000	3.7	4.8	2.3	0.8	6.1	-2.4	-1.5
2001	2.5	3.6	-1.5	1.2	5.0	-2.1	-0.2
2002	2.5	3.8	-2.2	1.3	4.0	-2.2	2.0
2003	3.3	3.6	-0.5	1.4	3.7	-1.9	3.4
2004	2.4	3.2	1.8	1.3	4.6	-2.4	3.3
2005	3.1	3.1	0.0	2.1	4.7	-2.1	3.2
2006	2.5	1.8	2.1	2.3	4.8	-3.1	2.8
2007	2.4	2.7	0.6	2.3	6.0	-3.8	2.6
2008	-0.5	-0.6	-2.8	3.6	5.5	-4.6	5.4
2009	-4.2	-3.3	-9.4	2.2	1.2	-3.9	10.1
2010	1.7	0.7	4.6	3.3	0.7	-3.8	9.1
2011	1.5	-1.0	2.2	4.5	0.9	-2.4	7.1
2012	1.5	1.8	-1.5	2.8	0.8	-4.2	7.6
2013	2.1	1.9	-1.0	2.6	0.5	-5.5	5.7
2014	3.1	2.2	2.9	1.5	0.5	-5.3	5.3
2015	2.3	2.7	0.0	0.0	0.6	-5.2	4.1
2016	1.9	3.1	0.9	0.7	0.5	-5.8	2.9
2017 (est.)	1.7	1.8	2.8	2.7	0.3	-4.6	1.8
Average over economic cycles****							
1979 - 1989	2.8	3.7			12.2	-0.8	2.2
1989 - 2000	2.5	3.3		3.3	8.3	-1.6	2.4
2000 - 2014	1.8	1.9	-0.2	2.2	3.3	-3.3	4.4

* After the revisions to the national accounts data, pre-1998 data is not currently available ** Pre-1997 data estimated *** Public Sector Net Borrowing (calendar years excluding public sector banks)
**** Peak-to-peak for GDP relative to trend
Sources: ONS, Bank of England

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