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**OVERVIEW**

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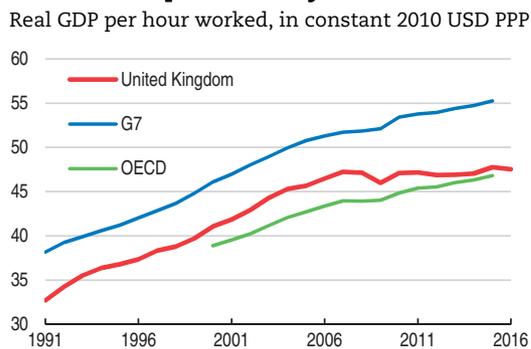
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## Executive summary

- *Securing higher living standards requires a revival in labour productivity*
- *Reducing regional discrepancies to support aggregate productivity growth*
- *Raising competencies of low-skilled workers to make the economy more productive and inclusive*

## Securing higher living standards requires a revival in labour productivity

### Labour productivity has stalled



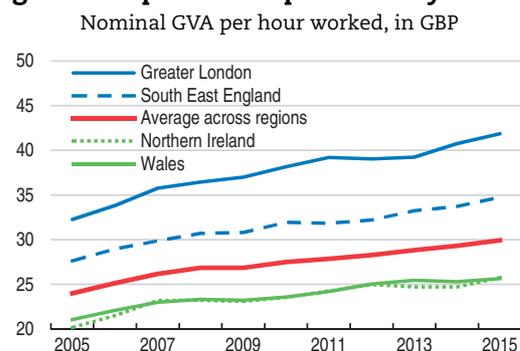
Source: OECD (2017), "GDP per capita and productivity levels", OECD Productivity Statistics (database), September.

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After a good performance until 2016, growth slowed in the first half of 2017. The unemployment rate has fallen to below 4.5%, but real wages are in a downward trend. Reviving labour productivity growth is key to ensuring higher living standards. Planned departure from the European Union (Brexit) has raised uncertainty and dented business investment, compounding the productivity challenge. Negotiating the closest possible EU-UK economic relationship would limit the cost of exit. The authorities should allow automatic stabilisers to work and identify in advance productivity-enhancing fiscal initiatives on investment, to be implemented rapidly were growth to weaken significantly in the run-up to Brexit, while safeguarding fiscal sustainability. A tax and spending review would enlarge fiscal space for further productive measures.

## Reducing regional discrepancies to support aggregate productivity growth

### Regional disparities in productivity are high



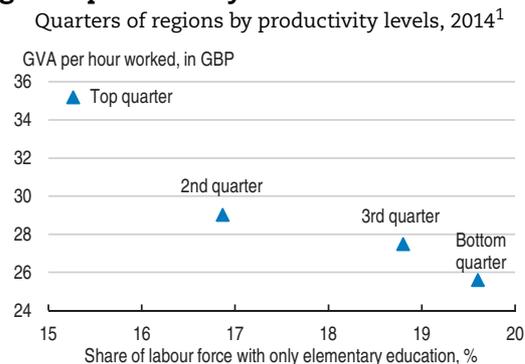
Source: ONS (2017), "Regional and sub-regional productivity in the UK: Jan 2017", Office for National Statistics, January.

StatLink <http://dx.doi.org/10.1787/888933600600>

Regional labour productivity is weak outside Greater London and South East England. Policy packages building on existing strengths of lagging regions, and possibly developing new ones, should foster local and regional transport infrastructure, research and development, housing and skills. This would increase the economic benefits from national infrastructure projects. Sustaining high integration in global value chains would bolster goods-oriented regions. Services-oriented regions would benefit from services trade liberalisation and more integrated cities. Devolution should continue to better tailor policies to local needs and more co-ordination in transport plans across city-regions would help creating larger economic hubs.

## Raising competencies of low-skilled workers to make the economy more productive and inclusive

### Regional productivity and education are linked



1. Quarters are calculated as un-weighted averages.

Source: OECD (2017), OECD Regional Statistics; and ONS (2017), "Regional and sub-regional productivity in the UK: Jan 2017", Office for National Statistics.

StatLink <http://dx.doi.org/10.1787/888933600619>

Over a quarter of workers in the United Kingdom have only low skills, which holds back labour productivity and job quality. Raising skills is a priority given plans to reduce net migration. The government has started to simplify vocational education and training and to raise the number of apprenticeships financed with a levy on large businesses. Enhancing teachers' training and other incentives, in particular in disadvantaged schools, would address teacher shortages. Low-skilled workers participate less in lifelong learning and introducing targeted re-training programmes would boost competencies more broadly. Tax and regulatory reforms of non-standard forms of employment would offset workers' weaker bargaining power and ensure better job quality.

MAIN FINDINGS	KEY RECOMMENDATIONS
<b>Macroeconomic and trade policies</b>	
Fiscal space has risen – with a fiscal buffer of 1¼% of GDP relative to the structural deficit target of 2.0% of GDP by 2020 – while monetary space is limited.	Allow the automatic stabilisers to work fully and identify in advance productivity-enhancing fiscal initiatives on investment that could be implemented swiftly (such as spending on repair and maintenance or soft investment), should growth weaken significantly ahead of Brexit.
The tax system favours self-employed people over employees and the indexation of state pensions is generous.	Perform a tax and spending review to allow for additional productivity-enhancing fiscal initiatives, for example by: Raising national insurance contributions for the self-employed; Indexing the state pension on average earnings only.
High consumer debt growth, coupled with stagnant household incomes, is a major financial stability risk.	Introduce debt-to-income ratios for borrowers depending on their exposure to shocks.
Disorderly exit from the European Union would hurt trading relationships, reducing long-term growth.	Maintain the closest possible economic relationship between the United Kingdom and the European Union.
<b>Starting regional convergence in productivity</b>	
Productivity growth has been stagnant and there are productivity differentials across sectors and regions.	Develop integrated, regionally focused policy packages based on current and emerging regional strengths. Prepare impact assessments of the EU departure and climate change objectives.
Low transport infrastructure investment outside the south of England may have created bottlenecks, holding back agglomeration effects and associated productivity gains.	Champion the recently created strategic planning and delivery agencies for transport infrastructure to achieve a stable and more efficient long-term investment framework. Invest in improving inter- and intra-city transport links where such investments can foster agglomeration effects and unlock related productivity benefits.
Subnational governments have limited fiscal autonomy, on both spending and taxes. Housing supply is not responsive enough to demand.	Continue decentralisation by concluding deals with all city-regions. Allow local authorities to retain more revenues from locally levied property taxes.
Research and development (R&D) is low, holding back innovation and its diffusion across regions, in particular in the least productive ones.	Continue to increase direct and indirect support for private and public R&D, and for the collaboration between businesses and universities to promote applied innovations and their diffusion.
Lagging regions find it difficult to attract or retain skills. Teacher shortages are high and retention rates are low, mainly at the secondary level. New teachers are unwilling to work in disadvantaged areas. As a result, not all students attain strong basic skills once they have completed their studies.	Allow more freedom to adapt technical education to local business needs. Raise training and other incentives to recruit and retain teachers in disadvantaged areas and/or regions with high teacher shortages.
<b>Improving productivity and job quality of low-skilled workers</b>	
Childcare participation is low at age 2 and the education and training of childcare staff could be improved, particularly in disadvantaged areas.	Prioritise funding to training and skills development of childcare staff.
Planned hikes in the minimum wage could price low-skilled workers out of standard forms of employment.	Use existing flexibility in reaching the National Living Wage 2020 target in case of negative economic shocks.
Growing use of non-standard forms of employment (self-employed, zero-hours contracts, etc.) can be detrimental to skill acquisition and job quality of low-skilled workers.	Grant workers on zero-hours contracts enhanced job security rights after three months. Keep under review the interplay of taxes and welfare benefits to raise incentives to work more hours. Introduce tighter criteria to restrict self-employment to truly independent entrepreneurs.
Low-skilled workers participate less in training relative to more skilled workers.	Introduce individually targeted programmes for low-wage and low-skilled workers to improve their lifelong learning opportunities.
The proportion of youth detached from the labour market is high, relative to other age groups.	Increase financing and continue to promote the effectiveness of active labour market policies for youth who are neither in employment nor in education or training.

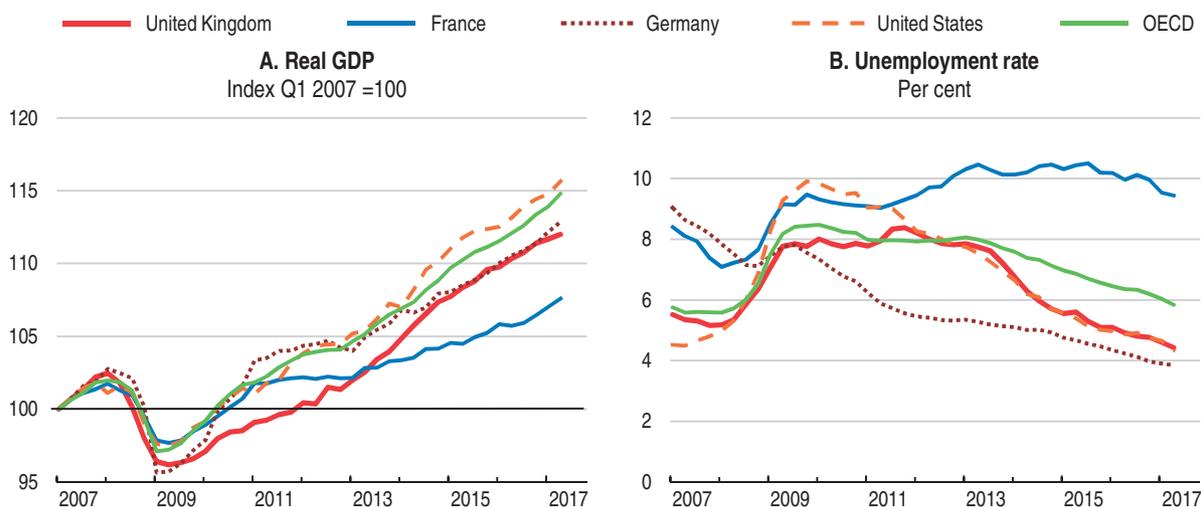


## Assessment and recommendations

- *Macroeconomic developments*
- *Monetary and fiscal policy*
- *Stimulating regional productivity*
- *Improving productivity and job quality of low-skilled workers*

**E**conomic performance was solid until the end of 2016, stimulated by a strong business-friendly environment, very supportive and reactive monetary policy, and a flexible approach in meeting fiscal goals (Table 1). The pace of economic expansion has been steady and gross domestic product (GDP) is about 9% above the peak just before the global crisis (Figure 1, Panel A), but the economic consequences of the planned exit from the European Union (EU) in March 2019 (Brexit) cut growth to the lowest annualised rate in the G7 in the first half of 2017. Growth, high labour market flexibility and large labour supply have pushed the unemployment rate down to below 4.5% (Figure 1, Panel B). Economic activity has been particularly job-rich. Both the employment rate at 75% for people aged 16 to 64 and total hours worked are the highest on record, partly due to immigration from the European Union which has expanded the labour market. Fiscal sustainability has also improved, with the budget deficit falling towards 3.0% of GDP and public debt stabilising at below 90% of GDP in 2016. Prudential policies have bolstered financial stability, but new pockets of risks have emerged and Brexit uncertainties have led to pressures to relocate some financial activities overseas.

Figure 1. **Economic performance has been good until recently, reducing the unemployment rate**



Source: OECD (2017), OECD Economic Outlook: Statistics and Projections (database), September.

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Peoples' quality of life in the United Kingdom is close to or above the average in the OECD (Figure 2, Panel A). In particular, social connections are significantly stronger, personal security is higher, and environmental quality is better. Jobs and earnings are good, and people enjoy good health status. Income and wealth, housing, and education and skills stand out as areas where progress is needed, and on which greater labour productivity would have had a beneficial impact. However, labour productivity performance has been

**Table 1. Macroeconomic indicators and projections**  
Annual percentage change, volume (2015 prices)

	2013 Current prices (GBP billion)	2014	2015	2016	2017	2018
<b>Gross domestic product (GDP)</b>	<b>1 752.6</b>	<b>3.1</b>	<b>2.3</b>	<b>1.8</b>	<b>1.6</b>	<b>1.0</b>
Private consumption	1 153.2	2.1	2.6	2.8	1.6	0.9
Government consumption	348.1	2.5	0.6	1.1	0.7	0.7
Gross fixed capital formation	277.2	7.1	2.8	1.3	2.3	-1.1
Housing	70.1	10.6	4.3	5.1	3.9	-1.0
Business	161.4	5.1	3.7	-0.4	1.5	-2.1
Government	45.7	8.6	-2.8	1.5	2.0	2.1
Final domestic demand	1 778.4	3.0	2.2	2.2	1.5	0.5
Stockbuilding <sup>1</sup>	9.5	0.7	0.2	-0.1	-0.8	-0.1
Total domestic demand	1 787.9	3.6	2.5	2.1	0.7	0.4
Exports of goods and services	519.9	2.7	5.0	1.1	5.2	3.2
Imports of goods and services	555.3	4.5	5.1	4.3	2.5	1.1
Net exports <sup>1</sup>	-35.4	-0.6	-0.1	-0.9	0.7	0.6
<b>Other indicators</b> (growth rates, unless specified)						
Potential GDP	..	1.6	1.7	1.5	1.6	1.3
Output gap <sup>2</sup>	..	-0.8	-0.2	0.0	0.0	-0.2
Employment	..	2.4	1.7	1.4	1.2	0.3
Unemployment rate	..	6.2	5.4	4.9	4.5	4.8
GDP deflator	..	1.7	0.5	2.0	2.2	2.0
Consumer price index (harmonised)	..	1.5	0.1	0.6	2.8	2.7
Core consumer prices (harmonised)	..	1.6	1.1	1.2	2.4	2.7
Household saving ratio, net <sup>3</sup>	..	2.4	3.4	1.2	-1.0	-1.6
Current account balance <sup>4</sup>	..	-5.3	-5.1	-5.6	-4.7	-4.5
General government fiscal balance <sup>4</sup>	..	-5.7	-4.3	-3.3	-2.6	-2.5
Underlying general government fiscal balance <sup>2</sup>	..	-6.6	-5.5	-4.0	-3.9	-3.0
Underlying government primary fiscal balance <sup>2</sup>	..	-4.2	-3.5	-1.9	-1.7	-1.0
General government gross debt (Maastricht) <sup>4</sup>	..	87.4	88.2	88.3	87.5	87.3
General government net debt <sup>4</sup>	..	80.4	81.7	91.8	91.0	90.8
Three-month money market rate, average	..	0.5	0.6	0.5	0.3	0.3
Ten-year government bond yield, average	..	2.6	1.9	1.3	1.2	0.9

1. Contribution to changes in real GDP
2. As a percentage of potential GDP.
3. As a percentage of household disposable income.
4. As a percentage of GDP.

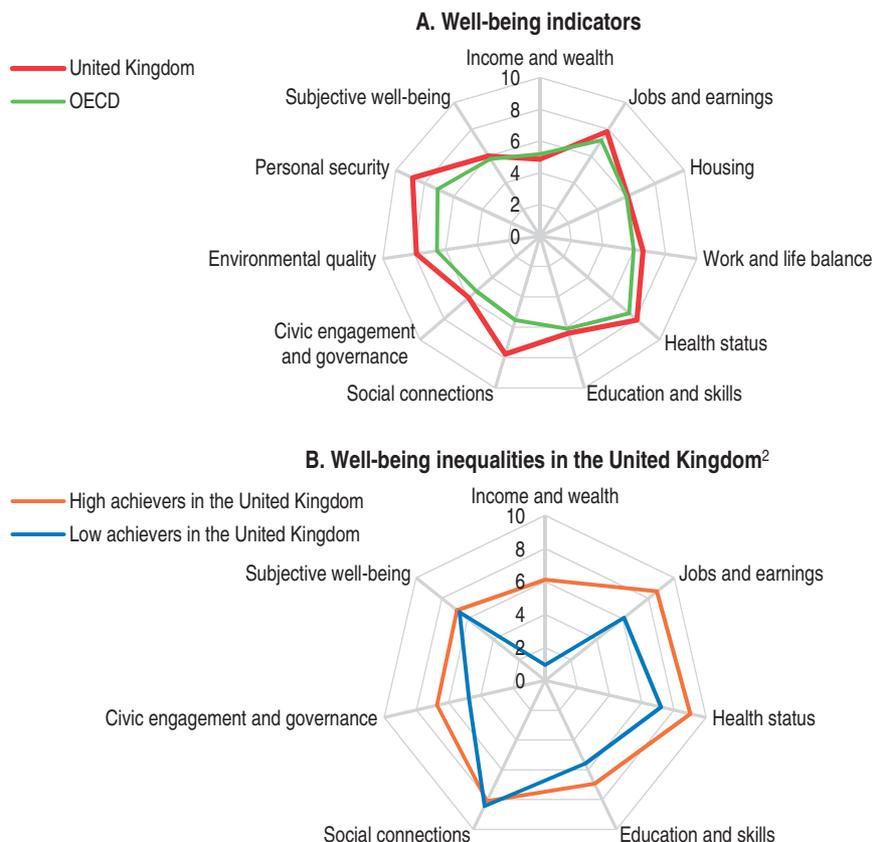
Source: OECD (2017), *OECD Economic Outlook: Statistics and Projections* (database), October.

very weak, and there has been little catch up across regions and workers (Chapters 1 and 2). This may lead to, or be the result of, important differences among people in terms of income and wealth, jobs and earnings, and education and skills (Figure 2, Panel B). Well-being inequalities may have been one of the causes of Brexit, as less educated workers in remote regions might have perceived to benefit less from the European project.

The main challenge facing the authorities in the near future is to implement Brexit at a minimum cost by securing comprehensive free-trade agreements with the bloc and other countries. About 45% of UK exports are destined for EU27 countries and are greatly facilitated by EU membership, which implies participation in both the EU single market and customs union. The single market supports trade among member countries by ensuring automatic compliance with European standards. The costs of checking the rules of origin (criteria to determine the national source of a product) are not applicable for trade with countries that belong to the EU customs union. The union also supports trade with

Figure 2. **Average social indicators are relatively solid, but they are unequally distributed**

Better Life Index, 2016<sup>1</sup>



1. Each well-being dimension is measured by one to four indicators from the OECD Better Life Index set. Normalised indicators are averaged with equal weights. Indicators are normalised to range between 10 (best) and 0 (worst) according to the following formula:  $(\text{indicator value} - \text{minimum value}) / (\text{maximum value} - \text{minimum value}) \times 10$ .
2. The panel shows well-being outcomes in various dimensions for people in the United Kingdom with different socio-economic background. In the dimensions of "income and wealth", "health" and "civic engagement and governance", "high (/low) achievers" are people with an income belonging to the top/(bottom) quintile of the income distribution; in "jobs and earnings", "high (/low) achievers" are people with the high/(low)est educational attainment (i.e. ISCED 5/6 versus ISCED 0/1/2) or with gross earnings belonging to the top/(bottom) quintile of the distribution; in "education and skills", "high (/low) achievers" are people with a score belonging to the top/(bottom) quintile of the PISA index of economic, social and cultural status; and in "social connections" and "subjective well-being", "high (/low) achievers" are people with the high/(low)est educational attainment (i.e. ISCED 5/6 versus ISCED 0/1/2). Outcomes are shown as normalised scores on a scale from 0 (worst condition) to 10 (best condition) computed over OECD countries, Brazil, the Russian Federation and South Africa.

Source: OECD (2016), *OECD Better Life Index*, [www.oecdbetterlifeindex.org](http://www.oecdbetterlifeindex.org).

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third countries through approximately 40 free-trade agreements with 53 non-EU countries, but member countries are not allowed to negotiate their own agreements as long as they are part of the union. It is critical that the outcome of negotiations ensures the most frictionless trade possible between the European Union and the United Kingdom, bearing in mind that frictionless trade as currently enjoyed by the United Kingdom with the European Union is due to being part of the EU single market and customs union.

The UK government does not seek to replicate existing models of relationship, such as remaining a member of the European Economic Area (like Norway and Iceland), which implies participation in the EU single market, or like Turkey, which implies participation in

the EU customs union. Instead, the government plans to leave both the EU single market and customs union from March 2019 and has recently published a number of papers to sketch its vision of a new partnership with the European Union, notably for trade right after Brexit (transition period) and in the medium term (Box 1). The UK authorities want to explore an interim period where they could form a new and time limited customs union between the UK's and the EU's customs union, based on a shared external tariff and without customs processes and duties between the two. They also propose two models for their future relationships with the European Union. These proposals seek to replicate the facilitations of trade that EU membership creates. However, some proposals appear unprecedented (technology-based solutions for customs procedures) or untested (mechanisms to ensure that goods which do not comply with EU trade policy stay in the United Kingdom, and those that do comply and transit through the United Kingdom pay

### Box 1. **Overview of the United Kingdom's vision for the new trade partnership with the European Union**

The UK government has published a number of “position” and “future partnership” papers to avoid a cliff edge for businesses and individuals, and to underpin its vision to build a new, deep and special partnership with the European Union in several policy areas.

In the papers published so far, the main policy objectives for trade are to ensure UK-EU trade is as frictionless as possible; avoid a “hard border” between Ireland and Northern Ireland; and establish an independent trade policy.

Right after Brexit, the UK government seeks a new and time-limited close association with the EU customs union, based on a shared external tariff and without customs processes and duties in trade with the EU bloc. In the medium term, two types of customs arrangements are proposed to ensure UK-EU trade remains as frictionless as possible:

- A “highly streamlined customs arrangement” to continue some of the existing arrangements between the United Kingdom and the European Union; put in place new negotiated and potentially unilateral facilitations to reduce and remove barriers to trade; and implement technology-based solutions to make it easier to comply with customs procedures;
- A “new customs partnership with the European Union” to remove the need for a UK-EU customs border, with one possible approach being that the United Kingdom would mirror the EU's requirements for imports from the rest of the world where their final destination is the European Union.

Four principles have been proposed to ensure the availability of goods at the date of the withdrawal and to support the move to a future relationship:

- Goods placed on the single market before exit should continue to circulate freely in the United Kingdom and the European Union, without additional requirements or restrictions;
- Where businesses have undertaken compliance activities prior to exit, they should not be required to duplicate these activities;
- The agreement should facilitate the continued oversight of goods;
- Where the goods are supplied with services, there should be no restriction to the provision of these services that could undermine the agreement on goods.

*Source:* HM Government (2017), *Future customs arrangements, A future partnership paper*; HM Government (2017), *Continuity in the availability of goods for the EU and the UK, Position paper*.

the correct EU duties, which could be different from the United Kingdom's). Ensuring the continuity of trade in goods and services at the point of exit would reduce the cliff edge for businesses and individuals, but there could be practical and legal difficulties to achieve this.

The European Union has indicated that any free-trade agreement should be balanced, ambitious and wide-ranging and must ensure a level playing field in terms of competition and state aid (with safeguards against unfair tax, social, environmental and regulatory measures). Yet, the core objective of the European Union is to preserve the integrity of the single market, which excludes participation based on a sector-by-sector approach. Also, the guidelines of the European Council for Brexit negotiations stress that a country outside the European Union that does not live up to the same obligations as a member, cannot have the same rights and enjoy the same benefits as a member (European Council, 2017).

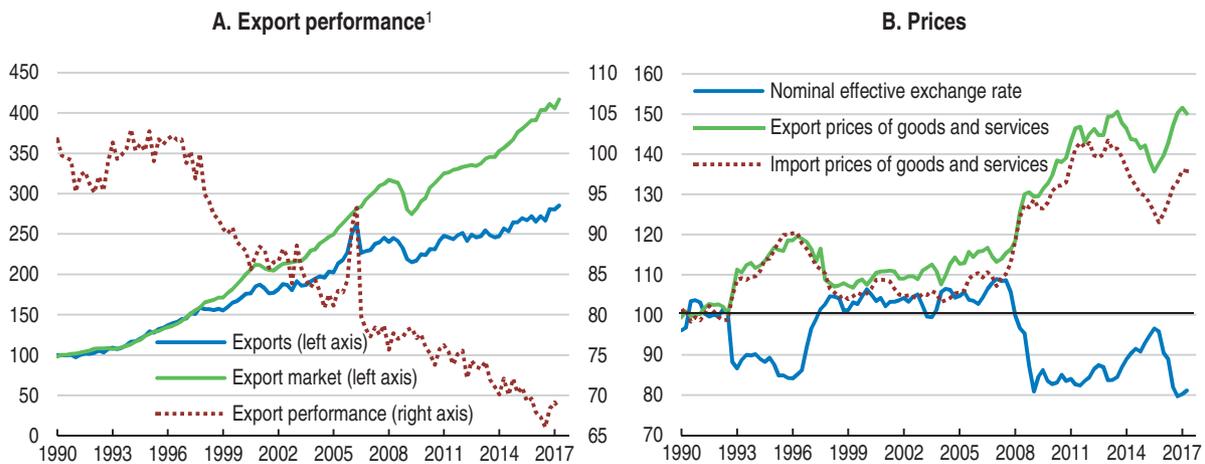
European leaders have indicated that an overall understanding on the framework for the future relationship should be identified during the second phase, which can start only once sufficient progress is made on the first phase of ongoing negotiations, focusing on citizens' rights, the financial settlement and the border issue in Ireland. An agreement on a future relationship between the European Union and the United Kingdom as such can only be finalised and concluded once the United Kingdom has become a third country. In the absence of a free-trade agreement in 2019, switching to World Trade Organization (WTO) rules would cut UK growth by 1.5 percentage point that year (Kierzenkowski et al., 2016). This assumption underpins the projections in this *Survey*, given the large uncertainty about the outcome of negotiations, but the United Kingdom should eventually conclude a free-trade agreement with the European Union (Kierzenkowski et al., 2016). However, putting in place a transition period of a few years after 2019 during which most of current trade arrangements with the European Union would be maintained until a new agreement is found would reduce the economic consequences in the run-up to Brexit and right after. In her speech on 22 September 2017, the UK Prime Minister proposed an implementation period during which UK and EU access to one another's markets should continue on current terms.

To maximise the benefits of trade, an important policy priority is to strengthen the productivity and competitiveness of the export sector. The United Kingdom faces a structural difficulty to benefit from growing markets, as illustrated by a long-standing decline in export performance (Figure 3, Panel A). Moreover, exports have a low responsiveness to exchange rate movements, which could partly be due to increased participation in global value chains, implying a high import content in exports (Ollivaud et al., 2015). This leads to a high pass-through of import prices into export prices (Figure 3, Panel B), reducing scope for exporters to win market share following currency depreciation. Moreover, exporters may have increased their margins, which could have been an additional drag on rising exports.

Another challenge, compounded by Brexit, is to revive the growth of labour productivity. Since the financial crisis, aggregate labour productivity growth has come to a standstill in the United Kingdom (Figure 4, Panel A). Productivity gains have made no meaningful contribution to output performance since 2007, which instead has been driven by higher employment and hours worked per employee. Output per hour is nearly 20% lower than it would have been had it continued to expand at its pre-crisis trend growth. Stagnant productivity has held back real wages and real GDP per capita (Figure 4, Panel B). Moreover, while the level of UK labour productivity is similar to the OECD average, it is about 20-25%

Figure 3. **Exports have not kept up with overseas demand**

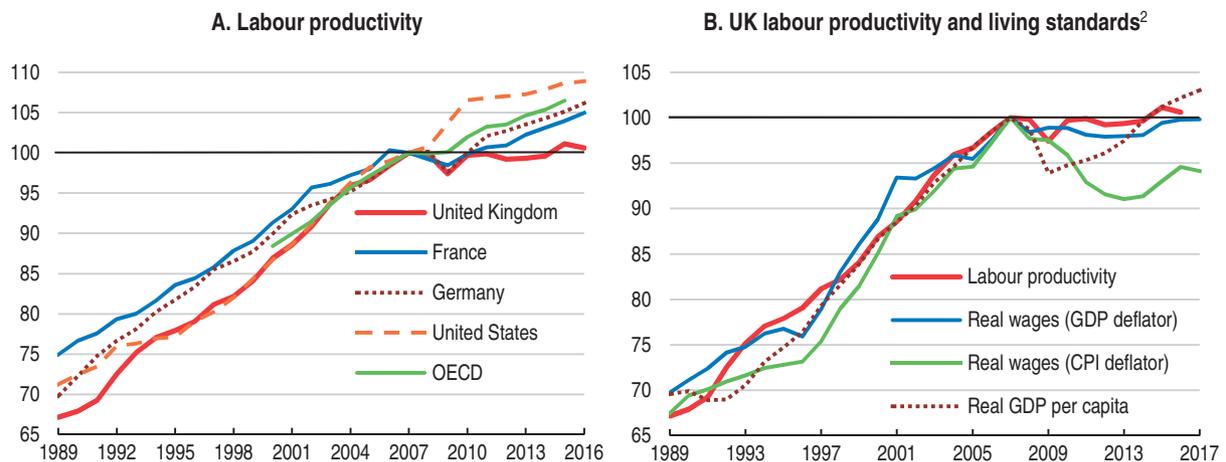
Index 1990 = 100



1. Data refer to exports of goods and services in volumes. Export performance is the ratio of export volumes to export markets for total goods and services.

Source: OECD (2017), *OECD Economic Outlook: Statistics and Projections* (database), October; and Thomson Reuters Datastream.

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Figure 4. **Reviving labour productivity is essential to boost living standards**Index 2007 = 100<sup>1</sup>

1. Labour productivity refers to real GDP in USD constant prices and constant purchasing power parities (PPPs) per total hours worked.

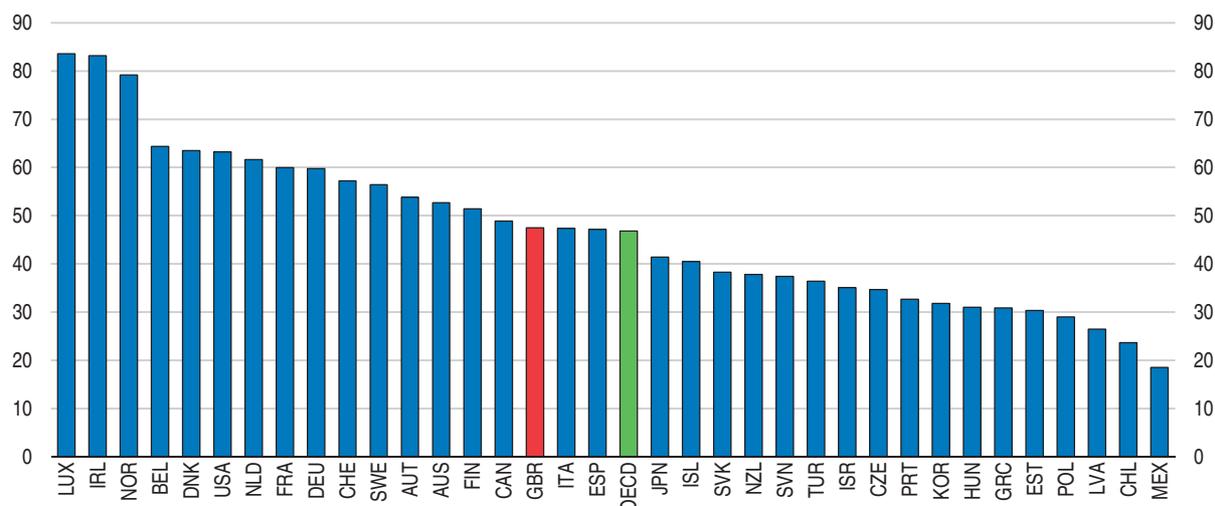
2. Wages refer to nominal wages divided by dependent employment. Data for 2017 refer to the second quarter of 2017.

Source: OECD (2017), "GDP per capita and productivity levels", *OECD Productivity Statistics* (database), September; OECD (2017), *OECD Economic Outlook: Statistics and Projections* (database), September; and OECD (2017), *OECD National Accounts Statistics* (database), September.

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lower than in the United States, France and Germany (Figure 5). Brexit could reduce total factor productivity by about 3% after ten years, mainly through the channel of diminished trade openness, but also owing to a weaker research and development intensity and a smaller pool of skills (Kierzenkowski et al., 2016).

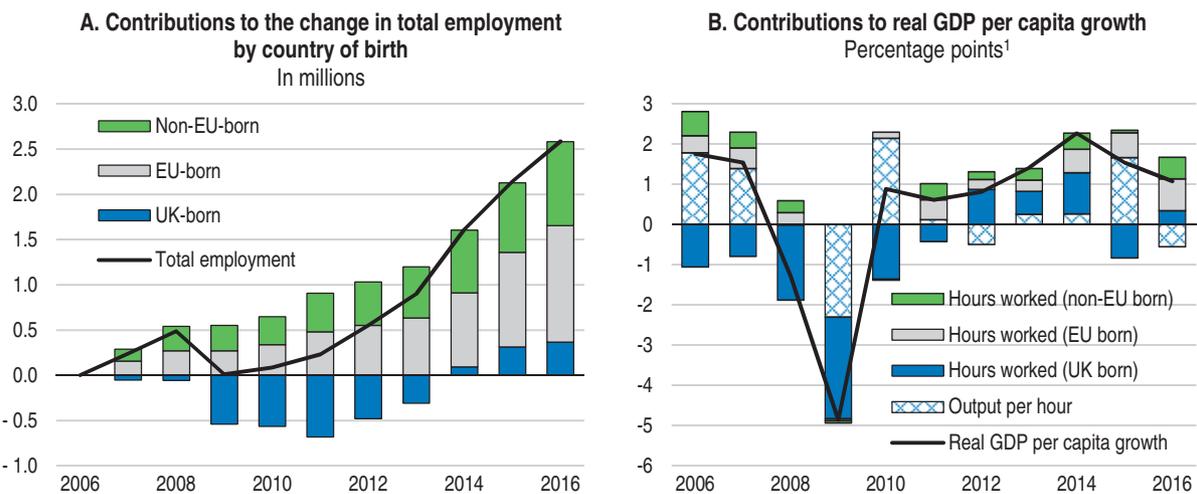
Immigration has enhanced living standards through higher labour resource utilisation and productivity gains (Figure 6), which shows the critical importance of keeping the labour market open for foreign workers. EU migrants in the United Kingdom have a higher educational attainment than in most other EU countries (Kierzenkowski et al., 2016) and

Figure 5. **Labour productivity is around the OECD average**Real GDP in constant USD PPP per total hours worked, 2016<sup>1</sup>

1. 2015 for Belgium, Chile, Iceland, Israel, Japan, Korea, Mexico, Slovak Republic, Switzerland, Turkey and the OECD aggregate. PPP: purchasing power parities.

Source: OECD (2017), "GDP per capita and productivity levels", OECD Productivity Statistics (database), September.

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Figure 6. **Immigration has expanded the labour market, lifting GDP per capita over the last decade**

1. Data for hours worked by country of birth refers to hours worked per capita and it is calculated based on employment shares by country of birth.

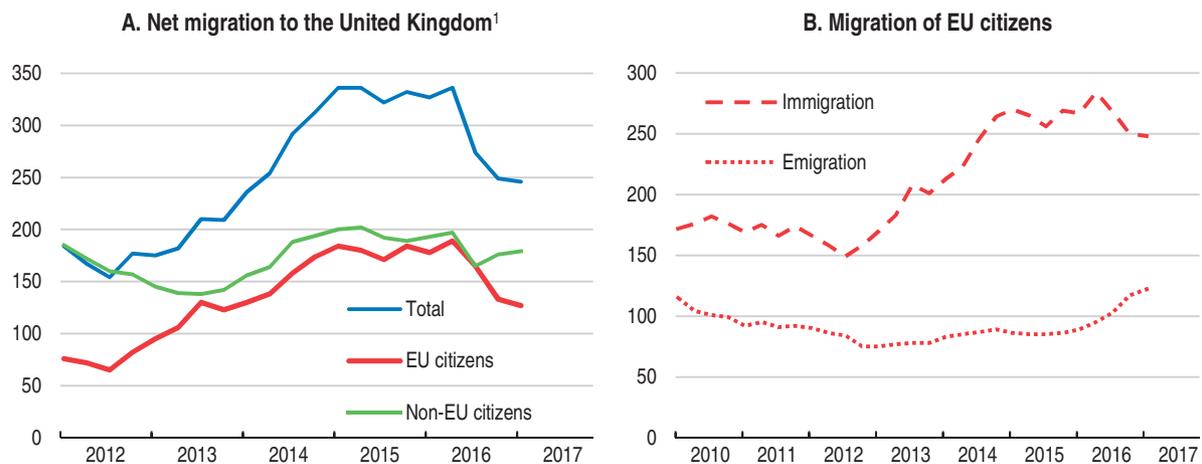
Source: ONS (2017), "UK labour market: September 2017", Office for National Statistics; OECD (2017), OECD Economic Outlook: Statistics and Projections (database), September; and OECD (2017), "GDP per capita and productivity levels", OECD Productivity Statistics (database), September.

StatLink <http://dx.doi.org/10.1787/888933600733>

recent research has shown a positive impact on productivity related to the higher skills that migrants possess and the possible complementarity between their skills and those of the UK population (Rolfe et al., 2013; Wadsworth et al., 2016). Following the EU membership referendum in mid-2016, there has been an important fall in net migration, mainly of EU citizens, explained by increased emigration and reduced immigration (Figure 7). Declines in net migration could tighten the labour market if labour supply falls faster than labour

Figure 7. **Net migration from the European Union has been falling since mid-2016**

Rolling annual data, in thousands



1. Net migration is the difference between immigration and emigration.

Source: ONS (2017), "Migration Statistics Quarterly Report: August 2017", Office for National Statistics, August.

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demand, although nominal wage growth is contained at about 2%. In the longer term, lower immigration would reduce labour force and productivity growth (Kierzenkowski et al., 2016). Therefore, rapidly concluding negotiations to guarantee the rights of EU citizens is a priority to sustain labour supply and ensure further progress in living standards. The United Kingdom should adopt simple criteria to deal with EU citizens living and/or working in the United Kingdom, which would minimise administrative burdens.

Since the last *Economic Survey*, the government has undertaken major assessments of the productivity and other challenges faced by the economy. The authorities published a productivity plan in July 2015, launched a consultation to build an industrial strategy in January 2017, and acknowledged that the housing market is broken and published plans for reform in February 2017. Also, an independent review of employment practices, commissioned by the Prime Minister, was published in July 2017. Based on these diagnoses, several important policy steps have been initiated to stimulate labour productivity:

- New agencies have been created to improve infrastructure investment planning;
- Additional housing investment is planned;
- Devolution to local governments has progressed;
- A new scheme has been introduced to fund apprenticeship training.

Against this background, the main messages of this *Survey* are:

- Aggregate productivity is stagnant and growth fell significantly in the first half of 2017. Productivity-enhancing fiscal initiatives on investment should be identified in advance to allow their swift deployment (such as spending on repair and maintenance or soft investment) if the low-growth trap persists, with automatic stabilisers working freely.
- Comprehensive policy packages should boost the productivity of lagging regions and cities, which requires local transport investments to foster connectivity, spending on research and development to raise innovation, housing investments to ease the matching of skills to jobs, restructuring of deficient companies, and greater educational attainment and training tailored to business needs.

- Further devolution of tax and spending powers should continue and part of central government transfers could be conditional on collaboration across city-regions to create larger economic hubs.
- Negotiations with the European Union and other countries should promote high value chains integration for network industries and high access for services sectors to overseas markets, although there are important uncertainties about the duration and outcome of these negotiations.

## Macroeconomic developments

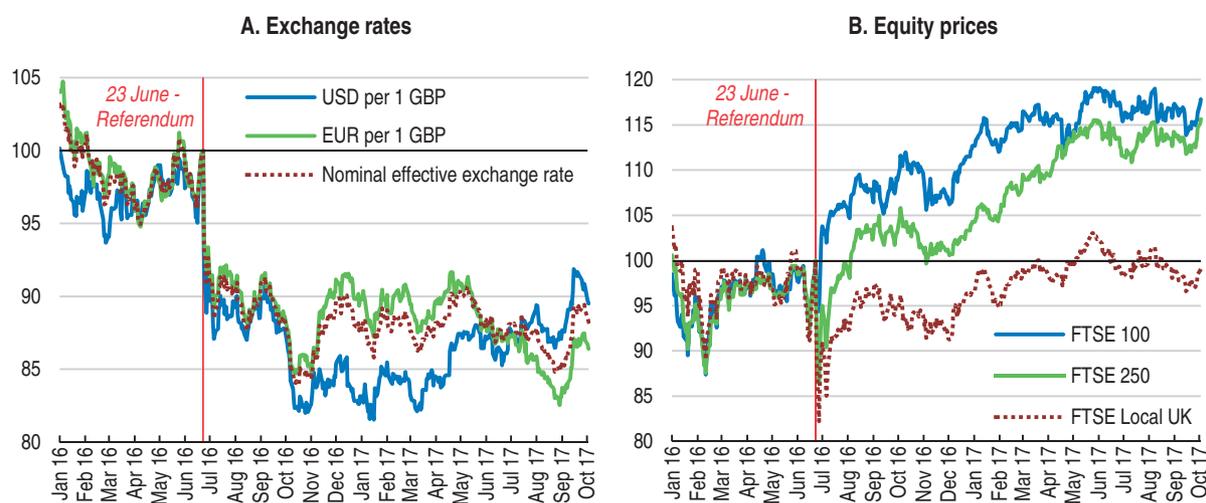
### Stabilising the economy

Growth has gradually been losing momentum, slowing to 1.8% in 2016 and 1.1% (on annualised basis) in the first half of 2017. In the aftermath of the vote in the referendum to leave the European Union in June 2016, short-term confidence indicators fell, trading of several commercial property funds was suspended, and the UK's sovereign rating was downgraded. However, economic activity was resilient in the second half of 2016, in part because policies were implemented to stabilise the economy. The Bank of England increased its provision of liquidity to the financial system, cut the countercyclical buffer rate from 0.5% to 0% and signalled further significant easing of monetary policy, which it implemented in early August. In November 2016, the fiscal framework was amended, allowing greater policy flexibility, and fiscal policy was relaxed.

The exchange rate had been in a downward trend before the referendum and fell by about 10% right after the vote (Figure 8, Panel A), in line with the exogenous assumption made by the OECD prior to the vote (Kierzenkowski et al., 2016). In the year to October 2016, the nominal effective exchange rate depreciated by nearly 20%, almost as much as in the year to December 2008 at the start of the financial crisis. The persistence of currency weakness could notably reflect financial market expectations about the longer-term cost for the UK economy of changes in its trading arrangements after Brexit (Broadbent, 2017). In the

Figure 8. **Financial markets are pessimistic about the UK economic consequences of EU exit**

Index 23 June 2016 = 100<sup>1</sup>



1. Daily data; last data point refers to 3 October.

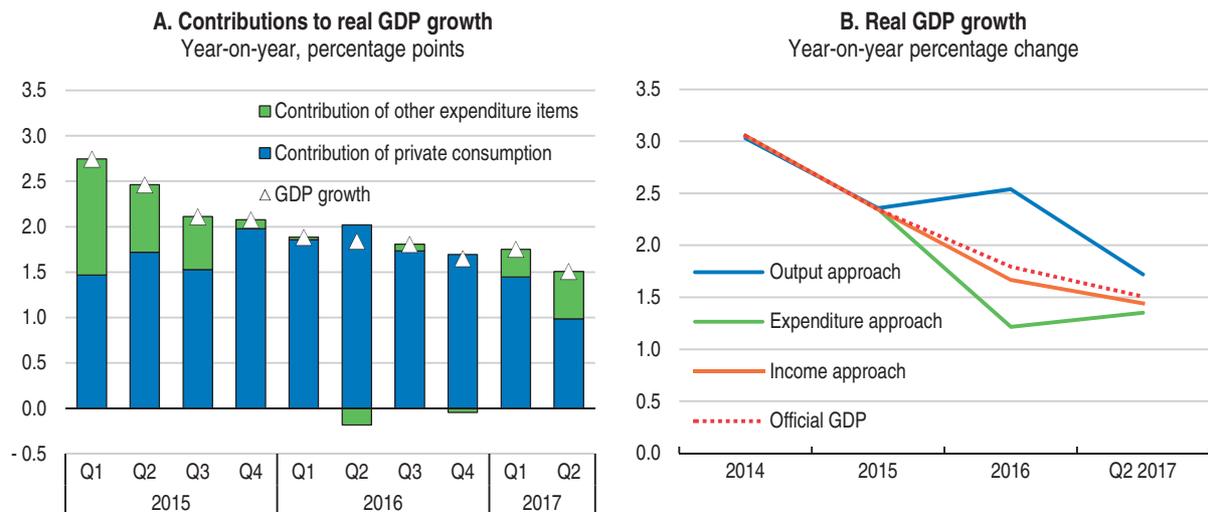
Source: Thomson Reuters Datastream.

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near term, a weaker sterling has propped up valuations of UK companies operating on foreign markets and reporting their profits in domestic currency. By contrast, the valuation of companies mainly selling on the local market has been subdued, as investors expect greater domestic consequences of Brexit (Figure 8, Panel B).

Private consumption has been the main driver of demand growth until recently (Figure 9, Panel A). However, a wide discrepancy exists in recent estimates of GDP according to output, income and expenditure approaches (Figure 9, Panel B), in particular for 2016. These discrepancies should eventually be eliminated by statistical revisions, as has been the case in the past. Household spending has been driven by robust employment growth, very low interest rates and increases in the minimum wage. As their real earnings and real incomes have come to a standstill notably with higher consumer price inflation and weak productivity growth, households have reduced the amount they are saving and increased indebtedness (Figure 10). As a result, the household saving ratio has been trending downwards. Household consumption grew at a small quarterly rate in the second quarter, and some high-frequency indicators suggest a continuation of weaker growth.

Figure 9. **Private consumption has led growth, which has been uncertain**

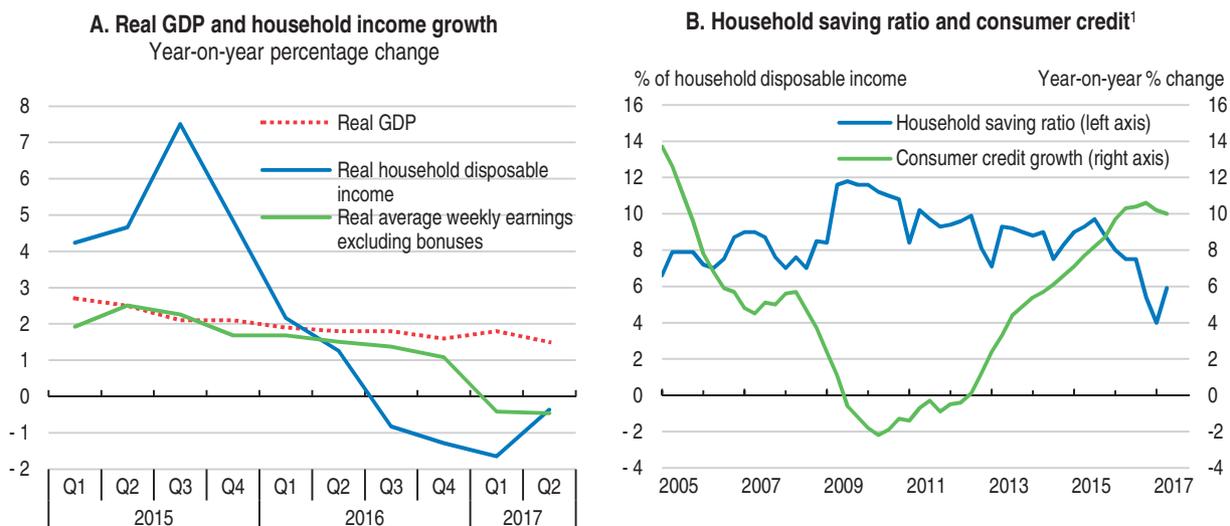


Source: OECD (2017), *OECD Economic Outlook: Statistics and Projections* (database), October; and calculations based on ONS (2017), “Quarterly national accounts: April to June 2017”, Office for National Statistics, September.

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### Growth is projected to weaken

Even as other advanced economies continue to recover, growth is projected at 1.0% in 2018 (Table 1) under the assumption that the United Kingdom exits the European Union in 2019 with the most favoured nation status of the WTO. It assumes that the United Kingdom will update the terms of its WTO membership by 2019 and before it concludes a new partnership with the European Union by 2023 (Kierzenkowski et al., 2016). This is the least favourable scenario which does not assume a smooth transition period to a close partnership after 2019. This scenario would increasingly weigh on private sector spending. While a weak sterling should support exports, exports have not been so far very responsive to exchange rate depreciation. High inflation will hold back purchasing power, but weaker economic activity should mitigate the pass-through of import prices into consumer prices. Lower corporate margins of domestic producers are likely to reduce their ability to finance

Figure 10. **Growth has become less inclusive, as savings are falling and borrowing is rising**

1. Households also include non-profit institutions serving households. Consumer credit refers to total (excluding the Student Loans Company) sterling net consumer credit lending to individuals.

Source: OECD (2017), *OECD Economic Outlook: Statistics and Projections* (database), September; ONS (2017), "Quarterly sector accounts: April to June 2017", Office for National Statistics, September; ONS (2017), "UK labour market: September 2017", Office for National Statistics, September; and Bank of England (2017), "Monetary and Financial Statistics", *Statistical Interactive Database*, September.

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investment and restrain wage growth as firms seek to reduce costs. The unemployment rate is projected to rise moderately, even though the flexible labour market may put more of the adjustment on lower wages rather than job losses.

There are internal and external risks to these projections. The outcome of Brexit negotiations is difficult to foresee. It could prove more favourable than assumed here, which could boost trade, investment and growth substantially. This calls for an ambitious EU-UK agreement and a transition period to allow for adjustment to the new agreement, which would further support economic activity. Meantime, however, uncertainty could hamper domestic and foreign investment more than projected and hurt consumption even more were the exchange rate to depreciate further. The pass-through of currency depreciation to prices could be larger, reducing private consumption into a greater extent. Recent pickup in global trade could benefit exports more than projected. Economic prospects are also subject to medium-term uncertainties, the probabilities and consequences of which are difficult to quantify in terms of shocks to the projections (Table 2).

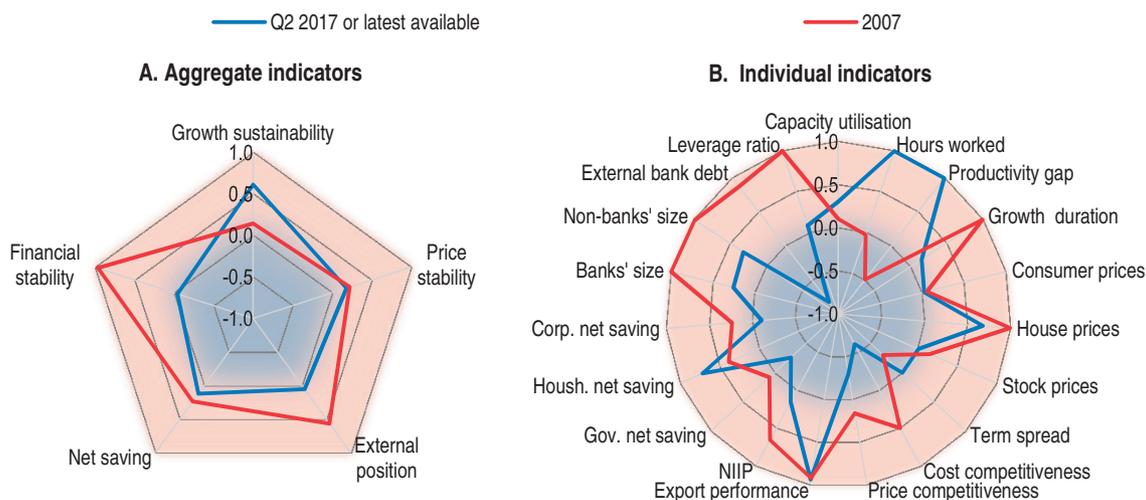
Potential macro-financial vulnerabilities have abated since 2007, but growth sustainability has worsened (Figure 11, Panel A). The size of the financial sector has shrunk, external bank debt has fallen sharply and banks are better capitalised (Figure 11, Panel B), as reforms of the financial sector have continued (Table 3). The net international investment position is close to balance and recent currency depreciation has boosted competitiveness, although export performance is below long-term trend pointing to difficulties by UK exporters to meet overseas demand. Corporate balance sheets are healthy, but the household net saving position is weak and suggests a reduced capacity to smooth consumption in case of shocks, although households also have significant assets. Labour productivity is well below long-term trend and total hours worked as a percentage of the working-age population are at an all-time high. The latter could be indicative of underlying wage pressures, which instead have been

Table 2. **Medium-term shocks to the UK's economic growth prospects**

Risk	Possible outcome
Disorderly Brexit.	A break-up of EU-UK negotiations, cancelling out the prospect of a trading relationship in the foreseeable future, would trigger an adverse reaction of financial markets, pushing the exchange rate to new lows and leading to sovereign rating downgrades. Business investment would seize up, and heightened price pressures would choke off private consumption. The current account deficit could be harder to finance, although its size would likely be reduced.
Disruption of territorial integrity.	Scotland and Northern Ireland voted to remain in the European Union. Scotland could vote for independence in another referendum and the introduction of a hard border in Northern Ireland could threaten the peace process. Changes to UK's borders would have major negative economic impacts, hampering business and consumer confidence.
Political instability.	The latest general election has led to a hung Parliament, which increases policy uncertainty and reduces ability to adopt structural reforms.
Continuation of EU membership.	In case Brexit gets reversed by political decision (change of majority, new referendum, etc.), the positive impact on growth would be significant.

Figure 11. **Potential macro-financial vulnerabilities are smaller, but growth sustainability is weaker**

Index scale of -1 to 1 from lowest to greatest potential vulnerability, where 0 refers to real time long-term average<sup>1</sup>



- Each aggregate macro-financial vulnerability indicator is calculated by aggregating (simple average) normalised individual indicators. Growth sustainability includes: capacity utilisation, total hours worked as a proportion of the working-age population (hours worked), deviation of output per hour from its linear trend (productivity gap), and an indicator combining the length and strength of expansion from the previous trough (growth duration). Price stability includes: headline and core inflation (consumer prices; calculated by the following formula: absolute value of [core inflation minus inflation target] + [headline inflation minus core inflation]), the average of house prices-to-rent ratio and house prices-to-income ratio (house prices), stock market index for all shares adjusted by nominal GDP (stock prices), and the difference between long-term and short-term government bond interest rates (term spread). External position includes: the average of unit labour cost based real effective exchange rate (REER) and consumer price based REER (cost competitiveness), relative prices of exported goods and services (price competitiveness), ratio of exports to export markets (export performance) and net international investment position (NIIIP) as a percentage of GDP. Net saving includes: government, household and corporate net saving, all expressed as a percentage of GDP. Financial stability includes: banks' size as a percentage of GDP, non-banks' size as a percentage of GDP, external bank debt as a percentage of total banks' liabilities, and shares and other equity as a proportion of total banks' liabilities (leverage ratio).

Source: OECD calculations based on OECD (2017), *OECD Economic Outlook: Statistics and Projections* (database), September; OECD (2017), *OECD Analytical House Prices Indicators* (database), September; ONS (2017), "UK productivity: Jan to Mar 2017", Office for National Statistics, July; and Thomson Reuters Datastream.

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Table 3. **Implementation of OECD recommendations on the financial sector**

Past OECD recommendations	Actions taken
Consider higher leverage ratios for global systemic banks to complement risk-weighted capital ratios.	The government granted the Financial Policy Committee (FPC) of the Bank of England powers over the leverage ratio framework in April 2015. The FPC's framework imposes additional leverage ratio buffer requirements on systemically important banks on top of a minimum leverage ratio of 3%, which the FPC is seeking to increase further to 3.25%.
Gradually extend regulatory instruments beyond the banking sector.	The government has made refinements to the regulatory regime for alternative finance providers through amendments to Peer-to-Peer lending regulations, to ensure the regime remains fit for purpose as the sector matures and evolves. The Financial Conduct Authority is currently undertaking a review of the regulatory rules for both Peer-to-Peer lending and equity crowdfunding.
Continue to uphold underwriting standards in mortgage lending.	Since January 2017, the Prudential Regulation Authority introduced tighter underwriting standards for lenders operating in the buy-to-let market.

weak. Price-to-rent and price-to-income ratios suggest an overvaluation of the housing market, although house price growth is easing and mortgage growth has been under control. Banks face limited exposure to losses on mortgages in a crisis according to past evidence, as unemployment does not rise too much and households cut sharply their spending to maintain repayments, but the latter could magnify the downturn (Brazier, 2017).

The authorities should continue to remain vigilant about financial stability challenges created by a rapid pace of financial innovation and the expansion of the shadow banking sector (Table 3). New forms of lending – such as dealership car finance, payday loans or second-charge mortgages – have eased credit conditions and exerted a downward pressure on quoted interest rates for consumer lending (OBR, 2017a). As a result, total consumer lending growth has picked up to around 10% in annual terms, the fastest increase since 2005 until recently (Figure 10, Panel B). Household debt remains high and has rebounded to above 140% of household income. While mortgage debt represents around 70% of household debt, banks face a high exposure to consumer loans, as write-off rates have been ten times higher than on mortgages over the last decade and defaults are much more sensitive to economic conditions (Brazier, 2017). Part of recent growth in consumer lending has been driven by car loans, which may have lower direct financial stability implications in the case of defaults for creditors who have securitised such loans, but more negative implications on institutional investors who have purchased related asset backed securities.

The Bank of England's Prudential Regulation Authority has recently performed a review of consumer credit. The regulator has found that underwriting standards are weakening, notably with falling interest rates (including longer interest-free periods), lower average risk-weights and higher lending into high-risk segments. In June this year, the Bank of England raised banks' countercyclical capital buffer rate from 0% to 0.5% and indicated an additional possible increase to 1% in November, in line with a more normal risk environment. In September it also recommended banks to prepare for further increases in capital buffers to raise loss-absorption capacity against consumer loan defaults. The Bank has also decided to perform earlier its stress tests on consumer lending and confirmed that the Term Funding Scheme – introduced to facilitate the transmission of the latest cut in the policy rate into retail interest rates – would close in February 2018. Latest credit conditions surveys suggest that close to 20% of lenders (net percentage balance) tightened the availability of unsecured credit to households in the first half of 2017, the highest percentage since late 2008, and expected a further decrease in the third quarter (Bank of England, 2017a,b). Despite some recent signs of easing annual growth, should consumer lending remain so robust, the Financial Policy Committee should introduce tighter macro-prudential measures. These

could include the adoption of debt-to-income ratios to limit high debt-servicing ratios for all types of debt with further affordability tests to assess household buffers to absorb shocks (such as higher interest rates).

Government net saving position is consistent with the long-term average (Figure 11), but the Office for Budget Responsibility has assessed in its first Fiscal Risk Report that fiscal sustainability is exposed to interest rate, inflation and productivity shocks (OBR, 2017b). Inflation shocks are likely to be temporary and the accommodating behaviour of the Bank of England does not suggest that the policy rate could be raised to 4% and the quantitative easing programme scaled down in a downturn, as assumed in the stress scenario. However, if trend productivity and GDP growth were just 0.3 percentage points a year lower than assumed by the Office for Budget Responsibility, half of the fiscal buffer against the structural deficit target (see below) would be lost. Therefore, implementing additional productivity-enhancing measures on investment would foster fiscal sustainability.

Brexit will likely have financial stability implications (IMF, 2017). A less concentrated banking sector would reduce systemic risks, but incipient relocation pressures could also lead to a split of financial activities across jurisdictions, generating greater complexity and costs for supervisory authorities. So-called single-market “passports”, which allow financial services companies licensed in one EU member state to perform their activities across the bloc, are likely to feature prominently in the negotiations. Nearly 5 500 UK-based companies have passporting rights and reliance on them is important for the United Kingdom, which has a sizeable trade surplus in financial services. The Prudential Regulation Authority has recently requested all firms with cross-border exposures to draft contingency plans for a range of possible scenarios following a formal exit from the European Union (Bank of England, 2017c). The Financial Policy Committee has started to elaborate a scenario in which there is no agreement in place at the point of exit. Brexit creates also legal challenges for the financial sector. The Financial Policy Committee has warned that Brexit poses challenges for about a quarter of derivatives contracts, while the European Banking Authority has warned that most EU banks have issued loss-absorbing capital under British law, which could create difficulties when bail-in clauses are implemented since British courts will not have to apply European directives. Stress tests should be used to assess financial stability and macroeconomic consequences of different outcomes. Stress tests are frequent, conducted once a year, and a careful monitoring of risks needs to continue before and in the wake of Brexit.

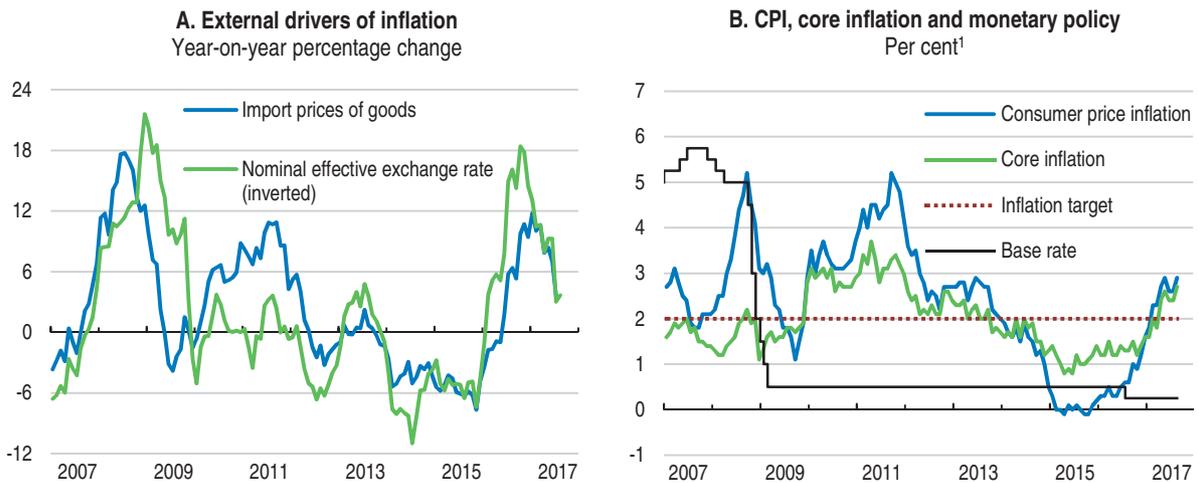
## Monetary and fiscal policy

### ***Monetary policy should look through imported inflation***

Monetary policy has been extremely supportive for some time, in the United Kingdom as in all other major currency areas. The base rate was lowered to 0.5% in early 2009 and since then the Bank of England has been pursuing quantitative easing. In early August 2016, to support activity following the referendum on EU membership, it adopted a further stimulus package by cutting the policy rate to 0.25%, restarting quantitative easing (taking the total stock of asset purchases from 20% of GDP to 23% of GDP), and introducing the Term Funding Scheme (with central bank reserves of up to 5% of GDP lent to banks and building societies for an extended period at a rate close to the policy rate). These measures boosted consumer spending and lending, but were less effective in offsetting the effects of uncertainty and low corporate risk appetite on business investment (Figure 12).



Figure 13. Price pressures have increased, as the exchange rate has fallen

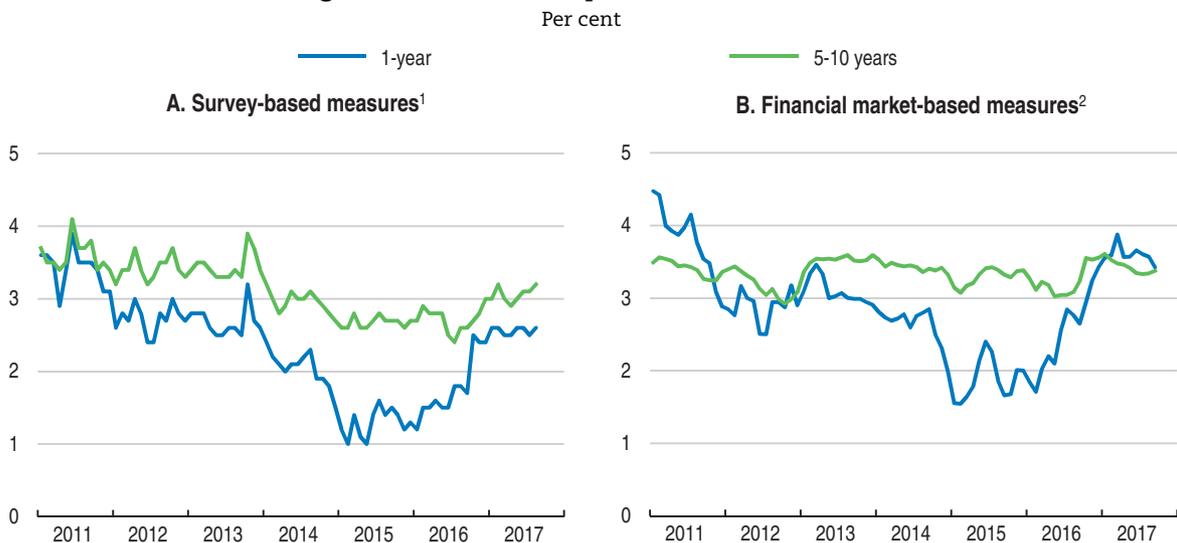


1. Core inflation excludes energy, food, alcohol and tobacco.

Source: Thomson Reuters Datastream; ONS (2017), "UK consumer price inflation: August 2017", Office for National Statistics, September; and Bank of England.

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Figure 14. Inflation expectations have risen



1. Last data point refers to August 2017.

2. Last data point refers to September 2017. For financial market-based expectations the series for short-term expectations (i.e. 1-year) is based on inflation swaps and the series for long-term expectations is based on 5-year and 10-year inflation swaps.

Source: Thomson Reuters Datastream; and YouGov/Citi.

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A number of reasons could explain the absence of the expected pick up in wages, including technology and globalisation, the changing nature of work (with lower unionisation and collective bargaining), and the shifting relationship between employers and employees (with rising self-employment, flexible and part-time working and zero-hours contracts) (Haldane, 2017; Carney, 2017). Planned increases in the minimum wage to 60% of the median wage in 2020, a high ratio by OECD standards (see below), could increase wage claims in response to pay scale compression. Even though monetary policy should look through these temporary effects, it needs to remain vigilant to signs of persistent domestic inflationary pressures.

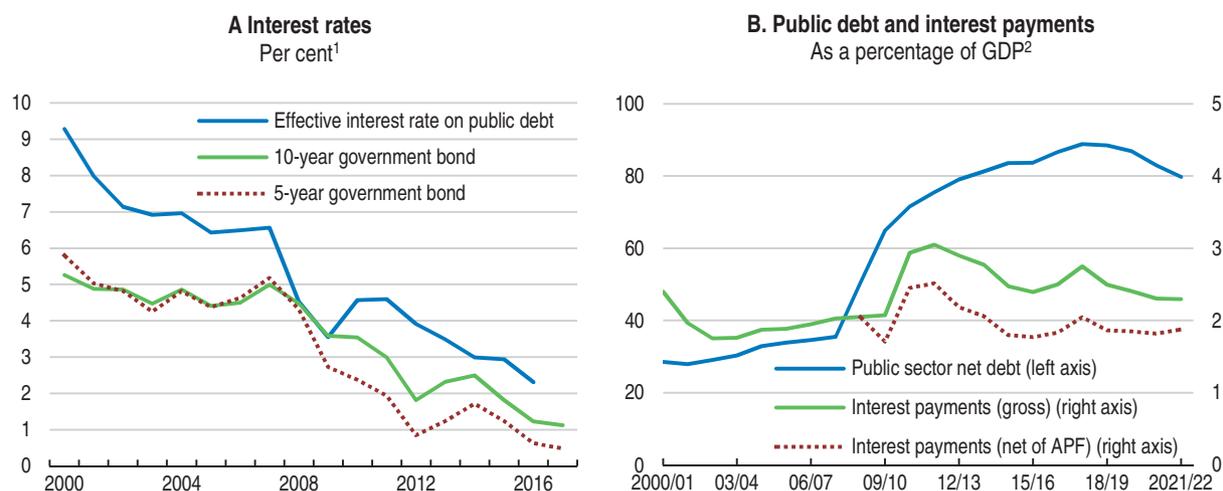
### Ensuring fiscal sustainability

After peaking at nearly 10% of GDP in 2009, the budget deficit has been gradually reduced to around 3.0% of GDP more recently. Both the overall and the cyclically-adjusted deficits have been reduced, with fiscal adjustment concentrated on the spending side, mainly on welfare. Public debt has stabilised at just below 90% of GDP.

The government has allowed for a more accommodative fiscal policy stance this year, which is welcome, notably as public investment made an important contribution to growth in the second quarter. Also, acknowledging the impact that higher uncertainty and weaker projected growth will likely have on public finances, the government has revised the fiscal framework to increase policy flexibility. In November 2016, the updated fiscal targets required: i) to achieve a fiscal surplus as early as possible in the next parliament (after 2020) and to ensure that the structural deficit falls to 2% by 2020-21; ii) to reduce the public debt as a percentage of GDP in 2020-21; iii) and to reach a higher cap on certain welfare spending (excluding pensions and unemployment benefits) with a target date of 2020-21. After the June 2017 general election, the government has reiterated its commitment to these targets. The fiscal framework also contains an escape clause in the event of a significant negative shock to the economy (the magnitude of which is undefined), which provides additional policy flexibility to respond to significantly weaker growth.

Monetary policy has indirectly improved fiscal sustainability. Underpinned by an unprecedented monetary stimulus, market and effective interest rates on public debt have fallen (Figure 15, Panel A). Quantitative easing has led to a further reduction in debt interest payments, as all coupons on government bonds acquired by the Bank of England's Asset Purchase Facility (which implements the programme) are transferred to the Exchequer.

Figure 15. **Low interest rates and quantitative easing have had positive spillovers on debt sustainability**



1. The effective interest rate is calculated as the total interest and dividends paid by the government divided by the stock of outstanding government securities at the end of the financial year. Securities that have been purchased through the Bank of England's Asset Purchase Facility are excluded from the calculation. Data for 10-year government bond refer to annual average of daily data. Data for 5-year government bond refer to annual average of monthly data. Data for 2017 refer to the average of the available data.
2. Data refer to fiscal years. The Asset Purchase Facility (APF) was set up for the Bank of England (BoE) to carry out quantitative easing, which aimed to stimulate the economy.

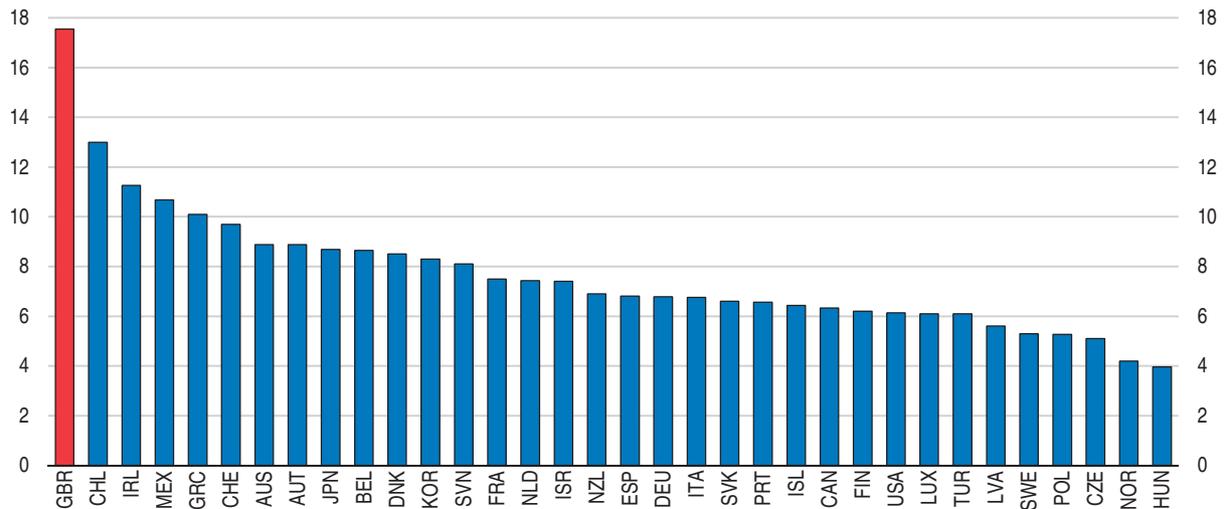
Source: HM Treasury; ONS (2017), "Public Sector Finances borrowing by sub-sector", *Dataset*, Office for National Statistics, June; Thomson Reuters Datastream; and House of Commons Library (2017), "Government borrowing, debt and debt interest: historical statistics and forecasts", *Briefing Paper*, No. 05745, 21 March 2017.

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Between 2017-18 and 2021-22, the government will have saved around GBP 40 billion (2% of current GDP). Net debt interest payments as a percentage of GDP are similar to pre-crisis levels, despite a higher public debt (Figure 15, Panel B). The United Kingdom has also the highest average maturity of public debt in the OECD (Figure 16), which reduces rollover risks.

Figure 16. **Average maturity of public debt is high**

Average term-to-maturity in years, 2016<sup>1</sup>



1. Data refer to the latest, publicly available, information. Average term-to-maturity in years (e.g. 0.5 years correspond to 6 months) of outstanding marketable debt. Data are collected from debt management office and national authorities' websites. Data are not strictly comparable across countries. The average term-to-maturity of outstanding debt might include government holdings (e.g. Norway), might include short-term debt (e.g. Denmark, United Kingdom) or exclude it (e.g. Ireland), include the effect of swaps (e.g. for France and Norway) or exclude that effect.

Source: OECD (2017), *OECD Sovereign Borrowing Outlook 2017*.

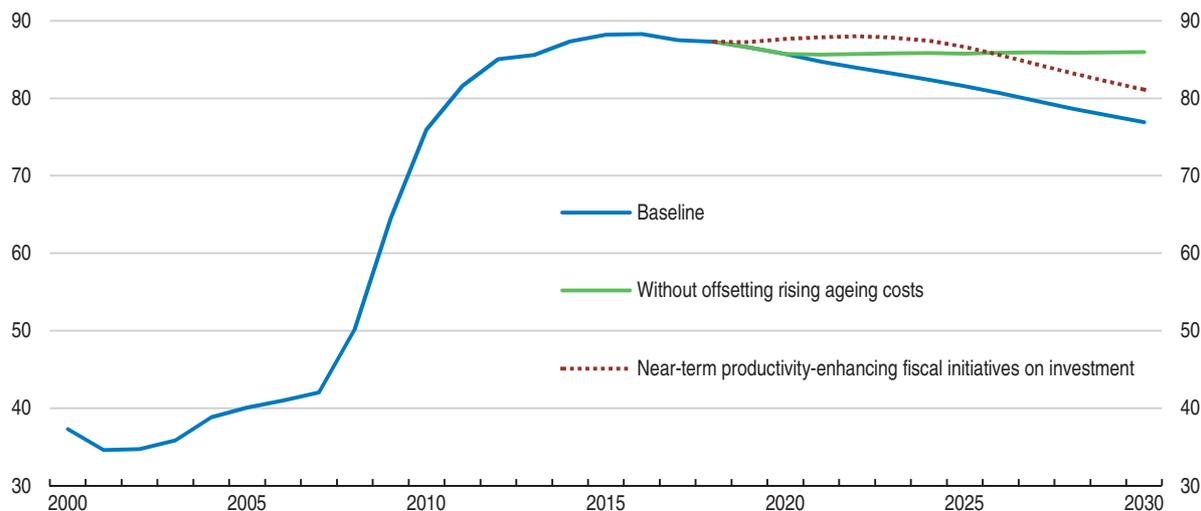
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There is fiscal space to support the economy in the near term, should growth remain poor, but additional measures are needed to address population ageing in the longer term (Figure 17). Assuming the government pursues its fiscal consolidation programme, the debt-to-GDP ratio will fall in the baseline scenario to below 80% of GDP, but more gradually as Brexit will lead to lower growth relative to the counterfactual (Kierzenkowski et al., 2016). To cushion the economic impact of Brexit in 2019, the government should work on a contingency fiscal plan by already identifying productivity-enhancing fiscal initiatives on investment that could be deployed swiftly if need be, to support demand in the short term and supply in the medium term. If the amount of those contingency measures is about the size of the fiscal buffer (1¼% of GDP), this would still allow the government to meet its structural deficit target of 2.0% of GDP in 2020. Population ageing will increasingly weigh on public debt in the 2020s, preventing the debt-to-GDP ratio from continuing its downward trajectory in the absence of offsetting policy measures. This highlights the importance of sustaining fiscal sustainability with a robust fiscal framework and a sound medium-term strategy.

### **Making fiscal policy fairer and creating additional fiscal space**

While the post-tax and transfer Gini coefficient is lower than in 2009, policies foreseen until the end of the decade will have important distributional effects, as official estimates show (Figure 18). Higher in-kind benefits from public services will benefit all households and the richest will make the greatest contribution to fiscal consolidation by 2019-20. However,

**Figure 17. Illustrative public debt paths**  
General government debt, as a percentage of GDP<sup>1</sup>

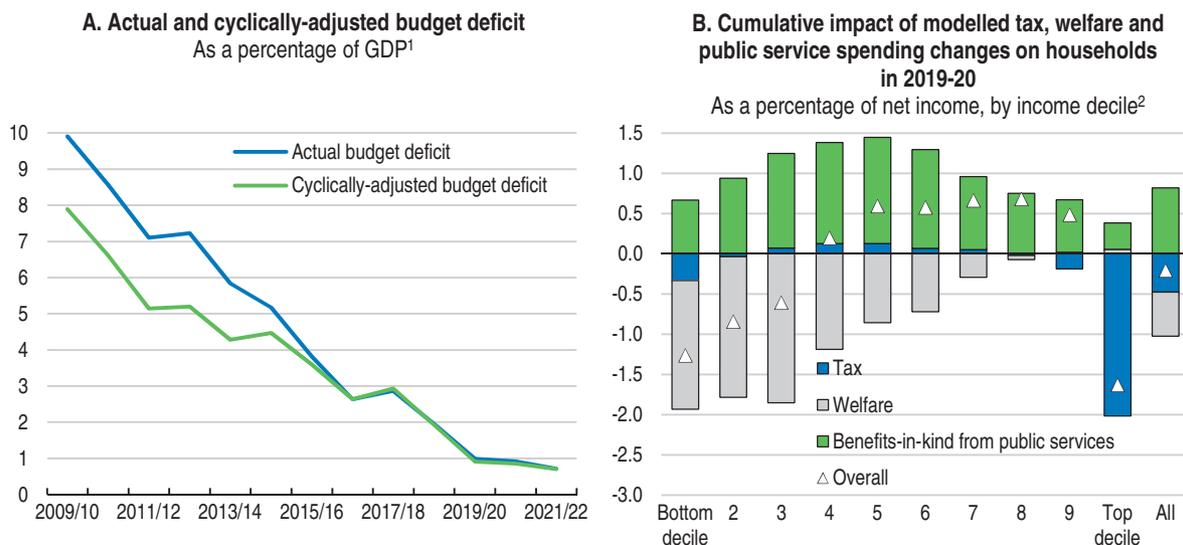


1. General government debt according to Maastricht definition. The “Baseline” scenario uses growth projections from the Economic Outlook database until 2018 and from Kierzenkowski et al. (2016) thereafter; changes in the government balance are in line with OBR projections from 2019 to 2021 and then kept constant thereafter. The “Without offsetting rising ageing costs” scenario assumes that increased ageing effects add an additional 1.2% of GDP to annual government spending by 2030, in line with estimates by the European Commission (2015). The “Near-term productivity-enhancing fiscal initiatives on investment” scenario assumes an additional stimulus of 1¼% in 2019 and that the deficit gradually reduces to baseline levels from 2022 onwards.

Source: Calculations based on OECD (2017), *OECD Economic Outlook: Statistics and Projections* (database), October; Office for Budget Responsibility (OBR); Kierzenkowski, R., N. Pain, E. Rusticelli and S. Zwart (2016), “The Economic Consequences of Brexit: A Taxing Decision”, *OECD Economic Policy Papers*, No. 16, OECD Publishing, Paris; and European Commission (2015), “The 2015 Ageing Report: Economic and budgetary projections for the 28 EU member states (2013-2060)”, Directorate-General for Economic and Financial Affairs.

StatLink <http://dx.doi.org/10.1787/888933600942>

**Figure 18. Further fiscal consolidation is planned, with important distributional effects by 2020**



1. Data refer to fiscal years.

2. Net income includes households’ benefits-in-kind from public services. All refers to all households.

Source: OBR (2017), “Economic and fiscal outlook”, Office for Budget Responsibility, March; and HM Treasury (2017), *Impact on households: distributional analysis to accompany Spring Budget 2017 March*.

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planned cuts in welfare spending will reduce incomes of the poorest. In particular, lower child tax credits introduced in 2017 will negatively affect households with more than two children (IFS, 2017), reducing incomes for a number of them to below 60% of the median income and/or below the poverty threshold (Ghelani and Tonutti, 2017).

Working-age individuals have made the largest contribution to consolidation efforts, whereas older individuals have been relatively unaffected (IFS, 2017). Reforming the “triple-lock” indexation for state pensions – pensions rise by highest of the rate of inflation, the rate of increase in average earnings, or 2.5% – would share consolidation efforts more widely. Indexing the state pension solely to average earnings would be fairer, while it would still allow pensioners to benefit from improvements in living standards. The replacement rate for state pensions is one of the lowest in the OECD, although some pensioners have significant assets in occupational pensions and/or in housing. Therefore, while state pensions should be indexed to average earnings, pensioners with no or low assets should benefit from flanking policies to head off poverty risks. Relative poverty rates (50% of the median income) are currently slightly below the OECD average (10.4% vs. 10.7%) for those aged 66-75, but they are above the OECD average (18.5% vs. 13.9%) for those aged 76 and more.

Self-employment has continued to expand, which is narrowing the tax base as self-employed workers pay lower national income contributions relative to employees, which historically reflected differences in state pensions and contributory welfare benefits. However, these differences have been reduced with recent reforms, as self-employed workers build up the same entitlements to state pensions as employees since 2016. Self-employed workers benefit from public services in the same way as employees. There is also a risk that employers are pushing workers into self-employment to bypass national income contributions and minimum wage regulations. To improve fairness in tax policy and reduce risks for the financing of the social insurance system, the authorities should gradually reduce the gap between national income contributions for self-employed and employees, as they planned to initiate in early 2017 (Table 4).

The corporate income tax (CIT) rate has been reduced substantially over the last decade, from 30% in 2007 to 19% 2017, the lowest single rate for businesses of all sizes in the G20. An additional cut to 17% at a cost of 0.2% of GDP has been legislated by the authorities for 2020. This would broaden the gap between the taxation of capital and labour, which could reduce inclusiveness. The effects of Brexit and weak demand in the United Kingdom are top risk factors for respectively 60% and 57% of businesses (Deloitte, 2017). In this context, the impact of the CIT rate cut on investment and supporting demand might be lower than previously anticipated. Hence, public spending on hard and social infrastructure could be considered instead to support demand in the short term and to enhance potential growth in the longer term.

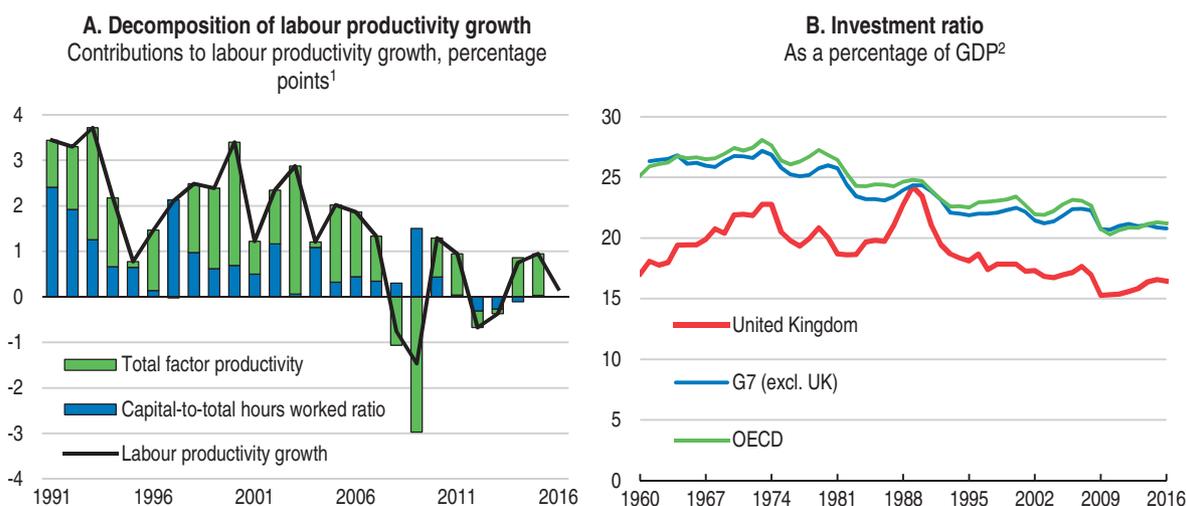
**Table 4. Implementation of OECD recommendations on fiscal policy fairness**

Past OECD recommendations	Actions taken
Ensure consolidation efforts are fair.	The income tax personal allowance was increased to GBP 11 500. To reduce the incidence of low pay and increase returns to entering work, the National Living Wage (minimum wage for workers aged 25 and over) was increased cumulatively by 15% between 2015 and 2017.
Broaden the tax base, such as equalising income taxes and social security contributions between the self-employed and employees.	In the 2017 March Budget, the government planned to raise the lower national insurance contributions (NIC) that self-employed individuals pay compared to employees, but shelved its plan soon afterwards owing to the electoral promise not to raise income taxes, NICs or value added tax (VAT) following the election in 2015.

### Using fiscal space for new fiscal initiatives, including to support the new industrial strategy

There is a need to increase productivity-enhancing spending on investment to make growth more sustainable and inclusive. Since the financial crisis, the weakness of labour productivity growth has stemmed from lower growth in total factor productivity and capital deepening, with the former showing some signs of recovery but the latter remaining subdued (Figure 19, Panel A). The weakness of capital stock accumulation and total factor productivity reflects poor investment, with the investment ratio being below pre-crisis levels and remaining comparatively low (Figure 19, Panel B).

Figure 19. Total factor productivity and capital deepening have fallen along with overall investment



1. Labour productivity is defined as real GVA per total hours worked. Contributions to growth are calculated using a weight of 0.67 for total hours worked and 0.33 for productive capital; total factor productivity is calculated as a residual. Productive capital excludes investment in housing.

2. In nominal terms. Investment refers to gross fixed capital formation. The aggregate for G7 (excluding the United Kingdom) (i.e. Canada, France, Germany, Italy, Japan and the United States) is calculated as an unweighted average.

Source: ONS (2017), "Quarterly sector accounts: April to June 2017", Office for National Statistics, September; ONS (2017), "UK labour market: September 2017", Office for National Statistics, September; ONS (2016), "Capital stocks, consumption of fixed capital: 2016", Office for National Statistics, August; and OECD (2017), *OECD Economic Outlook: Statistics and Projections* (database), October.

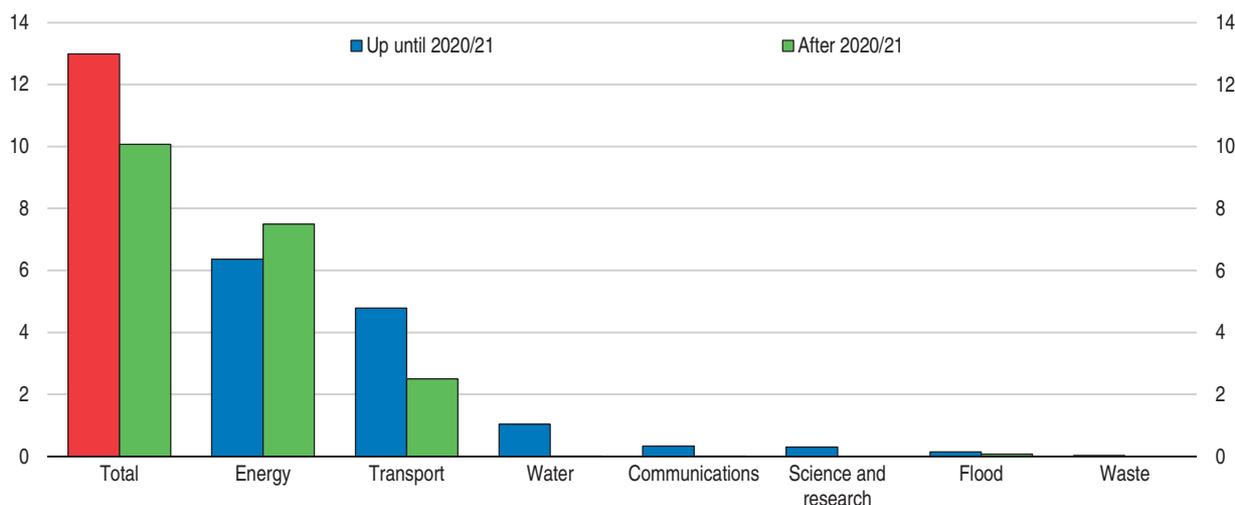
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Higher and well-targeted spending on infrastructure would raise the capital stock and improve resource allocation in the economy, raising efficiency. The previous *Survey* assessed how to improve infrastructure. Since then, the authorities have made progress to strengthen long-term strategic infrastructure planning, and to sustain the provision of infrastructure by the private sector (Table 5). Total public investment has been in a downward trend as a result of fiscal consolidation, being at about 2.5% of GDP despite a recent uptick, which is 1 percentage point less than the OECD average. Infrastructure investment needs remain significant (Figure 20). In 2016, the authorities updated a list of strategically important projects for which private and public investment is sought. Total investment need, mainly pertaining to the energy and transport sectors, is estimated at 13% of GDP by the end of this decade and an additional 10% of GDP beyond 2020.

More recently, the government has set up a new National Productivity Investment Fund with a view to increase public spending in areas that are critical for productivity:

Table 5. **Implementation of OECD recommendations on infrastructure**

Past OECD recommendations	Actions taken
Continue to build on the progress made with the National Infrastructure Plan to further enhance long-term infrastructure strategy and planning.	In January 2016, the government established the National Infrastructure Commission as an executive agency of HM Treasury to provide advice and make independent recommendations to the government on national infrastructure priorities. In January 2016, the Infrastructure and Projects Authority was established as part of both the Cabinet Office and Treasury to support the delivery of the government's infrastructure priorities.
Develop further the use of public-private partnerships (PPP) and public guarantees for privately financed infrastructure projects, recording the associated assets and liabilities in the government fiscal accounts. Enhance the provision to investors and the public of comparable data about public guarantees, and the financial and operational performance of PPP projects.	The government supports private sector infrastructure provision through the UK Guarantees Scheme (UKGS), with total guarantees of GBP 40 billion (2% of GDP). In late 2016, government extended the UKGS to at least 2026. All PPP projects are recorded in the Whole of Government Accounts. For new PPP projects (PF2), the government plans to publish the forecast and actual rates of return annually, hence allowing a comparison between the expected and actual performance of projects.

Figure 20. **Largest investment needs identified by the authorities are in energy and transport**  
As a percentage of GDP<sup>1</sup>

1. In real terms. Includes public and private investment.

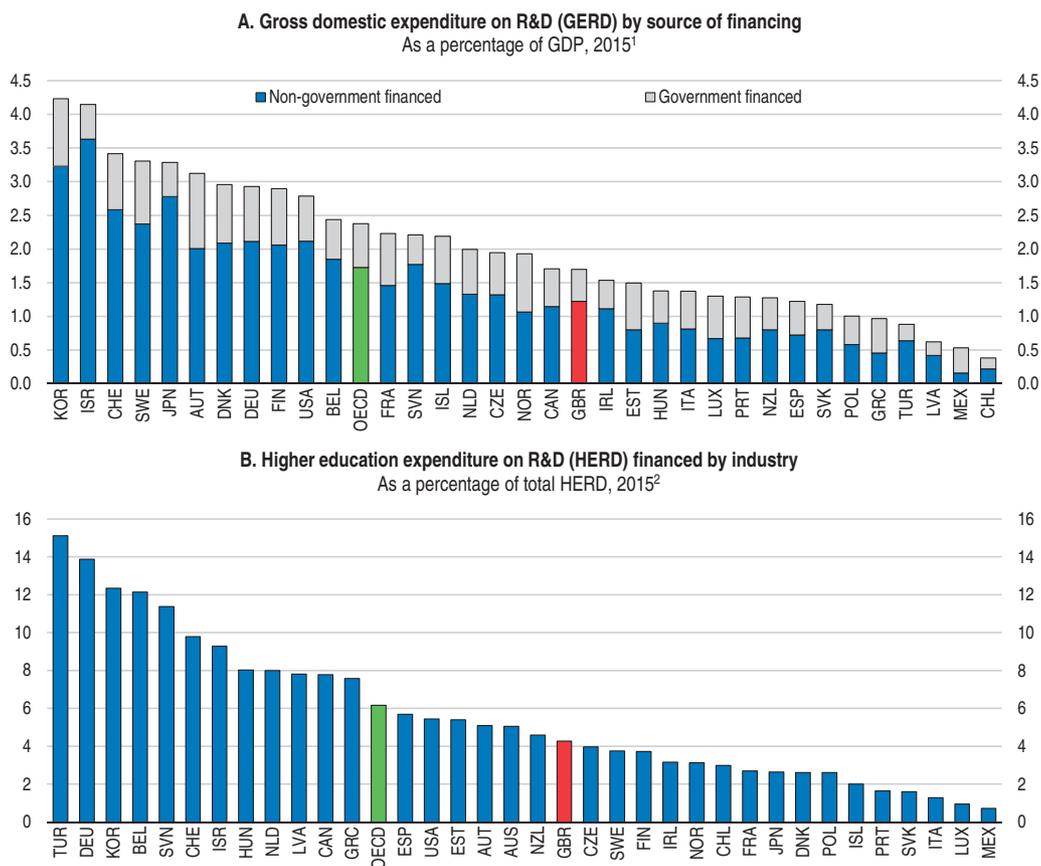
Source: HM Treasury (2016), "National Infrastructure Pipeline 2016", March.

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infrastructure, research and development (R&D) and housing. This is a welcome step, in line with the recommendations made in this *Economic Survey*. The Fund will allocate a budget of GBP 23 billion (1.2% of GDP) by 2021-22, but spending is mainly back loaded with nearly three-quarters of it scheduled after Brexit (OBR, 2016).

More spending on R&D would enhance not only the invention but also the diffusion of new technologies and their adoption by businesses. Total spending on R&D is below the OECD average and the government could complement existing tax relief schemes by further increasing direct funding of R&D (Figure 21). Collaboration between businesses and universities should also be encouraged by expanding and refining existing initiatives (Higher Education Innovation Fund, Catapult centres). As R&D can also help the absorption of knowledge and business practices, the least productive regions should have priority in applied R&D (Figure 22), while support for basic research should be directed to the centres of excellence. Moreover, the density of industrial robots is one of the lowest in the OECD (Figure 23).

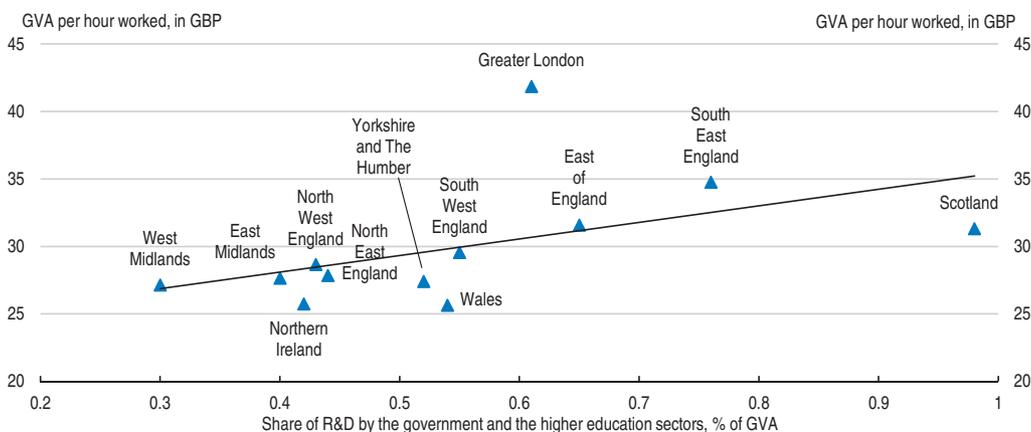
Figure 21. **Research and development spending and collaboration is below the OECD average**



1. 2014 for France, Ireland, Italy, Portugal, and the OECD aggregate. 2013 for Belgium, Israel, Luxembourg, and Sweden. R&D: research and development.  
 2. 2014 for Australia, France, Italy and Portugal. 2013 for Austria, Belgium, Israel, Luxembourg and Sweden. R&D: research and development.  
 Source: OECD (2017), "Main Science and Technology Indicators", *OECD Science, Technology and R&D Statistics* (database), September.

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Figure 22. **Public R&D intensity is relatively weaker in lagging regions<sup>1</sup>**



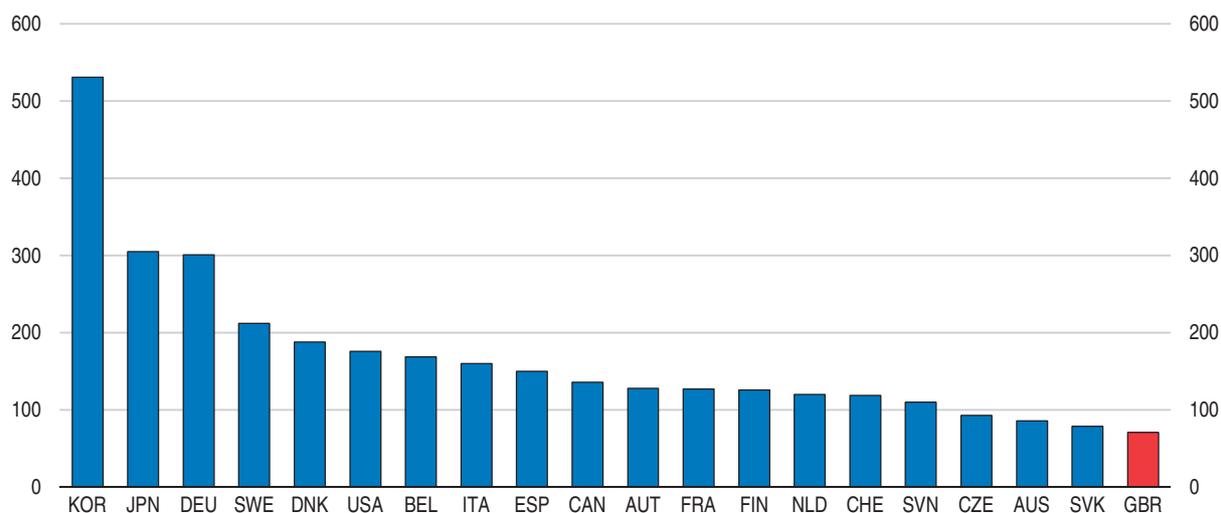
1. Data refer to the latest year available. In the case of GVA per hour worked data refer to 2015. In the case of the share of research and development (R&D) by the government and the higher education sectors data refer to 2013 for all regions except for North East England, North West England and Northern Ireland for which data refer to 2012.

Source: OECD (2017), "Regional Innovation", *OECD Regional Statistics* (database), June; and ONS (2017), "Regional and sub-regional productivity in the UK: Jan 2017", Office for National Statistics, January.

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**Figure 23. Industrial robot density is low**

Number of multipurpose industrial robots (all types) per 10 000 employees in the manufacturing industry, 2015



Source: International Federation of Robotics (IFR).

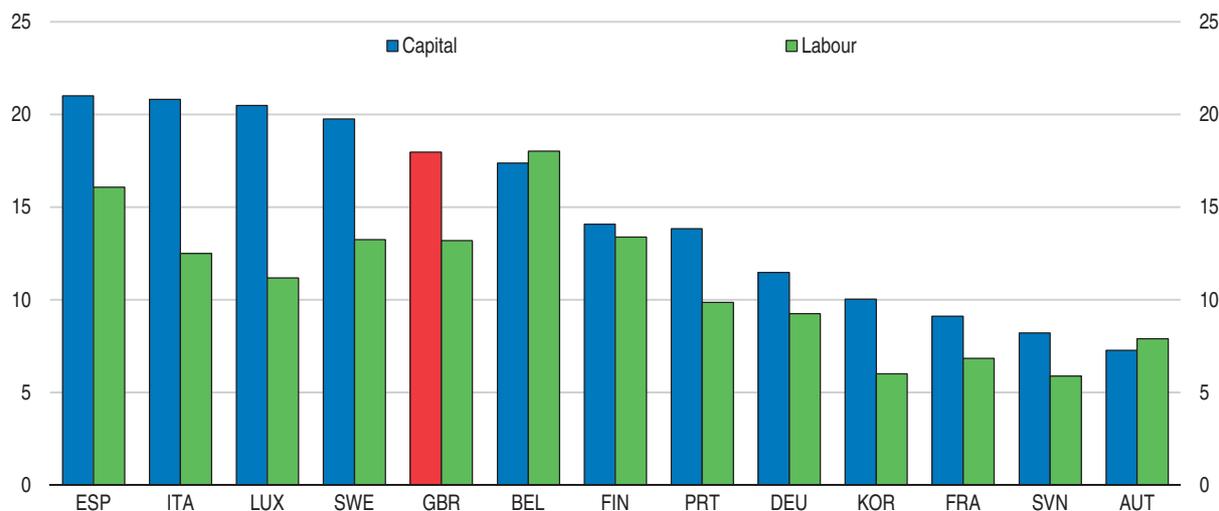
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Although differences in production structure can partly account for this, France has nearly 80% more robots than the United Kingdom, despite industrial production representing slightly less than 15% of gross value added in each country. The authorities could consider introducing an exceptional depreciation scheme for the purchase of industrial robots, as has recently been done by France, which allowed small and medium-sized enterprises to depreciate 140% of the value of their investment.

The government has launched the preparation of a modern industrial strategy to boost productivity and living standards across the whole country, by stimulating investment and skills. The strategy aims at creating the conditions where winners can organically emerge and grow, instead of trying to prop up failing industries or picking winners. An important dimension that the strategy should address to foster productivity-enhancing capital reallocation and business investment is the issue of “zombie firms” – defined as firms which persistently fail to cover their interest payments from current profits (Adalet-McGowen et al., 2017). The low-tech manufacturing sector requires restructuring, as the percentage of capital and labour that is held up by zombie firms is respectively at around 18% and 13% (Figure 24). There is evidence that bank forbearance and some tax reliefs may have helped less viable firms to stay in business (Arrowsmith et al., 2013; Barnett et al., 2014).

Investment support should be targeted at sectors and regions that are lagging behind and whose productivity would be the most responsive to higher capital intensity. From a sectoral perspective, half of the productivity shortfall is explained by non-financial services (with information and communication being the largest contributor), a fourth by financial services, and another fourth by manufacturing, other production and construction (Kierzenkowski et al., 2017a). UK firm-level evidence also suggests that for most regions, knowledge intensive services (ICT and business services) appear the most promising, given the strong potential for spillovers from leading firms in these areas and the large weight of such activities in regional output, comparable to the weight of manufacturing activities (Kierzenkowski et al., 2017b). However, raising R&D intensity of the manufacturing sector would also deliver important productivity increases in the most lagging regions.

Figure 24. **Deficient companies in low-tech manufacturing trap capital and labour resources**  
The share of capital and labour captured by “zombie” companies, per cent, 2013<sup>1</sup>



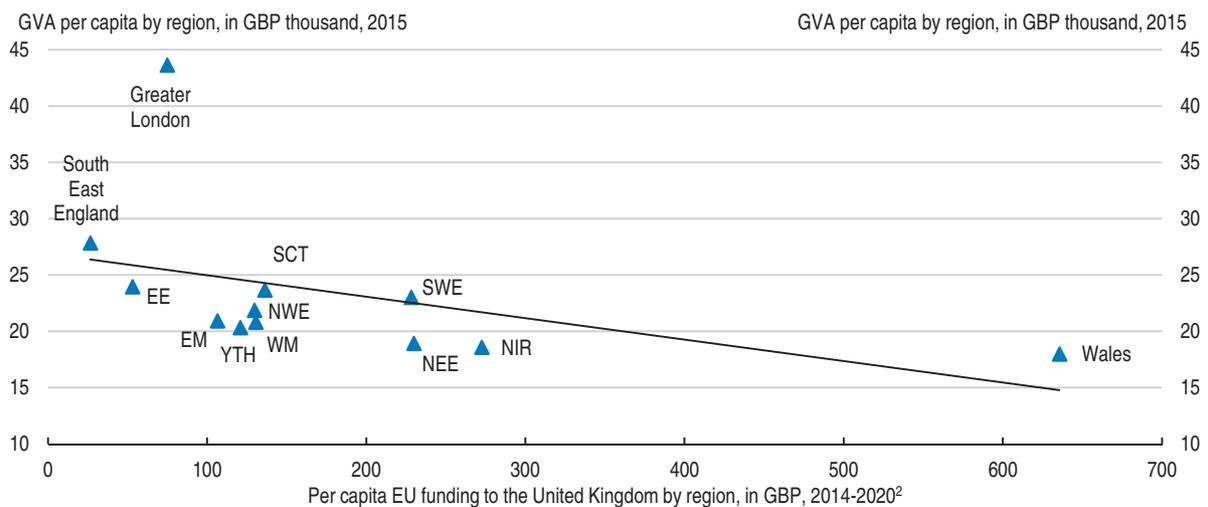
1. Zombie companies are defined as those that are over 10 years old and with interest costs exceeding operating income for at least three consecutive years. Low tech manufacturing follows the Eurostat classification for the NACE Rev.2. industries and comprises of the following sectors: food, beverages, tobacco; textile, wearing apparel, leather; wood, paper, printing and reproduction of recorded media; furniture, coke and refined petroleum; rubber and plastic; other non-metallic minerals; basic and fabricated metals; repair and installation of machinery and equipment; and other manufacturing.

Source: OECD calculations following the methodology of Adalet McGowan, M., D. Andrews and V. Millot (2017), “The Walking Dead? Zombie Firms and Productivity Performance in OECD Countries”, *OECD Economics Department Working Paper*, No. 1372, using the Orbis firm level data by Bureau van Dijk.

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The industrial strategy should delineate policies to deal with the regime change implied by Brexit. This should imply the development of sectoral impact assessments, in particular for sectors deeply integrated with European value chains, such as the aerospace and automotive sectors. The UK authorities have indicated that they may seek to continue the country’s participation in some European programmes. However, a number of poorer regions may lose eligibility of the European structural funds (Figure 25) and lending from the European Investment Bank, which should also require a detailed evaluation and the definition of offsetting policies.

The strategy should have a stronger focus on green growth (Figure 26), notably by promoting related investment, to continue recent policy progress (Table 6). The UK economy is less energy intensive than the average in the OECD, reflecting a low share of industry and a high share of services in output. However, there is scope to further increase the share of renewables in total primary energy supply, which is below the OECD average despite rapid growth since 2007. The UK’s imports have more embodied CO<sub>2</sub> than exports so the per capita carbon footprint (demand-based CO<sub>2</sub> emissions) is higher than actual (production-based) emissions would imply. Air quality measured by the average exposure of individuals to particulate matter is good, but the UK population suffers from frequent air pollution hotspots in cities, and NO<sub>2</sub> limits are repeatedly exceeded. Raising environmental-related taxation would address pollution, as revenue collected from green taxes is considerably below the median OECD country, although the United Kingdom is one of the few countries that do not tax diesel road fuel at a lower rate than petrol. The pursuit of green growth through research and innovation should be continued, as patents per capita are well below the OECD average. Brexit should also not lead to a relaxation of environmental standards.

Figure 25. **Least affluent regions are the most exposed to the loss of EU structural funds<sup>1</sup>**

1. SWE: South West England; NWE: North West England; NEE: North East England; EE: East of England; EM: East Midlands; WM: West Midlands; YTH: Yorkshire and The Humber; SCT: Scotland; NIR: Northern Ireland.
2. Data on EU funding refer to the European Regional Development Fund (ERDF) and the European Social Fund (ESF), but do not include the European Agricultural Fund for Rural Development (EAFRD), the European Maritime and Fisheries Fund (EMFF) and the Youth Employment Initiative (YEI).

Source: SPERI (2016), "UK regions and European structural and investment funds", Sheffield Political Economy Research Unit, SPERI British Political Economy Brief No. 24, May; and ONS (2016), "Regional gross value added (income approach), UK: 1997 to 2015", Office for National Statistics, December.

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## Stimulating regional productivity

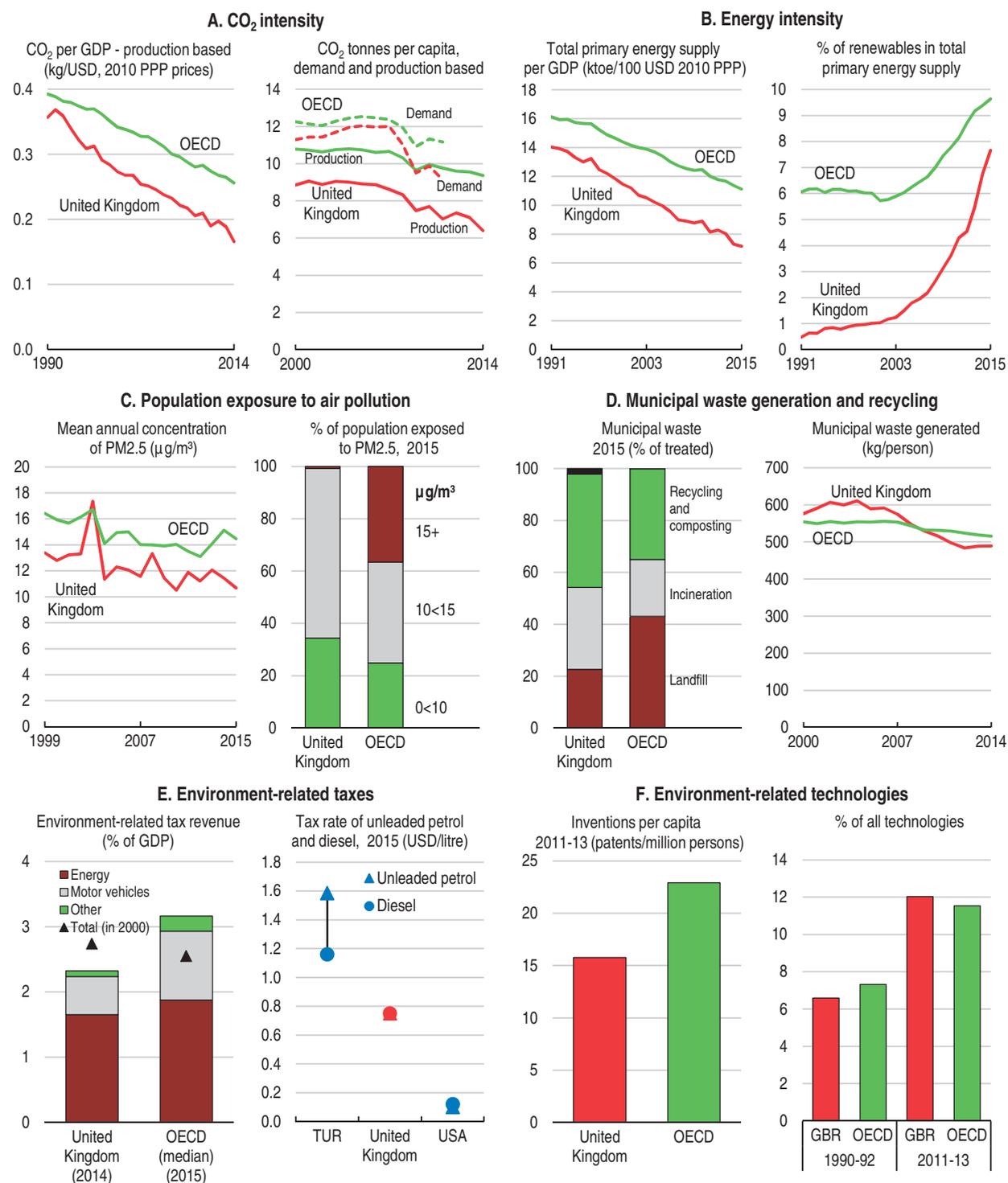
### **Regional disparities in productivity are high**

Regional differences in labour force participation rates and unemployment rates are relatively small in the United Kingdom, but regional disparity in labour productivity remains large and persistent (Figure 27, Panel A). This large gap is mainly driven by London with the productivity of other UK regions falling significantly behind. The average UK region is less productive than the average region in other G7 countries, being on par only with the average region in the OECD (Figure 27, Panel B). Large regional disparities in productivity lead to regional differences in household incomes (Figure 28), with transfers across regions mitigating somewhat income differences (see below).

The percentage of the population living in urban areas is the highest in the OECD, which implies that regional productivity reflects to a large extent the productivity of major cities. The average UK metropolitan area has a weaker productivity performance than the average metropolitan area in the OECD and in some other large or medium-sized OECD countries (Figure 29). Moreover, out of fifteen UK metropolitan areas, eleven of them have a lower productivity than the average metropolitan area in the OECD.

Differences in industrial structure provide further evidence about regional gaps in productivity, consistent with trends observed elsewhere in the OECD (OECD, 2016a). London, where knowledge intensive services – financial and insurance activities, information and communication, professional and scientific activities – represent a high percentage of gross value added (GVA), is also the most productive, as opposed to other regions that are more specialised in manufacturing, in particular its low-tech segment (Figure 30). Also, London stands out as being the most productive within nearly all sectors. However, given differences in sectoral composition, less productive regions face greater difficulties to catch up through

Figure 26. Green growth indicators: United Kingdom



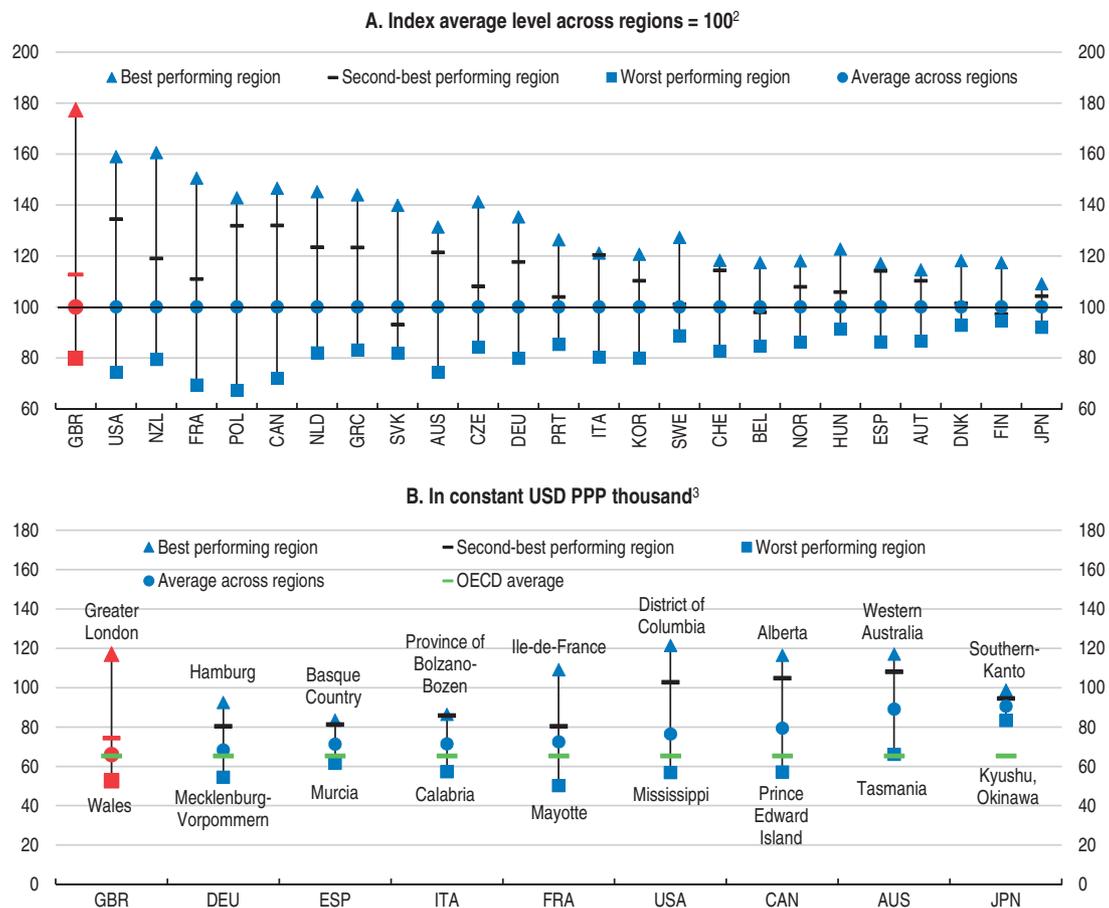
Source: OECD (2017), Green Growth Indicators (database). For detailed metadata, see <http://stats.oecd.org/wbos/fileview2.aspx?IDFile=7ad102dd-e16d-4da0-a20c-624582b9984e>.

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Table 6. Implementation of OECD recommendations on green growth

Past OECD recommendations	Actions taken
Strengthen the Green Investment Bank (GIB) and other targeted financial aids to further support the implementation of not yet commercially viable low-carbon technologies that have the prospect of becoming so in the foreseeable future.	Since its launch in 2012, the Green Investment Bank has become a leading investor in the UK's green economy and has committed GBP 2.8 billion (0.15% of GDP) directly into 83 green infrastructure projects and funds, mobilising over GBP 8 billion (0.4% of GDP) of private capital. The government has announced it would be seeking to sell the GIB to the private sector, which is ongoing.
Move towards a uniform carbon price across sectors and fuels.	The government has announced that it will rebalance the Climate Change Levy rates between energy sources. From 2019, the government will gradually move from a ratio of 1:2.9 and reach parity between gas and electricity in 2025.
Continue to build capacity to adapt to climate change, with a focus on reducing market failures such as the appropriate provision of public goods, including information, better risk-assessment frameworks and more advanced metrics for monitoring and evaluation.	The government continues to support climate change adaptation through policies and actions identified in the first National Adaptation Programme published in July 2013. The second UK Climate Change Risk Assessment was published in 2017, which will be followed by the second National Adaptation Programme setting out how the government will update its approach to address these risks.

Figure 27. Regional disparities in labour productivity are high in the United Kingdom

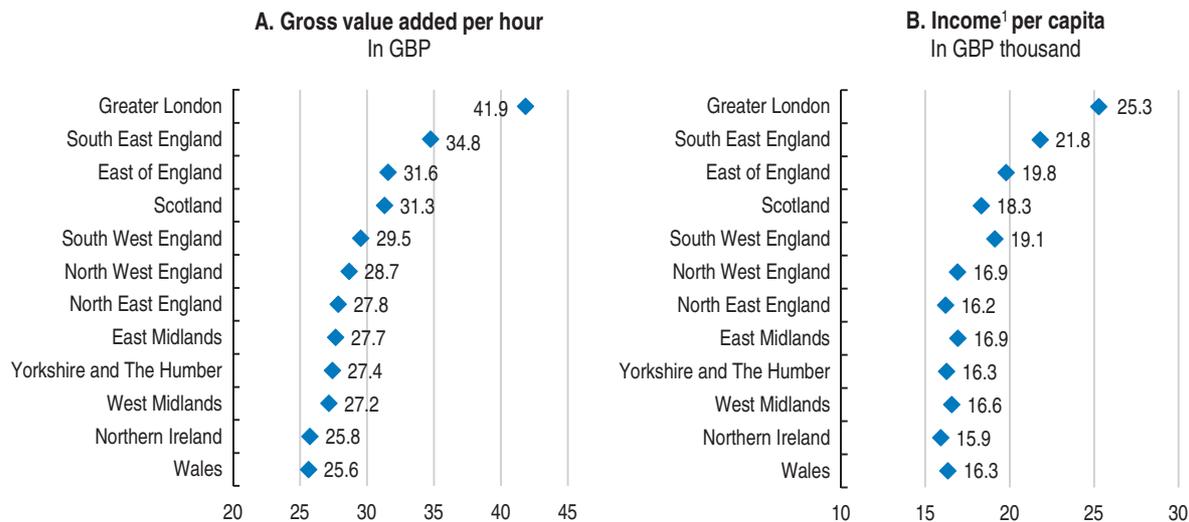
Gross value added (GVA) per worker by region (at TL2 level), 2014<sup>1</sup>

1. Data refer to 2013 for Finland and Hungary. Data refer to 2012 for Japan, New Zealand and Switzerland. In the case of the United Kingdom, there are 12 regions (i.e. North East England, North West England, Yorkshire and The Humber, East Midlands, West Midlands, East of England, Greater London, South East England, South West England, Wales, Scotland and Northern Ireland) at TL2 level.
2. Countries are ranked in descending order of the difference in the level of productivity between the best and the worst performing region. Chile and Mexico, where regional disparities in labour productivity are very high, are excluded from the chart. Territorial level 2 (TL2) refers to large regions within a country.
3. Countries are ranked in ascending order of the average level of productivity across regions. The OECD average is calculated as an unweighted average of the OECD regions for which data are available for 2014. PPP: purchasing power parities.

Source: OECD (2017), "Regional Economy", *OECD Regional Statistics* (database), April.

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Figure 28. **Regional differences in labour productivity and living standards are linked**  
2015



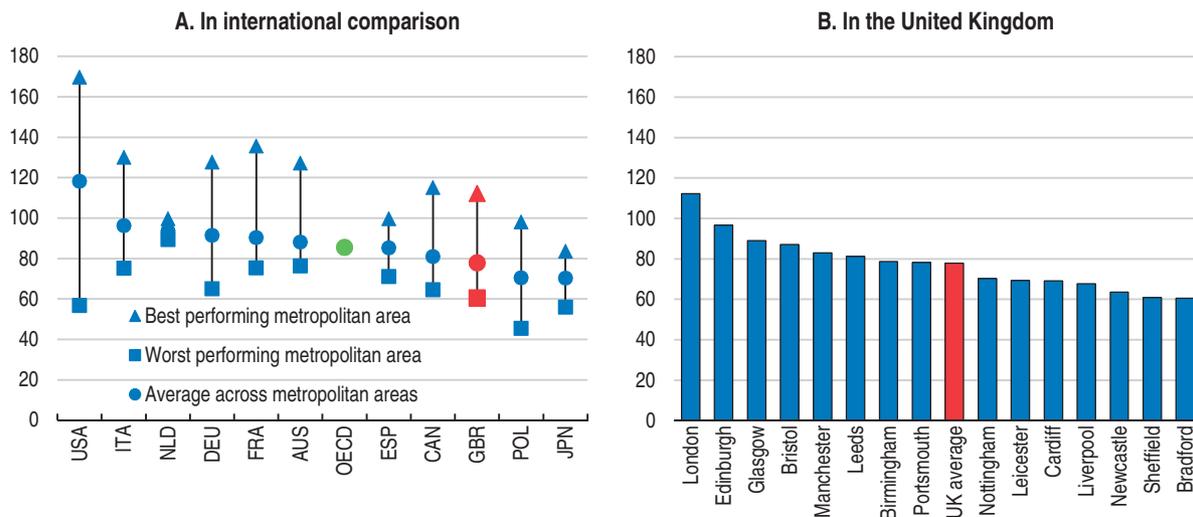
1. Gross disposable household income.

Source: ONS (2017), “Regional and sub-regional productivity in the UK: Jan 2017”, Office for National Statistics, January; and ONS (2017), “Regional gross disposable household income (GDHI): 1997 to 2015”, Office for National Statistics, May.

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Figure 29. **Most UK metropolitan areas have a relatively low productivity**

Labour productivity of metropolitan areas, in constant 2010 USD PPP thousand, 2013<sup>1</sup>



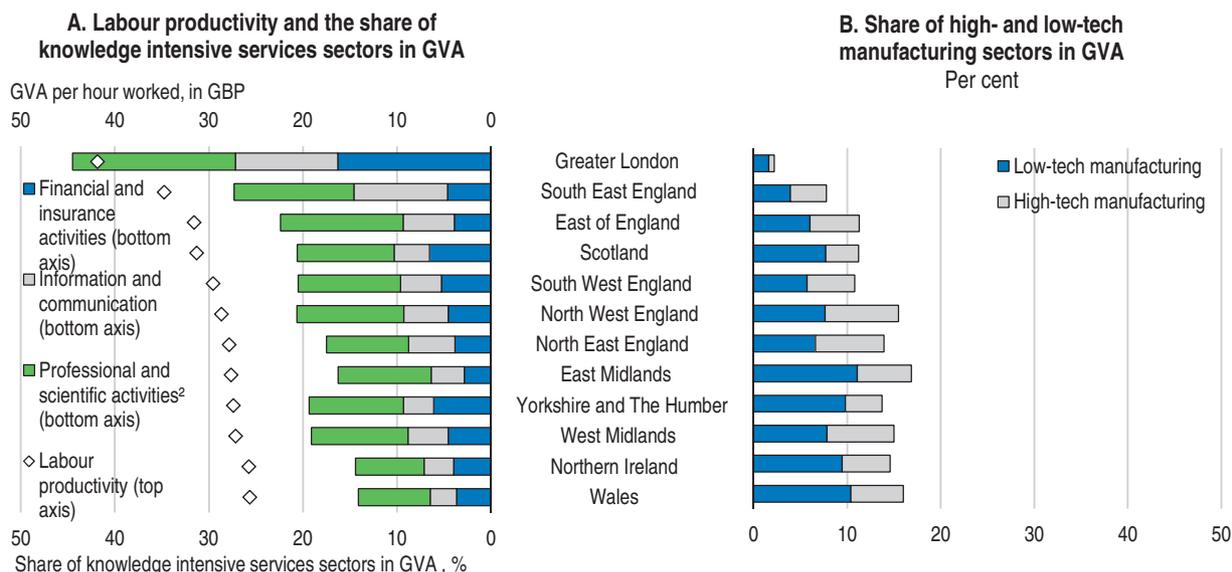
1. Labour productivity is defined as the ratio between GDP and total employment. Metropolitan area is defined as a functional urban area with a population of 500 000 or more. 2012 for France, Germany, Italy, Japan, Poland, Spain and the OECD aggregate. The OECD aggregate is calculated as an unweighted average of the metropolitan areas of 28 OECD countries for which data are available. PPP: purchasing power parities.

Source: OECD (2017), “Metropolitan areas”, OECD Regional Statistics (database), April.

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knowledge and technology diffusion, as associated spillovers are generally more important within the same activities (OECD, 2016a).

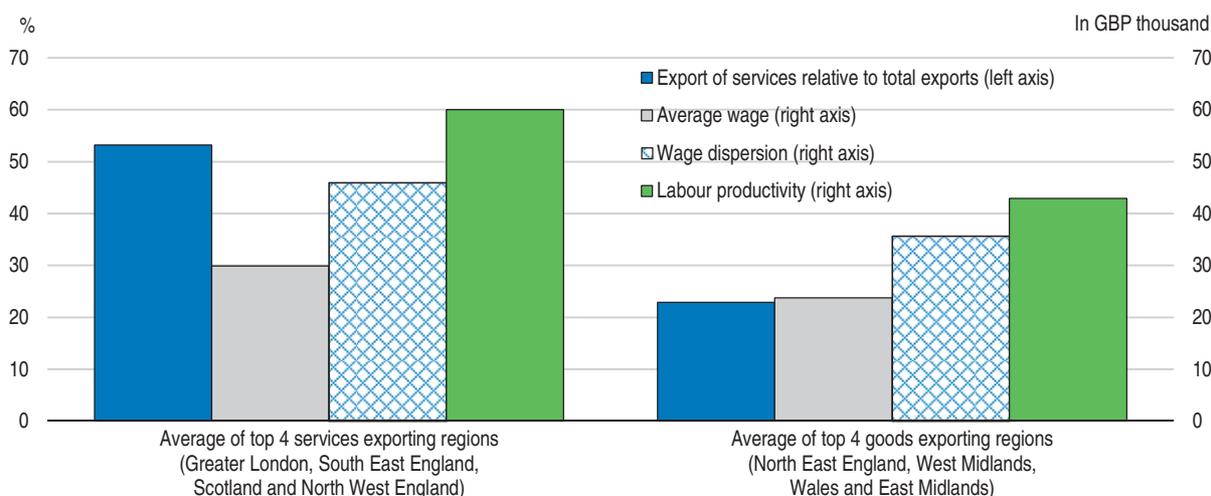
The composition of tradable sectors also influences regional differences in productivity. Regions with the highest services exports in total exports combine higher productivity and wage levels (Figure 31). Although subject to complex and multiple negotiations, maintaining

Figure 30. **Most productive regions are heavily specialised in knowledge intensive services**By regions at TL2 level, 2015<sup>1</sup>

- Regions are ranked in descending order of their level of labour productivity (i.e. gross value added (GVA) per hour worked). High-tech manufacturing refers to chemicals and chemical products (CE), basic pharmaceutical products and preparations (CF), computer, electronic and optical products (CI), electrical equipment (CJ), machinery and equipment not elsewhere classified (CK), transport equipment (CL) based on SIC07 industry classification. Low-tech manufacturing refers to food products, beverages and tobacco (CA), textiles, wearing apparel and leather products (CB), wood and paper products and printing (CC), coke and refined petroleum products (CD), rubber and plastic products (CG), basic metals and metal products (CH), other manufacturing and repair (CM) based on SIC07 industry classification.
- Professional, scientific and technical activities and administrative and support service activities

Source: ONS (2016), "Regional gross value added (income approach), UK: 1997 to 2015", Office for National Statistics, December; and ONS (2017), "Regional and sub-regional productivity in the UK: Jan 2017", Office for National Statistics, January.

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Figure 31. **Regions specialised in tradable services have higher productivity, wages and inequality**2014<sup>1</sup>

- The top 4 services/goods exporting regions are identified by exports as a share of regional gross value added (GVA). Data for average gross annual earnings refer to all employee jobs including part-time employee jobs. Wage dispersion refers to the difference between top and bottom percentiles. Labour productivity refers to GVA per worker.

Source: HM Revenue & Customs (2016), "Regional Trade Statistics", December; ONS (2016), "Estimating the value of service exports abroad from different parts of the UK: 2011 to 2014", Office for National Statistics, July; OECD (2017), "Regional Economy", *OECD Regional Statistics* (database), May; and ONS (2016), "Annual Survey of Hours and Earnings: 2016 provisional results", Office for National Statistics, October.

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comprehensive free-trade agreements to ensure strong integration into global value chains and working towards global liberalisation of services would support productivity and wages in tradable sectors after Brexit. Further steps could be made to reinforce the tradable goods sector through comprehensive policy packages building on regional specialisation, for instance by supporting investment and research and development activities of firms so as to enhance productivity and export performance.

### **Improving infrastructure investment in weaker regions**

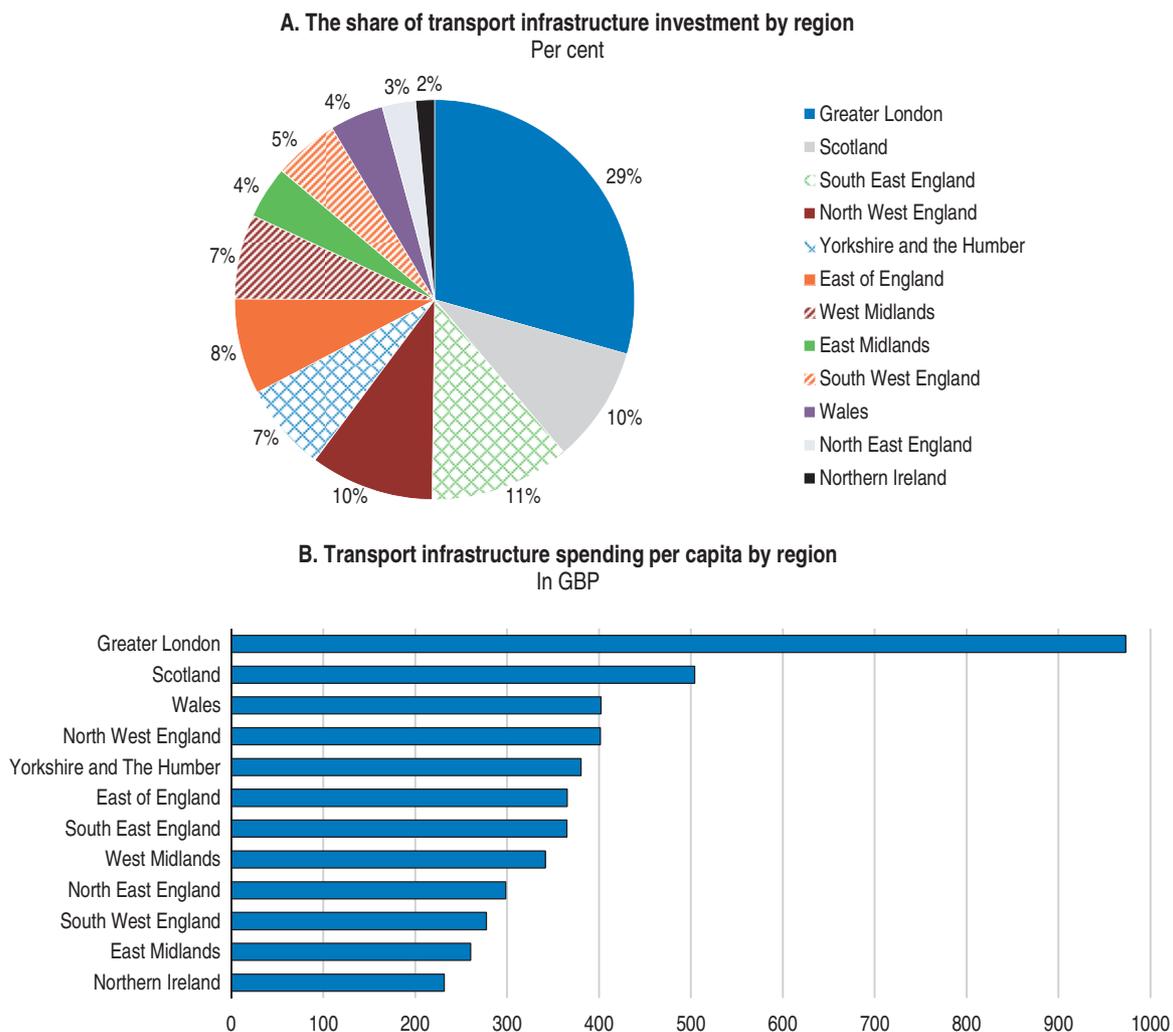
As discussed in detail in the previous *Economic Survey* (OECD, 2015c) and pointed out by other studies (LSE Growth Commission, 2013; NAO, 2013; Armitt, 2013), insufficient infrastructure investment has become a bottleneck in the development of the UK economy. Almost 30% of public transport infrastructure investment is on projects in the capital and represents the highest per capita spending among all other regions, with the majority of investment ensured by the local government body Transport for London (Figure 32).

The authorities have undertaken broader reforms to address these challenges (Table 5). The creation of the National Infrastructure Commission (NIC) in charge of long-term planning in 2015, and the establishment of the Infrastructure and Projects Authority (IPA) in charge of project delivery in 2016, are important steps forward. Importantly, the NIC is to make recommendations independent of political influence, while the IPA reports to government decision-makers. The government should champion both agencies to develop a stable long-term framework for infrastructure investment across all sectors of economic infrastructure and transparent monitoring of progress on delivery.

To reduce economic disparities across regions, the government has launched new investment programmes, which include the Northern Powerhouse Strategy and the Midlands Engine Strategy (HM Government, 2016; HM Government, 2017b), along with major rail investment plans (High Speed Two and Northern Powerhouse Rail). The Northern Powerhouse Strategy (HM Government, 2016) sets out insufficient transport connectivity as one of the barriers holding back productivity in the North of England relative to the South. However, apart from the plans to create better connections between major cities there, significant investment plans are needed to improve intra-city linkages to make transport networks more accessible to those who live outside of the city centres.

Transport project appraisal in the United Kingdom is guided by a so-called “Five Case Model” to ensure projects set out a compelling case on their strategic fit, economic value for money, financial affordability, commercial achievability and management of benefits (HM Treasury, 2015). This approach allows a comprehensive and comparable assessment which helps the United Kingdom prioritise its investments. It ensures that a wide range of options are considered and assessed proportionately at different stages of project development. It is important that, while the government continues to prioritise the highest value-for-money projects, wider strategic aims are also considered in the investment decision-making process, in particular the potential of some projects in some places to foster agglomeration and productivity benefits. The ways of dealing with such challenges are outlined in the recent Transport Investment Strategy of the Department for Transport (HM Government, 2017a). Importantly, the specific characteristics of local areas and their existing plans and aspirations should be taken into account. Moreover, regional economic displacement effects should be considered to ensure that the benefits of transport projects are not overstated, a particularly relevant consideration for developed regions where transport investments can attract economic activity away from less developed areas.

Figure 32. **Most transport infrastructure investment is concentrated in London**  
2015/16<sup>1</sup>



1. Data refer to fiscal year. Figures represent the sum of local and central government expenditure.

Source: HM Treasury (2016), *Country and regional analysis*.

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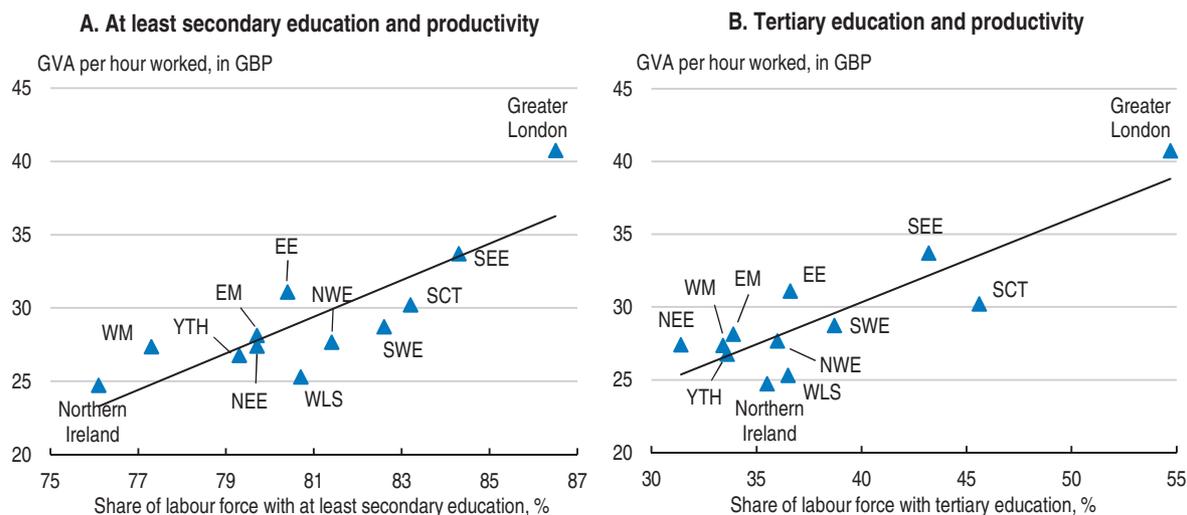
### Developing and retaining skills locally

There is a strong positive relationship between productivity and educational attainment across UK regions (Figure 33). Moreover, a quarter of working age adults have low basic skills (see below).

Hence, it is important to raise secondary and tertiary educational attainment, and to make sure that the curriculum and the quality of teaching are adapted to local needs. Beyond national policies to foster skills, such as the introduction of apprenticeship levy (see below), assigning the adult education budget to mayors of regions with devolution deals is a step in the right direction. However, insufficient resources could be a barrier, also in the case of devolved administrations, which can choose to allocate the block grant that they receive from the central government for other priorities, such as health care.

An integrated approach is needed for attracting and retaining skills, which in turn goes hand-in-hand with attracting businesses that create high-skilled and well-paying

Figure 33. **Educational attainment and productivity are closely related at the regional level**  
2014<sup>1</sup>



1. SEE: South East England; SWE: South West England; NWE: North West England; NEE: North East England; EE: East of England; EM: East Midlands; WM: West Midlands; YTH: Yorkshire and The Humber; SCT: Scotland; WLS: Wales;  
Source: OECD (2017), “Regional Innovation”, OECD Regional Statistics (database), April; and ONS (2017), “Sub-regional productivity: March 2016”, Office for National Statistics, January.

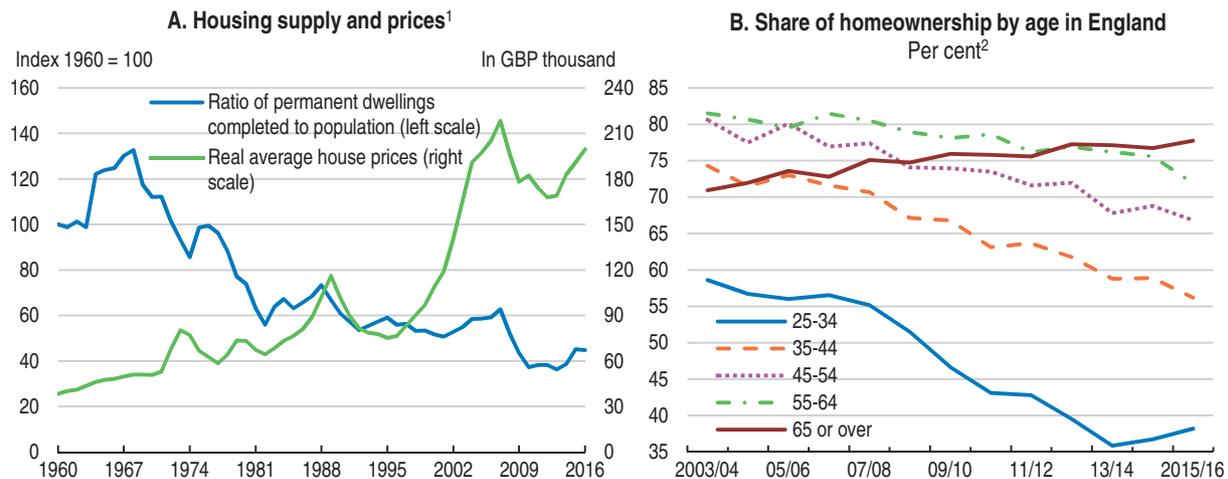
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jobs. This notably requires the provision of quality amenities, including childcare and schools, and of leisure facilities (OECD, 2016a). The authorities are considering better aligning education and training with local labour demand, for instance as part of business support schemes and bodies developed at the subnational level (Local Enterprise Partnerships and Enterprise Zones; OECD, 2015b). Creating a centrally managed system of quality standards, as for instance in Sweden (OECD and ILO, 2017), would reduce the risk of quality differences in education.

### Relaxing housing constraints to boost labour mobility and agglomeration benefits

Higher flexibility of the housing market would raise productivity from the skills that workers possess, improving the matching of skills to jobs (Adalet McGowan and Andrews, 2015). There are significant skills and qualification mismatches in the labour market (see below) and labour mobility is low (CBI, 2017). In parallel, supply has been falling short of demand in the housing market resulting in rising house prices over time (Figure 34, Panel A), with an estimated long-run price elasticity of housing supply of 0.4, one of the lowest in the OECD (Caldera Sanchez and Johansson, 2011). High house prices have curtailed affordability, as reflected by falling homeownership rates, in particular for young and middle-age people (Figure 34, Panel B), but they also increase costs for businesses reducing their competitiveness. The authorities acknowledge that 250 000 new homes would be needed each year (Department for Communities and Local Government, 2017), against 170 000 built in 2015, and they plan to expand the provision of social housing (Table 7).

Recent government plans also foresee the simplification of the delivery of building permits, which would be a major step forward. A key bottleneck to the growth of cities or city-regions are tight land use and planning regulations, both for residential and commercial real estate across all major urban areas, with London showing the strongest price increases (Hilber and Vermeulen, 2016). Urban areas allow more easily an exchange

Figure 34. **Tight housing supply has pushed house prices up, reducing home ownership**

1. House prices are deflated by CPI.

2. Homeownership by age group is defined based on the age of household reference person. Data refer to fiscal years.

Source: Department for Communities and Local Government (2017), "House building: new build dwellings statistics", August; Thomson Reuters Datastream; OECD (2017), *OECD Economic Outlook: Statistics and Projections* (database), September; and Department for Communities and Local Government (2017), "English Housing Survey 2015 to 2016: headline report", March.

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of ideas in a knowledge-based economy, which is done more efficiently through personal, physical contacts, despite advances in communication technology (OECD, 2016a; 2015a). Therefore, creating conditions for cities to expand in an organic way by allowing land permits to match local demand should be a key priority.

The authorities should also thoroughly review the boundaries of protected areas around major cities, so-called "Green Belt", as recommended in past *Surveys* (OECD, 2011, 2013, 2015c). Developing small sites and increasing densities (Table 7) may prove insufficient to address housing shortages. A careful reassessment of the overall economic costs and environmental benefits of maintaining the Green Belt is needed, including alternative ways to preserve or create green space, more integrated in the cities (parks) rather than around

Table 7. **Implementation of OECD recommendation on housing**

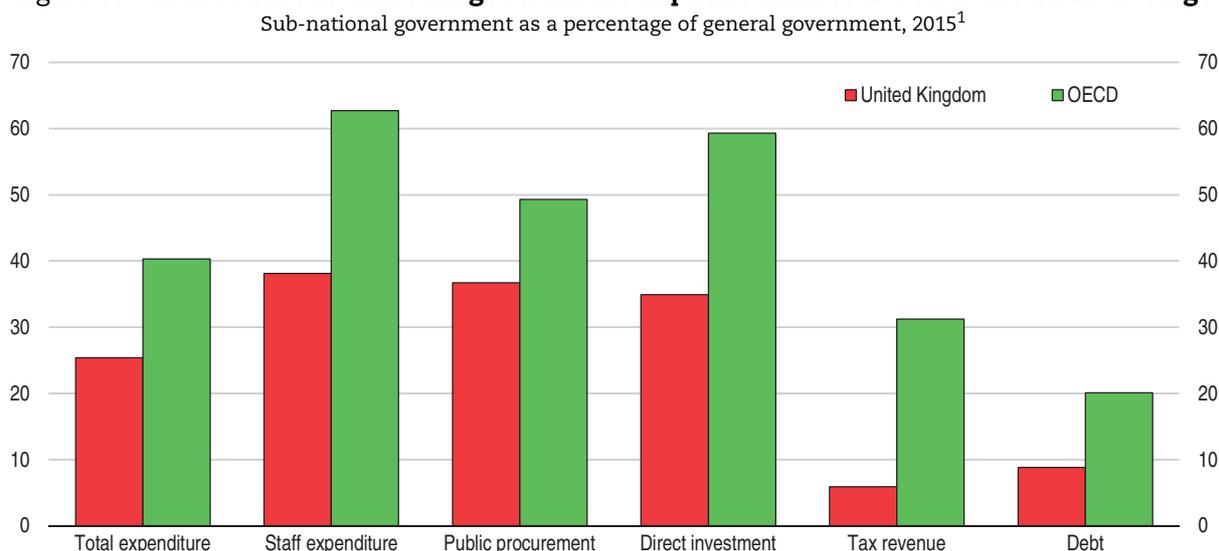
Past OECD recommendations	Actions taken
Ensure access to decent affordable housing through a mix of means-tested housing benefits and subsidies for affordable housing construction, paying attention to the diversity of local needs.	The government provides means-tested support through Housing Benefit and Universal Credit. In the 2015 Spending Review, the government announced the investment of over GBP 8 billion (0.4% of GDP) in housing until 2020-21. In the Autumn Statement 2016, the government committed to invest an additional GBP 1.4 billion (0.1% of GDP) to deliver 40 000 new affordable homes, allowing providers to build a range of tenures to support people in various circumstances and in various stages of their lives.
Enhance competition between developers by facilitating even access to land.	The housing White Paper published in February 2017 contains several measures to boost competition between developers, including greater transparency over land ownership and interests, requiring local authorities to release more small sites to help SME developers, and introducing a housing delivery test to incentivise local authorities to release sites for developers.
Further relax regulatory constraints to boost housing supply, in particular by thoroughly reviewing the boundaries of protected areas of the Green Belt.	The government does not consider Green Belt release to be the most appropriate means of bringing additional land for housing. Instead, the housing White Paper published in February 2017 focuses on other ways in which more homes can be accommodated, such as on small sites and by increasing densities. It also proposes a number of new policy tests to be satisfied before Green Belt is released for development. The aim is to ensure that the use of Green Belt land remains a last resort, while enabling its boundaries to be reviewed where there is a clear and specific justification.

them. Planning decisions should also be put on a more rule-based system, and local authorities should be better incentivised to approve housing projects (see below) to avoid that particular interests impede real estate developments.

### **Raising decentralisation to improve responsiveness to local needs**

The United Kingdom is less decentralised on all dimensions than the average OECD country (Figure 35), which may contribute to the low productivity of most regions and metropolitan areas outside London (Figures 27 and 29). The devolved administrations of Wales, Scotland and Northern Ireland have a relatively high degree of autonomy, but they represent only 15% of the total population. In contrast, England is very centralised and their local councils preside over little power (McCann, 2016).

**Figure 35. Role of UK sub-national government in public finance is below the OECD average**



1. Subnational government is defined as the sum of subsectors: federated government and local government.

Source: OECD (2017), "Subnational government structure and finance", *OECD Regional Statistics* (database), July.

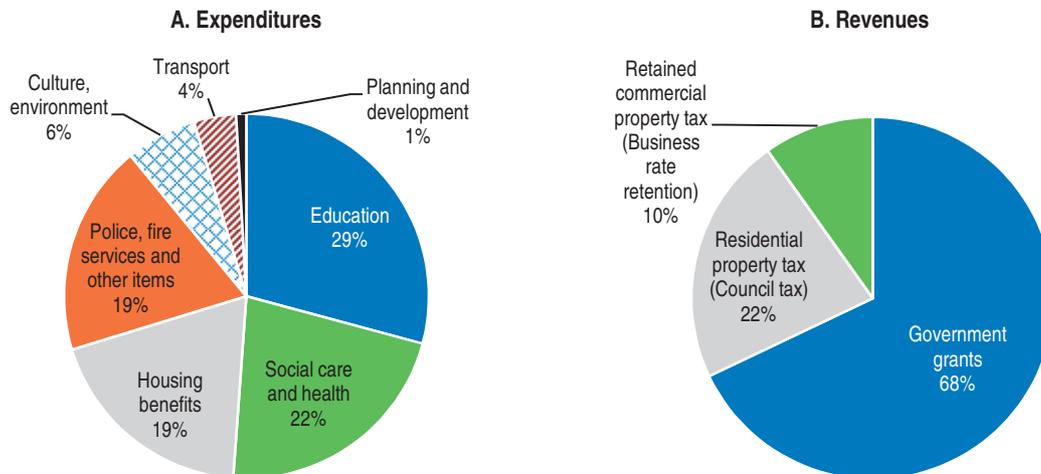
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Decentralisation in England should continue for spending which is better dealt with at the local level, matched by appropriate governance and accountability. Recent "devolution deals" take an appropriate stance by focusing on city-regions that constitute a functional urban area, meaning cities and their surroundings within the same commuting zone. Most deals also require the election of a mayor, which is a welcome step as it has the potential to increase accountability, can streamline local decision-making and improve representation vis-à-vis the national government compared to the prevailing system of local councils. However, the current deals do not yet constitute a major devolution of growth-enhancing spending decisions (Shared Intelligence, 2016). Transport planning features prominently, but it represents less than 5% of local budgets (Figure 36). Policies on larger growth-related spending – such as education, skills and housing – remain largely centrally controlled. London and the devolved administrations (Scotland, Wales and the Northern Ireland) have comparatively more functions and fiscal means to determine key policy areas affecting productivity than local bodies with completed devolution deals.

In parallel to increased devolution, fiscal transfers to weaker regions will also have to remain important given large disparities in economic performance and incomes. Transfers

Figure 36. **Composition of expenditures and revenues of the local authorities in England**

As a percentage of total expenditures/revenues, 2016/17<sup>1</sup>



1. Data refer to fiscal year.

Source: Department for Communities and Local Government.

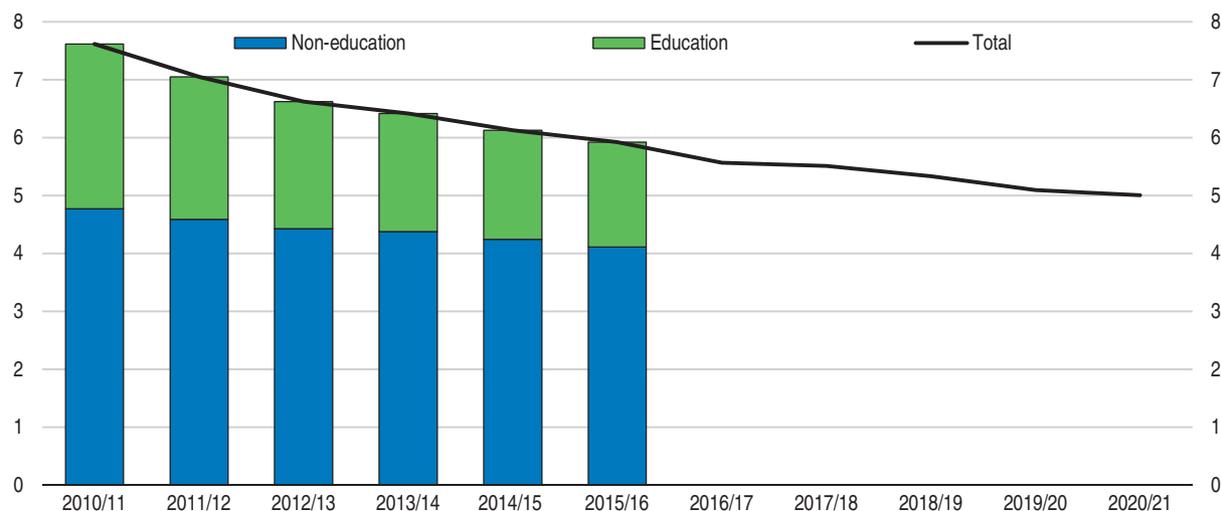
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across regions can have beneficial effects in the near term, but they might undermine local incentives and encourage rent-seeking in the longer term (Bartolini et al., 2016). With this as a background, it is important that transfers are rebalanced towards growth-enhancing measures on infrastructure, education and locally targeted business development so that UK regions can become more self-sufficient over the medium to longer term.

Devolution can raise public sector efficiency by increasing accountability, and providing flexibility in setting and meeting local government objectives (Beidas-Strom, 2017). The United Kingdom has high levels of general public administration efficiency, but health care and education efficiency is weak (Dutu and Sicari, 2016). This may hamper business sector productivity, as education and health care influence the quality of human capital. Although spending on schools remains protected in real terms, local education budgets have fallen as a share of GDP (in part reflecting the shift to centrally-funded academies; Figure 37). This could make it more difficult to address teacher shortages at the local level, particularly in some secondary school subjects in some areas. More targeted resources to retain and attract new teachers, financed with a combination of higher efficiency gains and more direct funding through the pupil premium system, would improve responsiveness to local needs, supporting education and skills needed to raise regional productivity. Also, greater allocation for running the Teaching and Leadership Innovation Fund would help to address training for teachers in disadvantaged schools and improve teacher quality, which would positively affect the productivity of low-skilled workers (see below).

More devolved fiscal powers increase incentives and provide more tools to subnational bodies to create a better local business environment (Bartolini et al., 2016). There is also evidence that granting tax-setting powers to sub-national bodies and leaving the proceeds there increases sub-national public infrastructure investment (Fredriksen, 2013; Kappeler et al., 2013). Indeed, most OECD countries display higher tax autonomy than the United Kingdom, along with smaller regional differences in productivity (Blöchliger et al., 2013, 2016). In England, the two local taxes are the council tax on residential property, and the business

Figure 37. **England's local authorities' net current expenditure on education has been falling**  
As a percentage of GDP<sup>1</sup>



1. Data refer to fiscal years.

Source: OBR (2017), "Economic and fiscal outlook", Office for Budget Responsibility, March.

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rate, which is a tax on commercial property, and together these taxes represent one-third of local revenues (Figure 36). Further decentralisation of these taxes – as started by the New Homes Bonus initiative – could provide more incentives for approving real estate developments. If carried out successfully, such decentralisation could broaden the local tax base by creating a virtuous circle between greater investments in infrastructure and skills, and higher attractiveness of businesses. However, international experience suggests that lagging regions that rely significantly on transfers should implement such steps gradually, to avoid growing revenue differences across local areas (OECD, 2017; Akgun and Dougherty, 2017).

Devolution should not lead to an overly fragmented governance structure. The process should be comprehensive, involving all parts of the country to head off the risk of greater regional imbalances. Central government should aim at building on the most successful elements of the deals concluded so far to mitigate the risk of a piecemeal approach to decentralisation when developing new deals. Moreover, local bodies may internalise the costs that accrue to them but not the benefits to their wider surrounding region. Therefore, it will be important to not lose sight of the broader, more regional, focus beyond the local areas (McCann, 2016; IPPR, 2016). The government should monitor and facilitate the co-operation across local areas – be it city-regions or smaller entities – so that synergies are identified and exploited across them at a larger, more regional level, just as in the context of the Northern Powerhouse project. Making a fraction of central government transfers conditional on the development of larger economic hubs across city-regions would further raise incentives for collaboration.

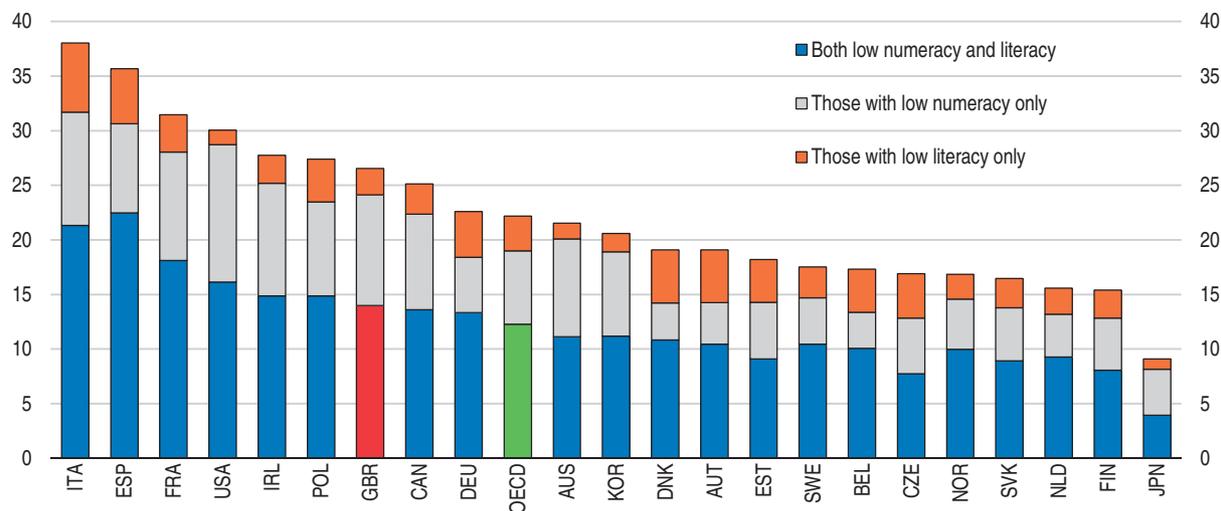
## Improving productivity and job quality of low-skilled workers

### Skills are weak

More than a quarter of adults in England and Northern Ireland have low basic skills, as measured by the Survey of Adult Skills of the OECD Programme for the International

Assessment of Adult Competencies (PIAAC) (Figure 38). The numeracy skill proficiency of working-age adults is low relative to other OECD countries, while their literary skill proficiency is at the OECD average. The percentage of young people with weak basic skills is particularly high, with almost 30% of 16-24 year olds possessing only weak skills. This is nearly as high as the percentage of people nearing retirement (55-65), the opposite of what is observed in most other OECD countries where younger cohorts are better educated than older ones.

**Figure 38. Over 25% of working aged adults have low basic skills in the United Kingdom**  
As a percentage of all adults aged between 16 and 65, 2012<sup>1</sup>



1. Low-skilled are defined as those who are below level 2 on either literacy or numeracy as measured by the Survey of Adult Skills of the OECD Programme for the International Assessment of Adult Competencies (PIAAC). Low-skilled adults struggle with basic quantitative reasoning or have difficulty with simple written information. Data for Belgium refers to Flanders. Data for the United Kingdom are calculated as the population weighted average of England and Northern Ireland. The OECD aggregate is calculated as an unweighted average of 22 OECD countries (with the data for England and Northern Ireland combined by population weights) that participated in the first round of the Survey of Adult Skills.

Source: OECD (2016), "Building Skills for All: A Review of England", OECD Skills Studies.

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The productivity of low-skilled workers is weak in the United Kingdom, and some estimates suggest that their contribution to aggregate productivity growth has been negative (CEDEFOP, 2014). Insufficient skills could explain the high reliance of the UK economy on immigration (Figure 6). Between 2010 and 2016, average annual GDP per capita growth was 1.2%, out of which increases in hours worked per capita of immigrants explain nearly 60%. Over the same period, the contribution of native workers was about nil.

Weak basic skills not only reduce employability, as low-skilled people are about twice as likely to be unemployed than those with higher skill levels, but also reduce job quality and earnings. Low-skilled workers in the United Kingdom have comparatively lower earnings than low-skilled workers in other G7 countries, and the effect of higher skills proficiency on wages is particularly important in the United Kingdom (OECD, 2016b). The type of skills also matters for social and economic integration, and insufficient information-processing skills could be a major obstacle to full participation in modern societies (OECD, 2016b). The recently announced initiative by the UK authorities that entitles all individuals to free basic digital skills training will help to address this issue.

Improving the skills of low-skilled individuals and fostering the utilisation of existing skills that these individuals already possess would boost both productivity and job quality,

and the government has initiated several important reforms in this direction (Table 8). Strengthening basic skills of students requires action throughout the entire education system and should be complemented by measures to better target disadvantaged pupils. Outside formal education, developing on the job skills through training and apprenticeships would improve workers' job quality and productivity.

**Table 8. Implementation of OECD recommendations on education**

Past OECD recommendations	Actions taken
Simplify the system of vocational education, and focus further on high-quality apprenticeships.	In July 2016, the government published a plan to transform post-16 education, with a view to create a streamlined set of 15 technical skills routes. The qualifications will be designed together with employers and the number of hours of learning for students increased by more than 50%, with the first routes planned for 2020. The government recorded the start of nearly 2.5 million apprenticeships since 2010, and is on track to deliver a further 3 million by 2020. The authorities have also introduced an apprenticeship levy, to ensure that businesses invest in apprenticeships and are in control of related training content.
Increase focus and transparency of funding for disadvantaged students. Review the effects of schooling reforms, including Free Schools, on equity, fair access and user choice for disadvantaged students. Encourage the highest quality teachers to move to the most disadvantaged schools.	To make the allocation of school funding in England fairer, the government has replaced the existing system with a National Funding Formula. The transition to a National Funding Formula has been supported by an additional GBP 1.3 billion of funding across 2018-19 and 2019-20. Public schools in England have also received additional funding worth nearly GBP 2.5 billion (0.1% of GDP) to raise the attainment of disadvantaged pupil of all abilities and to close the gaps between them and their peers. A Strategic School Improvement Fund has been created to target schools most in need of improvement. To bolster teacher quality, teacher training providers using innovative models have benefited from incentives, and the National Professional Qualifications and the Teaching and Leadership Innovation Fund have received additional funding. Free schools are providing more choice for disadvantaged students and are one of the highest-performing groups of non-selective state schools (nearly 30% are rated outstanding).
Seek further efficiency gains in education.	The government has developed tools to support efficiency in the education sector, including financial benchmarking for schools, support for workforce planning, and a strategy to help save schools over GBR 1 billion (0.05% of GDP) a year by 2020.

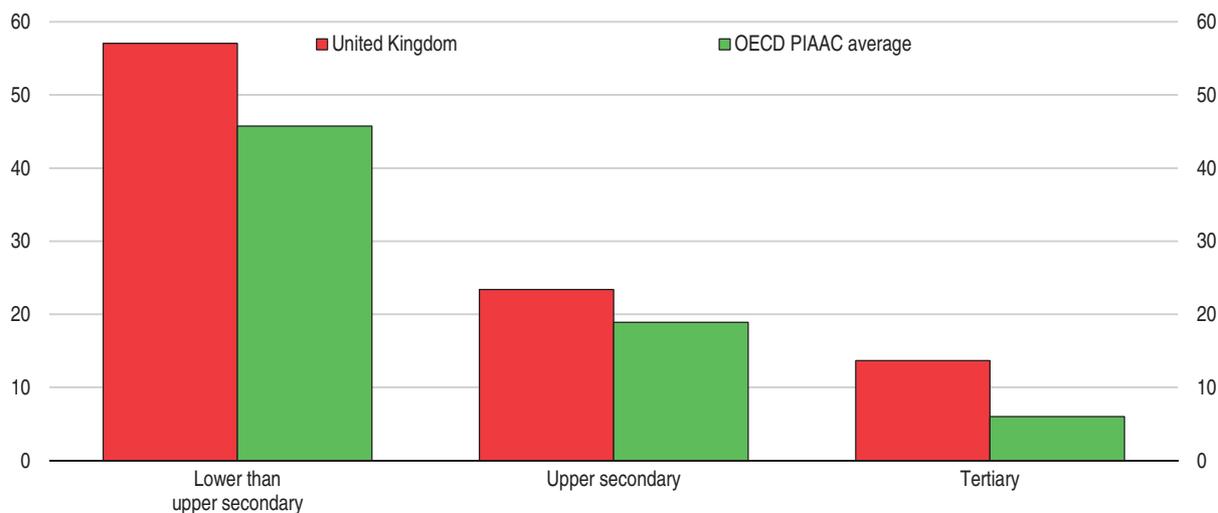
### **Developing skills through general education**

Early childhood, primary and secondary education should primarily be focused on ensuring that all students gain at least the minimum level of basic skills needed to properly function in a modern society. Given the high proportion of individuals with low basic skills, this is an area where formal education needs further improvement. Leaving the education system with strong basic skills helps individuals to find a higher quality first job, which in turn has a more positive impact on employment outcomes during their career (OECD, 2016c). However, low basic skills in the United Kingdom prevail across all education levels, and the percentage of young adults with low basic skills is higher than in the OECD (Figure 39). Important steps have been taken to improve the educational outcomes and basic skills of disadvantaged students. They include the introduction of pupil premium grants and reforms of school funding, although the attainment gaps in early childhood education and secondary education are still quite high (SMC, 2017).

Giving equal chances to all students to succeed would increase equity in education and improve the long-term productivity of low-skilled individuals, in particular by focusing more on students with disadvantaged socio-economic background. In the United Kingdom, family background is more important for an individual's skill level than in most other OECD countries. Young people whose parents have low levels of educational attainment have the lowest level of basic skills proficiencies than in all other countries surveyed (OECD, 2016c). Moreover, higher child poverty threatens to increase the number of children

Figure 39. **Low basic skills at every education level are more prevalent than the OECD average**

Percentage of young adults with low basic skills who have left formal education by highest qualification, 16-34 year-olds, 2012<sup>1</sup>



1. Low-skilled are defined as those who are below level 2 on either literacy or numeracy as measured by the Survey of Adult Skills of the OECD Programme for the International Assessment of Adult Competencies (PIAAC). Low-skilled adults struggle with basic quantitative reasoning or have difficulty with simple written information. Lower than upper secondary includes ISCED 1, 2 and 3C short. Upper secondary includes ISCED 3A, 3B, 3C long and 4. Tertiary includes ISCED 5A, 5B and 6. Data for the United Kingdom are calculated as the population weighted average of the figures for England and Northern Ireland. The OECD PIAAC average is calculated as an unweighted average of 22 OECD countries (with the data for England and Northern Ireland combined by population weights) that participated in the first round of the Survey of Adult Skills.

Source: Calculations based on the PIAAC database.

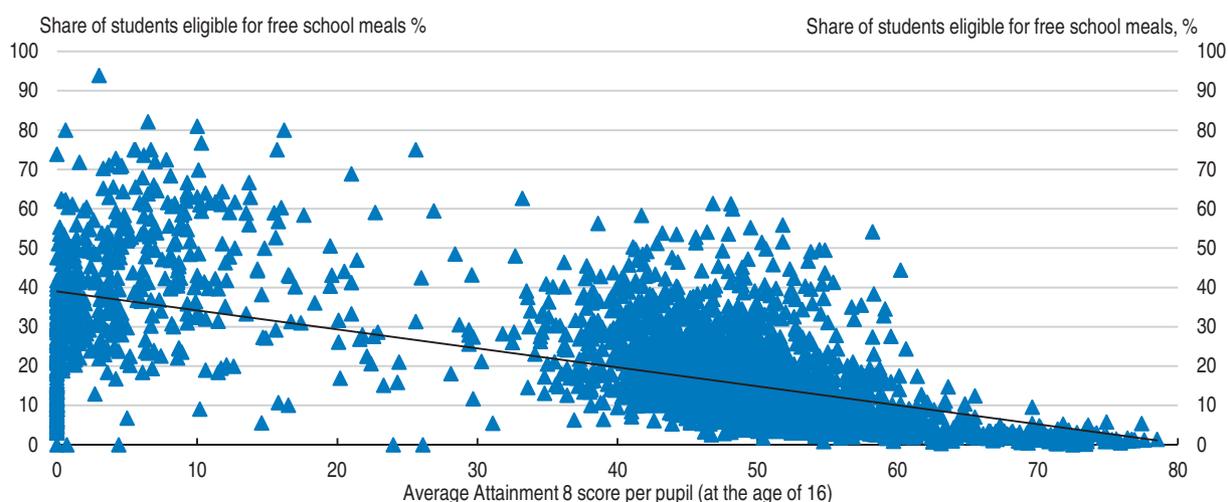
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whose disadvantaged background affects their educational chances. Recent projections show that relative child poverty, after stalling since 2010, could increase from around 30% to about 35% by 2021-22 (Hood and Waters, 2017).

At the earliest stages of education, it is important that children, particularly those who are disadvantaged, are equipped with learning abilities needed to effectively progress throughout later schooling and ultimately to exit the formal education system with strong basic skills. Children from disadvantaged families are eligible for free early childhood education and care (ECEC) from age 2, but enrolment rates and the quality of services that they face need to be raised, which would have beneficial effects in the long term (Melhuish, 2013; Taggart et al., 2015). Targeted training programmes should be provided for staff in disadvantaged areas that are responsible for larger and more diverse groups of children. Participation in ECEC is nearly universal for 3 to 5 year olds, but only 44% of 2-year olds are enrolled, slightly higher than the average in the OECD. The low participation could be linked to high out-of-pocket expenses although it could partly be influenced by personal choices of some parents who believe 2 year olds are too young for ECEC (NAO, 2016). To address the high costs, the government has recently doubled the number of hours of free childcare entitlement for 3 and 4 year olds and introduced a subsidy to cover the taxes paid on the childcare expenses of working families, which complement existing entitlements of free care for 2 year olds from disadvantaged families. Take-up of the ECEC entitlement for 3 and 4 year olds is 95% but for 2 year olds it is at 71%, below the government's target in the range of 73-77% (DfE, 2017). Therefore, the government should reduce compliance costs and raise awareness in local areas where participation is low, so as to increase the take-up of this benefit and foster participation of 2 year olds.

Improving the overall quality of UK schools needs to be complemented by student-level interventions, particularly for disadvantaged students and students who are having difficulty progressing through the education system. Schools that have a higher percentage of students who are eligible for free school meals, an indicator for disadvantage in the United Kingdom, tend to have a lower student performance (Figure 40). The supply of quality teachers is also insufficient with ongoing issues related to both recruitment and retention. Beyond targeted resources to retain and attract new teachers (see above), non-wage incentives should be encouraged to improve their job-satisfaction, including the implementation of more collaborative working environments and decentralised decision-making in schools.

Figure 40. **Disadvantaged students have a weaker academic progression**  
2015-16<sup>1</sup>



1. The Attainment 8 score is a companion metric of Progress 8, which aims to capture the progress a pupil makes from the end of primary school to the end of secondary school. Attainment 8 measures the achievement of a pupil across 8 qualifications including mathematics (double weighted) and English (double weighted), 3 further qualifications that count in the English Baccalaureate (EBacc) measure and 3 further qualifications that can be GCSE qualifications (including EBacc subjects) or technical awards from the DfE approved list. Attainment 8 is calculated by translating GCSE grades into numbers. An A\* is worth eight and an A is worth seven, and so on down to G, worth one point. The points allocated according to grades the pupil achieves for all 8 subjects are added together to give the Attainment 8 score.

Source: Department for Education (2016), *Schools Census 2015-16*.

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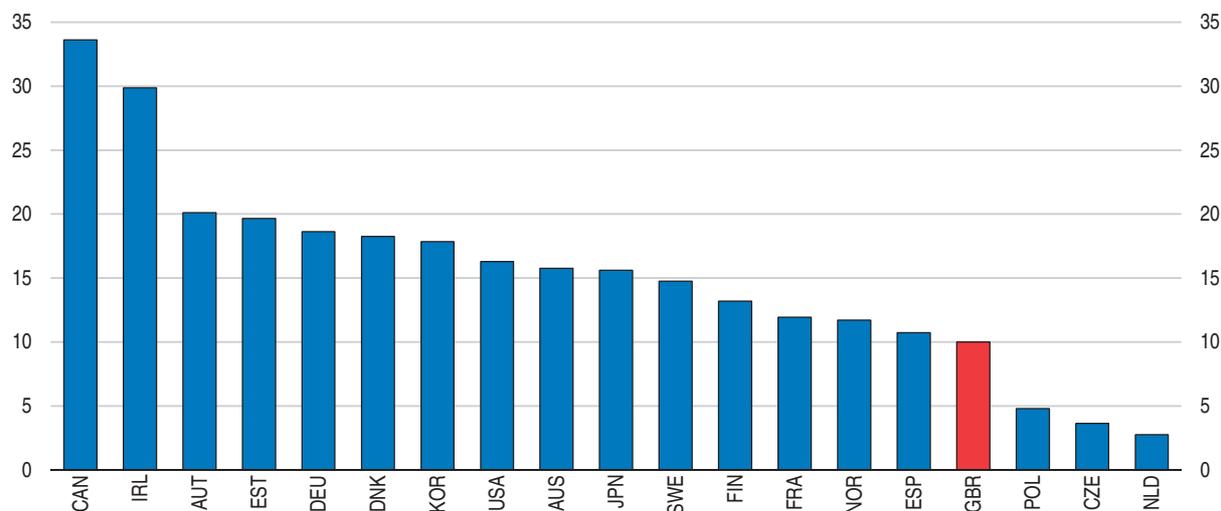
### **Developing skills through specialised education**

The vocational education and training (VET) system in England is complex, but important reforms have been initiated to simplify it (Table 7). In the current system, there are over 20 000 courses provided with qualifications offered by around 160 different organisations. Despite the large number of courses offered, the provision of post-secondary VET is much more limited than compared to most other OECD countries. As a result, the percentage of adults who have short-cycle education VET as their highest qualification is one of the lowest in the OECD (Figure 41).

Ongoing transformation of the vocational system is consistent with earlier OECD recommendations (OECD, 2015c). As part of the reforms to make post-16 education compulsory, students must choose between academic or vocational qualifications after age 16. Furthermore, the existing numerous vocational qualifications will be simplified, with

**Figure 41. Provision of post-secondary vocational education and training is limited**

Percentage of adults aged 20-45 who have short-cycle professional vocational education and training as their highest qualification, 2012<sup>1</sup>



1. Data for the United Kingdom are calculated as the population weighted average of England and Northern Ireland.

Source: OECD (2014), "Skills Beyond School: Synthesis Report", OECD Reviews of Vocational Education and Training.

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standards being set in consultation with employers and training providers. Importantly, the proposed changes will encourage more private sector co-operation, better utilising the Local Enterprise Partnerships, which will help to ensure that the new programmes meet regional needs. To foster implementation, local institutions that are the most effective in meeting these regional economic needs could benefit from additional funding streams.

The apprenticeship system is also in the process of reform to ensure that individuals are gaining skills and experience more closely aligned with business sector demand. The government has set ambitious goals of improving apprenticeship quality through moving to employer-led standards and creating an additional 3 million apprenticeship starts by 2020. In order to incentivise the take-up of apprenticeships by businesses, a new apprenticeship levy has been introduced that applies to larger companies where proceeds of the levy can be recovered by these companies in the form of a discount on incurred apprenticeships costs. Furthermore, smaller companies will have up to 90% of their apprenticeship costs subsidised by the government. The new system should be closely monitored to ensure that any increase in apprenticeship take-up reflects the skills needs of individual employers, particularly for public employers who are subject to quantitative targets.

Young adults in the United Kingdom who drop out of education before age 18, and have low skills, do worse in the labour market not only relative to their higher-skilled counterparts, but also compared to low-skilled individuals in other countries. The budget for adult learning has fallen significantly in recent years, reflecting overall expenditure cuts and shifts towards other types of adult education, like apprenticeships. The government is seeking to devolve the budget for adult education to local governments, which should help to align programmes to meet regional economic priorities and better address local productivity challenges.

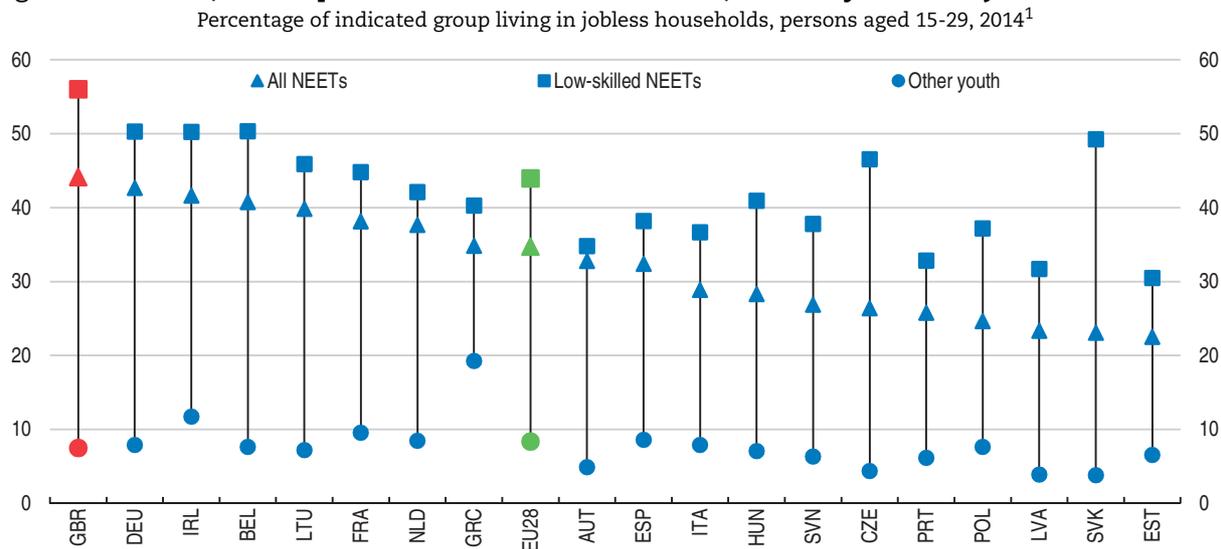
On-the-job training has increased in recent years in the United Kingdom, although it tends to be taken up disproportionately by workers with higher skills, particularly younger

well-educated individuals and by employees in larger companies (UKCES, 2016). Introducing individually targeted programmes on workers who have low earnings or are low-skilled would improve their training participation.

### Improving skills through labour market policies and institutions

After initial formal education ends, the majority of learning is typically done while in employment. Increasing job market perspectives for low-skilled workers (see below) is thus crucial in developing their skills. Active labour market policies play an important role in reducing unemployment and increasing the employment prospects of low-skilled individuals in particular (Escudero, 2015). There is scope to increase their effectiveness through increased financing from the central government, and by improving the targeting of benefits and job-seeker profiling procedures. In particular, focus should be on raising the job prospects of low-skilled individuals who are not in employment, education or training (NEET) and who come from disadvantaged households, with nearly 60% of low-skilled NEETs living in jobless households (Figure 42). In this context, it is important that active labour market policies improve the monitoring and counselling components of the job search services offered to NEET youth. The youth obligation, introduced through the Universal Credit benefit system, should contribute to a reduction in NEET youth through the provision of intensive job search support and a requirement to undertake an apprenticeship, training or a work-placement if out of work for six months or more. An additional step would be to further decentralise the planning and delivery of unemployment assistance programmes to better address local needs.

Figure 42. **NEETs, and in particular those with low skills, are likely to live in jobless households**



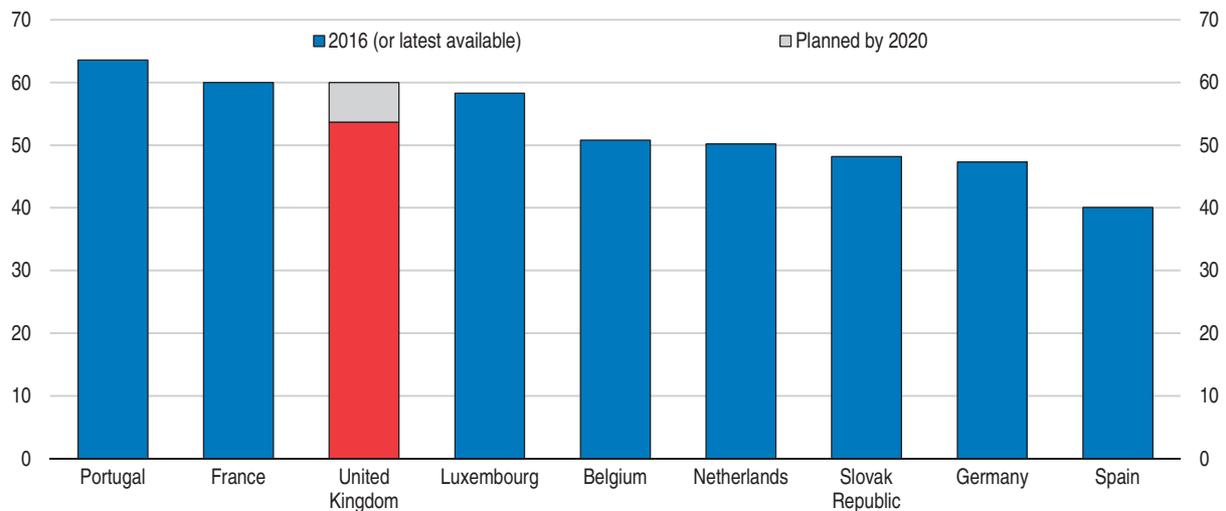
1. NEETs: Youth not in employment, education or training. The EU28 aggregate refers to the European Union.

Source: OECD (2016), OECD Employment Outlook 2016.

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The authorities have been raising the National Living Wage, the minimum wage for workers above 25, which could provide incentives for firms to improve skills of existing workers as recent evidence suggests (D'Arcy, 2016). The government plans to raise the minimum wage to 60% of the median wage by 2020, which is expected to make it one of the highest ratios in the OECD (Figure 43). This comes against the backdrop of cuts to welfare

Figure 43. **Planned minimum wage will be high relative to other European OECD countries**  
Monthly minimum wage as a percentage of median monthly earnings<sup>1</sup>



1. Data cover the industry, construction and services (except activities of households as employers and extra-territorial organisations and bodies) sectors. Data refer to 2015 for the Netherlands, Portugal and the Slovak Republic. Data refer to 2014 for Belgium, France and Spain.

Source: Eurostat (2017), "Minimum wages", Eurostat Database, July.

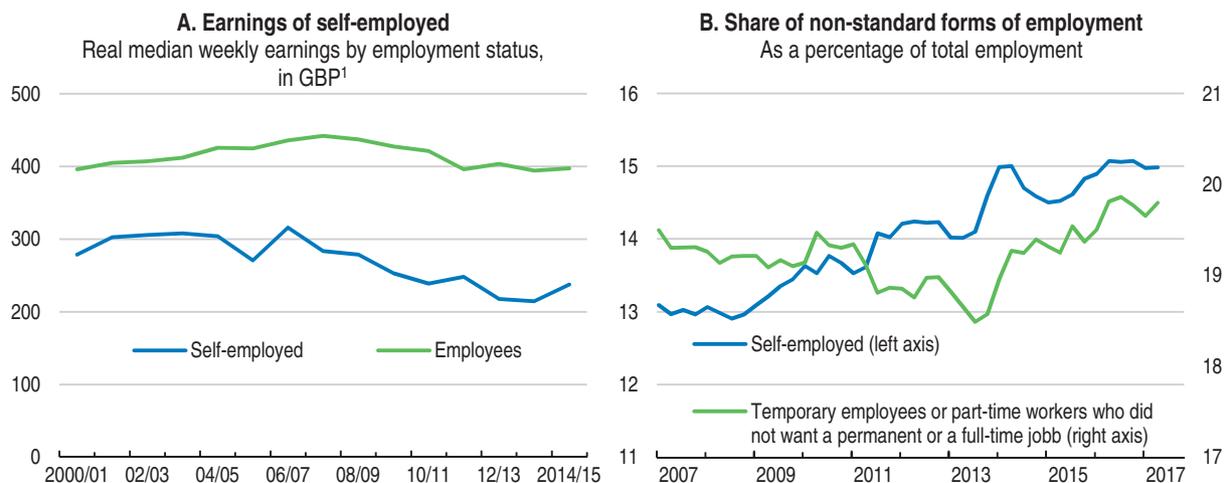
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and in-work benefits, although the raise in the minimum wage would offset at most a quarter of the drop in household incomes associated with benefit cuts to 2020 (Elming et al., 2015). The planned pace of increases may be too steep given the ongoing economic slowdown, with a risk that low-skilled workers are either priced out of employment or that employers push them into self-employment, which is not subject to minimum wage regulations. However, the 2020 target is conditional on sustained economic growth and the Low Pay Commission, who recommends the pace of the increase, should continue to take into account the state of the economy. This flexibility should be used to respond to possible shocks associated with Brexit by meeting the target later.

Making labour more mobile by limiting barriers that workers face in moving to jobs where their skills are better utilised would limit skill mismatches, particularly for low-skilled workers who have a low propensity to re-locate to chase better job opportunities (Bauernschuster et al., 2014). Beyond transport infrastructure, insufficient information on labour market prospects in different regions could be a barrier for low-skilled workers in making the decision to re-locate. To address this, information regarding local skills and training needs, provided by local businesses and governments, should be consolidated and provided to students from all regions in the technical stream of the new post-16 secondary school plan (see above).

The rise in self-employment, which is across all skill levels, may have a negative impact on productivity growth, as in some occupations the economies of scope and scale of an organised work are lost. Indirect evidence of weaker productivity of the self-employed workers is their significantly lower earnings relative to employees (Figure 44, Panel A). The inability of workers to find salary employment does little to explain the increase, as a growing number of employees on temporary contracts do not seek more stable jobs (Figure 44, Panel B). The recent trend towards self-employment is partly related to older workers transitioning to self-employed work before retiring, or re-entering the labour force on a part-time basis while already in retirement (ONS, 2016).

Figure 44. **Self-employed have low earnings and non-standard forms of employment are increasing gradually**



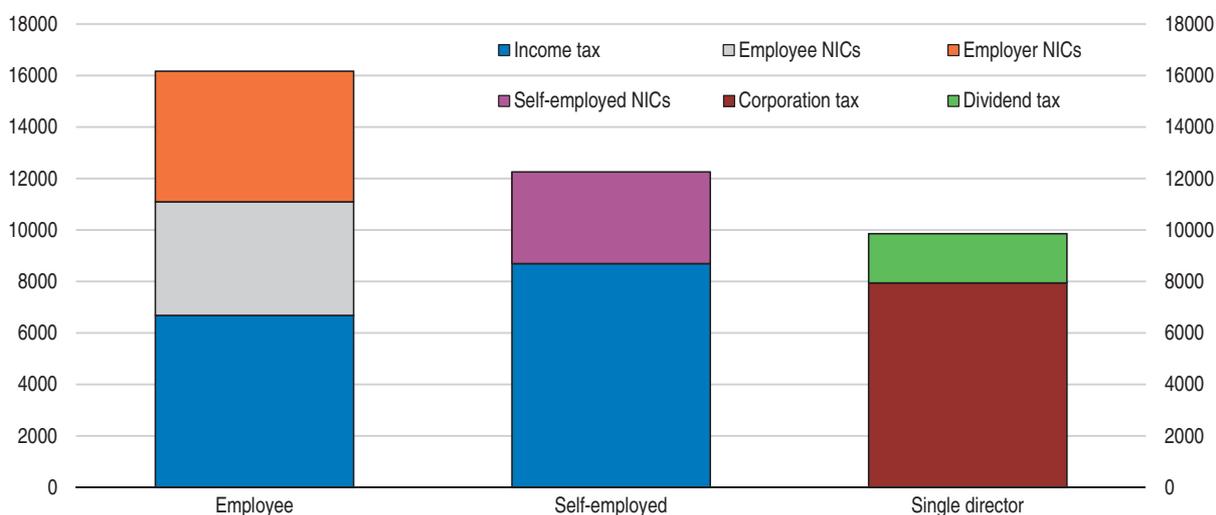
1. CPI-adjusted (in 2014-15 prices) weekly earnings. Data refer to fiscal years.

Source: Resolution Foundation Earnings Outlook; and ONS (2017), "UK labour market: September 2017", Office for National Statistics.

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Tax incentives also play an important role in the expansion of self-employment, with a significantly lower labour tax wedge facing self-employed relative to employees (Figure 45). Moreover, half of the growth in self-employment over the last decade has been in the form of single directors, who are subject to even lower taxes (OBR, 2017b). The government should strive to reduce this gap to promote equity across different types of the workforce and sustain the financing of the social insurance system (see above). In parallel, to address the issue of job security the authorities should introduce tighter criteria to become self-employed, notably by focusing on the extent of economic independence of self-employed workers *vis-à-vis* their clients. A recent report on modern working practices

Figure 45. **Large differences in tax burden depending on the form of employment**  
Tax paid on GBP 50 000 of income by form of employment, in GBP, 2017/18<sup>1</sup>



1. Data refer to fiscal year. NICs: National Insurance contributions.

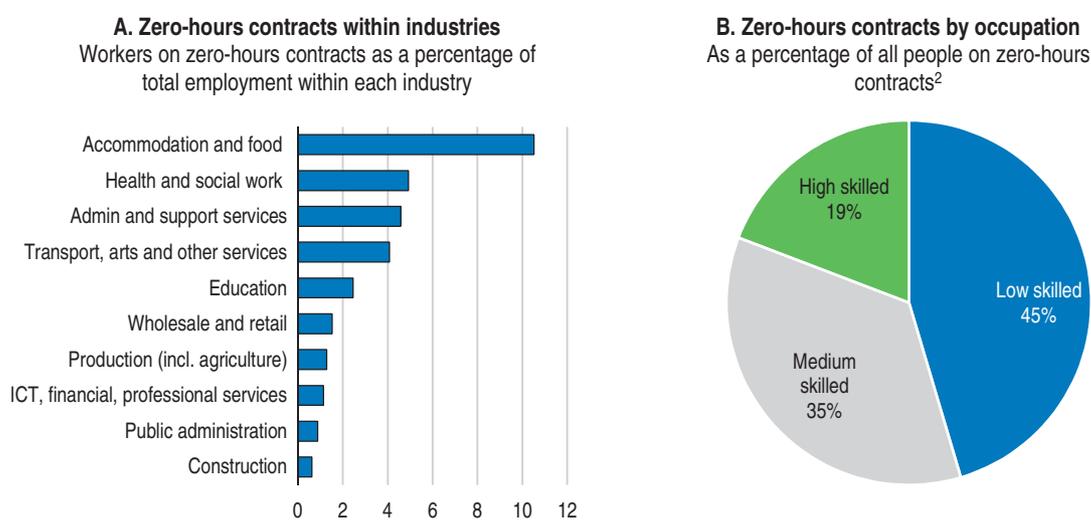
Source: OBR (2017), "Fiscal risks report", Office for Budget Responsibility, July.

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commissioned by the authorities provides a similar recommendation to introduce a new definition of worker, a “dependent contractor”, to address the difficulty in identifying those who are genuinely self-employed (DfBEIS, 2017). The government is considering the recommendations in this review and will respond by the end of this year.

The number of workers on “zero-hours contracts” – under which the employer has no obligation to provide a minimum number of hours and the worker has no obligation to work a minimum number of hours – has been quickly expanding to account for nearly 3% of total employment, although some of this trend might be attributed to the increasing public focus and recognition of the presence of such contracts. These contracts offer flexibility and low attachment to a specific employer, who must pay at least the minimum wage. The use of such contracts is more developed in food and accommodation services, an industry that has a higher proportion of low-skilled workers (Figure 46, Panel A). Across all industries, around half of all zero hour contract workers are in the low-skilled occupations (Figure 46, Panel B). Around a third of people on zero-hours contracts would like to work longer hours, but two-thirds do not want more hours (ONS, 2017); while many on flexible contracts work part time to accommodate other responsibilities, this also suggests that the tax and benefit system may affect work incentives.

Figure 46. **Lower skilled workers account for a large proportion of zero-hours contracts**<sup>1</sup>  
April-June 2017<sup>1</sup>



1. Zero-hours contracts refer to labour contracts which do not guarantee any hours in a given week.
2. High skilled occupations include managers, professional and associate professional and technical occupations. Medium-skilled occupations include administrative and secretarial occupations, skilled trades and caring, leisure and other services. Low-skilled occupations include sales and customer services, plant and machine operatives and elementary occupations.

Source: ONS (2017), “Contracts that do not guarantee a minimum number of hours: September 2017”, Office for National Statistics, September; and ONS (2017), “UK labour market: August 2017”, Office for National Statistics.

StatLink  <http://dx.doi.org/10.1787/888933601493>

The flexibility of zero-hours contracts is desirable from a business standpoint, allowing for easier workforce adjustment in response to economic shocks, and such contracts can meet work preferences of those looking for flexibility (such as students or semi-retired workers). Non-guaranteed work contracts can also play an important role in genuinely short-term casual work or in seasonal jobs, where the variability of the hours provided might not necessarily be in the full control of the employer.

However, lower-skilled and lower-income people do not necessarily benefit from the flexibility of non-guaranteed contracts and are limited in their ability to refuse work or negotiate for more hours for fear of job loss (DfBEIS, 2017). Lower-skilled workers may also find it difficult to invest in improving their skills, through increased training and education, given the low income and employment security associated with a non-guaranteed contract. Furthermore, in short-term or intermittent working situations, workers are unlikely to be compensated for annual and sick leave which they are entitled to (DfBEIS, 2017). This precariousness was a primary motivation for recent regulatory changes in Ireland and New Zealand, with the former effectively banning zero-hour contracts except in special cases and the latter outlawing them altogether (O’Sullivan et al, 2015; Ireland Department of Jobs, Enterprise and Innovation, 2017).

To improve job security and incentives of low-skilled workers on zero-hours contracts, the government should review the regulatory, tax and benefit underpinnings of this form of employment. Individuals on zero-hours contracts, who already have full worker rights, could receive enhanced rights after three months to increase job security, including minimum notice periods and redundancy pay.

Employees and employers have incentives to limit the number of hours worked so that they fall below the primary and secondary earnings threshold (GBP 157 per week in 2017-18) at which National Insurance contributions start to be paid. Those earning below the primary or secondary thresholds may still be eligible for contributory benefits as they earn above the Lower Earnings Limit (GBP 113 per week in 2017-18) or because they are entitled to National Insurance credits. Overall, the authorities should continue to review the effect of the interplay of taxes and welfare on incentives for employers to offer, and employees to work extra hours.

## References

- Adalet McGowan, M., D. Andrews and V. Millot (2017), “The Walking Dead?: Zombie Firms and Productivity Performance in OECD Countries”, *OECD Economics Department Working Papers*, No. 1372, OECD Publishing, Paris, <http://dx.doi.org/10.1787/180d80ad-en>.
- Adalet McGowan, M. and D. Andrews (2015), “Labour Market Mismatch and Labour Productivity: Evidence from PIAAC Data”, *OECD Economics Department Working Papers*, No. 1209, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5js1pzz1r2kb-en>.
- Akgun, O. and S. Dougherty (2017), “Decentralisation, globalisation and inclusive growth”, *OECD Fiscal Federalism Working Papers Series*, forthcoming, OECD Publishing, Paris.
- Armitt, J. (2013), “The Armitte Review – An independent review of long term infrastructure planning commissioned for Labour’s Policy Review”, September, London.
- Arrowsmith, M., M. Griffiths, J. Franklin, E. Wohlmann, G. Young and D. Gregory (2013), “SME Forbearance and its Implications for Monetary and Financial Stability”, *Bank of England Quarterly Bulletin*, Vol. 53, No. 4, Bank of England.
- Bank of England (2017a), “Credit Conditions Survey: 2017 Q1”, April, London.
- Bank of England (2017b), “Credit Conditions Survey: 2017 Q2”, July, London.
- Bank of England (2017c), “Contingency Planning for the UK’s withdrawal from the European Union”, Prudential Regulation Authority, 7 April, London.
- Barnet, A., S. Batten, A. Chiu, J. Franklin and M. Sebastia-Barriel (2014), “The UK Productivity Puzzle”, *Bank of England Quarterly Bulletin*, Vol. 54, No. 2, Bank of England.
- Bartolini, D., S. Stossberg and H. Blöchliger (2016), “Fiscal Decentralisation and Regional Disparities”, *OECD Economics Department Working Papers*, No. 1330, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5j1pq7v3j237-en>.

- Bauernschuster, S., O. Falck, S. Heblich, J. Suedekum and A. Lemeli (2014), "Why are educated and risk-loving persons more mobile across regions", *Journal of Economic Behavior & Organization*, Vol. 98, pp. 56-69.
- Beidas-Strom, S. (2017) "What Has Happened to Sub-Regional Public Sector Efficiency in England since the Crisis?", *IMF Working Papers*, No. WP/17/36, International Monetary Fund, February.
- Brazier, A. (2017), "'Debt Strikes Back' or 'The Return of the Regulator'?", Bank of England, *Speech*, 24 July, University of Liverpool, Institute for Risk and Uncertainty.
- Blöchliger, H., B. Égert and K. Bonesmo Fredriksen (2013) "Fiscal Federalism and Its Impact on Economic Activity, Public Investment and the Performance of Educational Systems", *OECD Economics Department Working Papers*, No. 1051, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5k4695840w7b-en>.
- Blöchliger, H., D. Bartolini and S. Stossberg (2016) "Does Fiscal Decentralisation Foster Regional Convergence?", *OECD Economic Policy Papers*, No. 17, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5jlr3c1vcqmr-en>.
- Broadbent, B. (2017), "Brexit and the pound", Bank of England, *Speech*, 23 March, London.
- Caldera Sánchez, A. and Å. Johansson (2011), "The Price Responsiveness of Housing Supply in OECD Countries", *OECD Economics Department Working Papers*, No. 837, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5kgk9qhrnn33-en>.
- Carney, M. (2017) "[De]Globalisation and inflation", Bank of England, *Speech*, 18 September, 2017 IMF Michel Camdessus Central Banking Lecture.
- CBI (2017), *Unlocking regional growth*, Confederation of British Industry, March
- CEDEFOP (2014), "Macroeconomic benefits of vocational education and training", European Centre for the Development of Vocational Training, *Research Paper*, No. 40.
- D'arcy, C. (2016), "Industrial strategies? Exploring responses to the National Living Wage in low-paying sectors", *Resolution Foundation Report*. December.
- Deloitte (2017), *Deloitte CFO Survey: 2017 Q2*, July.
- Department for Communities and Local Government (2017), "Fixing our broken housing market", *Housing white paper*, February.
- DfBEIS (2017), "Good Work: The Taylor review of modern working practices", Department for Business, Energy & Industrial Strategy, July.
- DfE (2017), "Provision for children under five years of age in England, January 2017", Department for Education, June.
- Dutu, R. and P. Sicari (2016), "Public Spending Efficiency in the OECD: Benchmarking Health Care, Education and General Administration", *OECD Economics Department Working Papers*, No. 1278, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5jm3st732jnj-en>.
- Elming, W., C. Emmerson, P. Johnson and D. Phillips (2015), "An assessment of the potential compensation provided by the new 'National Living Wage' for the personal tax and benefit measures announced for implementation in the current parliament", Institute for Fiscal Studies, *Briefing Note BN175*.
- European Council (2017), *Guidelines following the United Kingdom's notification under Article 50 TEU*, April.
- Escudero, V. (2015), "Are active labour market policies effective in activating and integrating low-skilled individuals? An international comparison", International Labour Office, *Research Department Working Paper No. 3*.
- Fredriksen, K. (2013), "Decentralisation and Economic Growth – Part 3: Decentralisation, Infrastructure Investment and Educational Performance", *OECD Working Papers on Fiscal Federalism*, No. 16, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5k4559gg7wlv-en>.
- Ghelani, D. and G. Tonutti (2017), "The impact of the two-child limit to tax credits", *Briefing Paper*, Policy in Practice, April.
- Haldane, A. (2017) "Work, Wages and Monetary Policy", Bank of England, *Speech*, 20 June, Bradford.
- Hilber, C.A.L. and W. Vermeulen (2016), "The Impact of Supply Constraints on House Prices in England", *Economic Journal*, Vol. 126, No. 591, pp. 358-405.
- HM Government (2017a), "Transport Investment Strategy", *Policy Paper*, July.
- HM Government (2017b), "Midlands Engine Strategy", *Policy Paper*, March.
- HM Government (2016), "Northern Powerhouse Strategy", *Policy Paper*, November.

- HM Treasury (2015), “Public sector business cases using the five case model: Updated guidance”, Green Book supplementary guidance on delivering public value from spending proposals.
- Hood, A. and T. Waters (2017), “Living standards, poverty and inequality in the UK: 2016-17 to 2021-22”, Institute for Fiscal Studies, Report (R127), March.
- IFS (2017), “Distributional analysis”, in Budget 2017 Analysis, Institute for Fiscal Studies, March, London.
- IMF (2017), “Global Financial Stability Report: April”, IMF, Washington.
- IPPR (2016), “An industrial strategy that works for the UK: Framework and principles”, Institute for Public Policy Research, November, London.
- Ireland Department of Jobs, Enterprise and Innovation (2017), “Government approves priority drafting of legislation to address problems caused by the increased casualization of work and to strengthen the regulation of precarious work”, news release, 2 May 2017.
- Kappeler, A., A. Sollé-Ollé, A. Stephan and T. Väililä (2013), “Does Fiscal Decentralization Foster Regional Investment in Productive Infrastructures?”, *European Journal of Political Economy*, Vol. 31, pp. 15-25.
- Kierzenkowski, R., N. Pain, E. Rusticelli and S. Zwart (2016), “The Economic Consequences of Brexit: A Taxing Decision”, *OECD Economic Policy Papers*, No. 16, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5jm0lsudkf6k-en>.
- Kierzenkowski, R., G. Machlica and G. Fulop (2017a), “The UK productivity puzzle through the magnifying glass: A sectoral perspective”, *Technical Background Paper*.
- Kierzenkowski, R., P. Gal and G. Fulop (2017b), “Where to get the best bang for the buck in the United Kingdom? Industrial strategy, investment and lagging regions”, *Technical Background Paper*.
- LSE Growth Commission (2013), “Investment in infrastructure”, Investing for Prosperity, Report of the LSE Growth Commission, London School of Economics.
- McCann, P. (2016), *The UK Regional-National Economic Problem – Geography, globalisation and governance*, Routledge.
- Melhuish, E. (2013), “Research on Early Childhood Education in the UK”, *Handbuch frühkindliche Bildungsforschung (Early Childhood Educational Research Manual)*, M. Stamm and D. Edelmann eds., Springer, Wiesbaden.
- NAO (2016), “Department for Education – Entitlement to free early education and childcare”, National Audit Office, March.
- NAO (2013), “HM Treasury – Planning for economic infrastructure”, National Audit Office, January.
- OBR (2017a), *Economic and fiscal outlook*, Office for Budget Responsibility, March.
- OBR (2017b), *Fiscal Risks Report*, Office for Budget Responsibility, July.
- OBR (2016), *Economic and fiscal outlook*, Office for Budget Responsibility, November.
- OECD (2017) “How to Make Trade Work for All”, in *OECD Economic Outlook, Volume 2017 Issue 1*, OECD Publishing, Paris, [http://dx.doi.org/10.1787/eco\\_outlook-v2017-1-3-en](http://dx.doi.org/10.1787/eco_outlook-v2017-1-3-en).
- OECD (2016a), *OECD Regional Outlook 2016: Productive Regions for Inclusive Societies*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264260245-en>.
- OECD (2016b), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Skills Studies, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264258051-en>.
- OECD (2016c), *Building Skills for All: A Review of England*, Policy Insights from the Survey of Adult Skills, OECD Skills Studies, OECD Publishing, Paris, [www.oecd.org/edu/skills-beyond-school/building-skills-for-all-review-of-england.pdf](http://www.oecd.org/edu/skills-beyond-school/building-skills-for-all-review-of-england.pdf).
- OECD (2015a), *Employment and Skills Strategies in England, United Kingdom*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264228078-en>.
- OECD (2015b) “The Metropolitan Century: Understanding Urbanisation and Its Consequences”, OECD Publishing, Paris.
- OECD (2015c), *OECD Economic Surveys: United Kingdom 2015*, OECD Publishing, Paris, [http://dx.doi.org/10.1787/eco\\_surveys-gbr-2015-en](http://dx.doi.org/10.1787/eco_surveys-gbr-2015-en).
- OECD (2013), *OECD Economic Surveys: United Kingdom 2013*, OECD Publishing, Paris, [http://dx.doi.org/10.1787/eco\\_surveys-gbr-2013-en](http://dx.doi.org/10.1787/eco_surveys-gbr-2013-en).

- OECD (2011), *OECD Economic Surveys: United Kingdom 2011*, OECD Publishing, Paris, [http://dx.doi.org/10.1787/eco\\_surveys-gbr-2011-en](http://dx.doi.org/10.1787/eco_surveys-gbr-2011-en).
- OECD and ILO (2017), *Engaging Employers in Apprenticeship Opportunities: Making It Happen Locally*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264266681-en>.
- Ollivaud, P., E. Rusticelli and C. Schwellnus (2015), "The Changing Role of the Exchange Rate for Macroeconomic Adjustment", *OECD Economics Department Working Papers*, No. 1190, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5js4rfhj15l-en>.
- ONS (2017), *Contracts that do not guarantee a minimum number of hours: May 2017*, Office for National Statistics, May.
- ONS (2016), "Trends in self-employment in the UK: 2001 to 2015", Office for National Statistics, July.
- O'Sullivan, M. et al. (2015), "A Study on the Prevalence of Zero Hours Contracts among Irish Employees", Kemmy Business School, University of Limerick.
- Rolfe, H., C. Rienzo, M. Lalani and J. Portes (2013), "Migration and productivity: Employers' practices, public attitudes and statistical evidence", National Institute of Economic and Social Research. London.
- Shared Intelligence (2016), "Is the grass greener...? Fragmented Funding for Growth 2016/17", *An independent report for the Local Government Association*, May.
- SMC (2017), "Time for Change: An Assessment of Government Policies on Social Mobility 1997-2017", *Social Mobility Commission Report*, June.
- Taggart, B., K. Sylva, E. Melhuish, P. Sammons and I. Siraj (2015), "Effective pre-school, primary and secondary education project (EPPSE 3-16+)", *Department of Education Research Brief*, June.
- UKCES (2016), "Employer Skills Survey 2015: UK Results", *UK Commission for Employment and Skills, Evidence Report 97*, May.
- Wadsworth, J., S. Dhingra, G. Ottaviano and J.V. Reenen (2016), "Brexit and the Impact of Immigration on the UK", *CEP Brexit Analysis. No. 5*.