



Brussels, 22.2.2017
SWD(2017) 93 final

COMMISSION STAFF WORKING DOCUMENT

Country Report United Kingdom 2017

Accompanying the document

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN CENTRAL BANK AND THE
EUROGROUP**

**2017 European Semester: Assessment of progress on structural reforms,
prevention and correction of macroeconomic imbalances, and results of in-depth reviews
under Regulation (EU) No 1176/2011**

{COM(2017) 90 final}
{SWD(2017) 67 final to SWD(2017) 93 final}

CONTENTS

Executive summary	1
1. Economic situation and outlook	3
2. Progress with country-specific recommendations	10
3. Reform priorities	13
3.1. Public finances and taxation	13
3.2. Financial sector and housing	16
3.3. External issues	22
3.4. Labour market, education and social policies	24
3.5. Investment and productivity	31
3.6. Sectoral policies	35
A. Overview Table	41
B. MIP Scoreboard	44
C. Standard Tables	45
References	50

LIST OF TABLES

1.1. Key economic, financial & social indicators	9
2.1. Assessment of progress with 2016 CSRs	11
3.1.1. Composition of tax revenues, 2015-2016	13
B.1. The MIP scoreboard	44
C.1. Financial market indicators	45
C.2. Labour market & social indicators — I	46
C.3. Labour market & social indicators — II	47
C.4. Product market performance & policy indicators	48
C.5. Green growth	49

LIST OF GRAPHS

1.1. Contributions to real GDP growth	3
1.2. Contribution to growth of net exports & growth in exports and imports	3
1.3. Private consumption, real household disposable income & the household saving ratio	4

1.4.	Gross fixed capital formation by component	4
1.5.	Potential growth & its composition	4
1.6.	Inflation	5
1.7.	Nominal effective exchange rate	5
1.8.	Unemployment-vacancies ratio & the labour force participation rate	5
1.9.	Composition of the trade balance in goods by trading partner	6
1.10.	Composition of the trade balance in services by trading partner	7
1.11.	Nominal unit labour costs (all sectors)	7
1.12.	Private sector indebtedness	8
1.13.	Households' financial assets & liabilities 2015	8
3.1.1.	Debt projections based on probability	14
3.1.2.	Gross public debt as a % of GDP	14
3.2.1.	Financial services exports & imports (% GDP)	16
3.2.2.	Exports of services: revealed comparative advantage	16
3.2.3.	Bank capitalisation: core equity Tier 1 ratio – Q3 2016	17
3.2.4.	Gross non-performing debt instruments (per cent of total, Q3 2016)	17
3.2.5.	House price growth	18
3.2.6.	Housing transactions & mortgage approvals	18
3.2.7.	Housing starts & completions	19
3.2.8.	Skills shortages in the construction sector	20
3.3.1.	Current account balance and its components	22
3.3.2.	Primary income balance and its components	22
3.3.3.	Net international investment position	23
3.4.1.	Key labour market indicators	24
3.4.2.	Unemployment rate & potential additional labour force	24
3.4.3.	At-risk-of-poverty rate and its components	27
3.4.4.	Risk of poverty (AROPE) by age	28
3.5.1.	Public & private investment shares, UK & EU28	31
3.5.2.	UK public sector net investment (% of GDP)	31
3.5.3.	Investment by category in the UK & EU28	32
3.5.4.	Output per hour, by country	32
3.5.5.	Recent trends in UK productivity & real wages	33
3.6.1.	Generation capacity (winter 2016/17)	38

LIST OF BOXES

2.1.	Contribution of the EU budget to structural change in the United Kingdom	12
3.5.1.	Investment challenges and reforms in the United Kingdom	34

EXECUTIVE SUMMARY

This report assesses the United Kingdom's economy in the light of the European Commission's Annual Growth Survey published on 16 November 2016. In the survey, the Commission calls on EU Member States to redouble their efforts on the three elements of the virtuous triangle of economic policy — boosting investment, pursuing structural reforms and ensuring responsible fiscal policies. In so doing, Member States should focus on enhancing social fairness, to deliver more inclusive growth.

Economic growth remained robust in 2016 but is expected to be weaker in 2017 and 2018. In recent years growth has been driven by expanding domestic demand and employment, in a context of subdued price and wage pressures. At the same time, net exports have persistently been weak and productivity remained stagnant. Following the vote to leave the EU in the referendum on 23 June 2016, growth is projected to be lower in 2017 (1.5%) and 2018 (1.2%) due to a subdued business investment and slower growth in private consumption. However, net exports are expected to contribute positively to growth, mitigating the weakness in domestic demand.

Inflation rose steadily in 2016 and is expected to exceed the Bank of England's target of 2 % in 2017 and 2018. The significant depreciation of sterling in 2016 raises the price of imports, which will gradually feed through to higher producer prices and consumer price inflation.

The labour market is strong but there is untapped potential. Employment continues to grow and unemployment remains low, although the headline picture masks challenges for some groups. A stagnation of real wages is expected to limit the rise in unemployment due to slower GDP growth.

The trade balance remains in modest deficit. The United Kingdom continues to run a large deficit in goods trade, partially offset by a substantial surplus in services. In 2016, the current account deficit reached a record high due to the substantial deficit in primary income flows. Recent developments in the United Kingdom's export market share have been positive. Following the depreciation of sterling, the current account deficit is projected to narrow as the result of a boost to exports and dampening of imports.

Private sector indebtedness remains relatively high and credit growth has picked up. Following years of weakness during the international economic and financial crisis, the banking sector is returning to health. Bank lending to private non-financial corporations has picked up. The cost of secured borrowing remains at historic lows and fell further in 2016. House price growth has continued to exceed the modest growth in both secured credit and household disposable income. Unsecured lending growth accelerated in 2016. Household balance sheets remain strong overall but there are some pockets of risky lending.

Overall, the United Kingdom has made some progress in addressing the 2016 country-specific recommendations. There has been some progress on infrastructure and housing investment. A number of major transport and energy investment decisions were made in 2016 and the government announced a further prioritisation of public capital spending towards economic infrastructure. However, it is not clear whether adequate investment can be secured to address infrastructure backlogs in a timely and cost-effective way. The reformed planning system, and a range of complementary housing policies, are together somewhat more supportive of increased construction. Direct public spending on house building is modest but the government is seeking to take a more active role in facilitating supply. Nevertheless, housing supply is set to remain insufficient. There has also been some progress on skills and childcare. The government has continued to expand and reform the apprenticeship system, including by preparing for the implementation of both the Apprenticeship Levy and the Institute for Apprenticeships. Skills mismatches are being addressed by the new Post-16 Skills Plan, which is ambitious in intention but will depend on coherent, committed and timely implementation. There is mixed progress on improving the affordability, quality and full-time availability of childcare. A pilot scheme to double the free childcare offered to three and four year olds has commenced, with full roll-out planned for September 2017. Concerns remain over the adequacy of childcare supply.

Regarding progress in reaching the national targets under the Europe 2020 strategy, the United Kingdom is performing well on greenhouse gas emissions and should meet its renewable energy

and energy efficiency targets, though some challenges remain.

The main findings of the analysis in this report, and the related policy challenges, are as follows:

- **The high general government debt level represents a vulnerability.** Deficit reduction continues, though the pace has slowed. Fiscal risks appear to be high in the medium term, and the projected cost of ageing poses longer-term challenges to the sustainability of the public finances and to the pensions and health systems. The debt ratio is projected to remain close to 90 % of GDP and it is sensitive to potential shocks to nominal growth, interest rates and the structural primary balance.
- **Despite progress, new housing supply is still not keeping up with the growth in demand.** Activity in the housing sector has remained moderate and the risks it poses to macroeconomic stability remain low in the short term. However, housing costs are high and house prices have continued to outstrip earnings, especially around poles of economic growth. House prices are forecast to keep rising, but at a more moderate pace. There is a persistent housing shortage and a number of constraints on housing supply remain, including very strict and complex regulation of the land market and residential construction.
- **At 5 % of GDP, the current account deficit is close to record highs.** The trade deficit has been stable for several years at around 2 % of GDP, whereas the balance of income on FDI has fallen from a surplus of 3 % of GDP to balance. While the current account deficit is projected to narrow significantly in 2017 and 2018, heightened uncertainty increases the risks surrounding its financing.
- **While headline labour market indicators remain robust, there are continuing skills and social challenges.** Employment is high and overall unemployment low, both historically and compared to EU averages. Labour market participation, long-term and youth unemployment are all on a positive or stable path. However, high inactivity and part-time working persist. Earnings growth remains modest, linked to weak productivity. The United Kingdom is focusing its efforts on apprenticeships to address the up-skilling and reskilling needs of most cohorts across all ages. Other routes to up-skilling may also have a role. There are challenges related to the supply of childcare and social care, which contributes to the high rate of female part-time employment. As a result of previously announced reforms and cutbacks, in particular to in-work support, social policy outcomes may come under pressure in the near-to-medium term.
- **Both investment and productivity are relatively weak.** The United Kingdom is a large, open economy with a good business environment, which has contributed to the high employment rate and high level of inward FDI. Nevertheless, a number of persistent structural problems weigh on investment, economic efficiency and hence productivity, including the restrictive spatial planning system and weaknesses in skills. Private investment has been consistently well below the EU average, and public investment marginally below. The United Kingdom's low private investment is partially related to its specialisation in services. The government is putting a strong emphasis on raising investment as part of its strategy to address the relatively low level of labour productivity.
- **There are significant shortcomings in the capacity and quality of infrastructure networks.** Road congestion is high. Capacity in parts of the rail network is increasingly inadequate in the face of rapidly growing demand. There is an increasingly urgent need for higher investment in new energy generation and supply capacity to address the growing risk of electricity supply gaps emerging. The government's National Infrastructure Plan sets out ambitious plans to drive up the provision of infrastructure, the majority of which are reliant on private funding. It is reorienting a tight overall public capital budget towards infrastructure, particularly transport. While some big recent decisions on infrastructure have been taken, concerns remain over whether they can be delivered in a timely and cost-effective way.

1. ECONOMIC SITUATION AND OUTLOOK

GDP growth and its composition

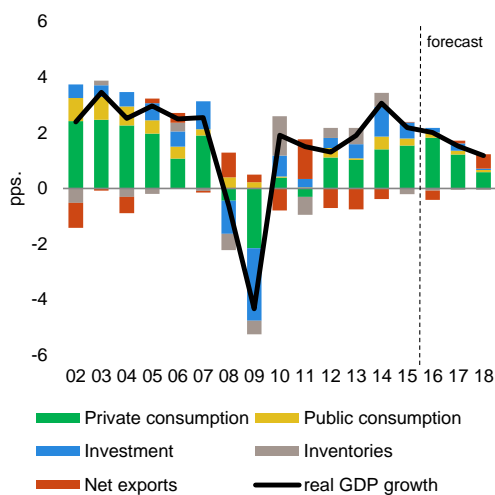
Economic growth remained robust in 2016.

Growth was 2.0 % in 2016, slightly lower than in 2015 (2.2 %). The UK economy proved resilient in the second half of 2016 with quarterly growth of 0.6 % recorded in both Q3 and Q4, in line with the quarterly average since 2015. The services sector was the dominant motor of growth in 2016 while, on the expenditure side, healthy growth in domestic demand was the main contributor to growth in the first three quarters of the year.

Uncertainty over the future relationship between the UK and EU is expected to negatively affect growth in 2017 and 2018.

Growth is projected in the Commission's 2017 winter forecast to moderate to 1.5 % in 2017 and 1.2 % in 2018, driven by largely by a decline in the growth of private consumption by around 1pp in each of 2017 and 2018 and a fall in growth in gross fixed capital formation (GFCF) of around 1½ pps. in 2018.

Graph 1.1: Contributions to real GDP growth



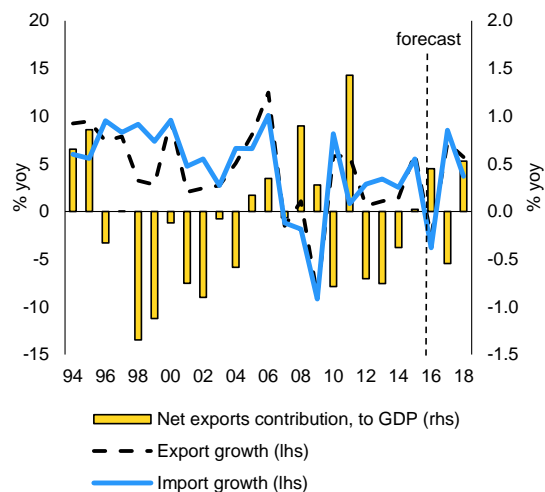
Source: European Commission

The pattern of growth remains unbalanced. The recent composition of growth has continued the broader pattern of the last few years. Strong domestic demand in 2016 reflected healthy private consumption and a small increase in GFCF (graph 1.1). However, net exports detracted from growth. The unbalanced pattern is also reflected in the composition of output by sector. Output in the

services sector increased by 2.8 % in 2016, outstripping industrial production, which grew by 1.1 %, while the construction sector grew by 1.4 % and the agriculture sector declined by 0.6 %. The composition of growth is projected to become more balanced in 2017 and 2018.

Net exports are expected to pick up in 2017 and 2018 and to contribute to annual growth for the first time since 2011. The substantial depreciation of sterling in 2016 should, following a lag, boost exports and dampen imports (see Section 3.3). A slowing of domestic demand growth in 2017 and 2018 is likely to dampen import growth further. As a result, net exports are expected to contribute modestly to growth in 2017 and substantially to growth in 2018 (graph 1.2). This contribution should mitigate the effect on the economy of the weakness in domestic demand.

Graph 1.2: Contribution to growth of net exports & growth in exports and imports

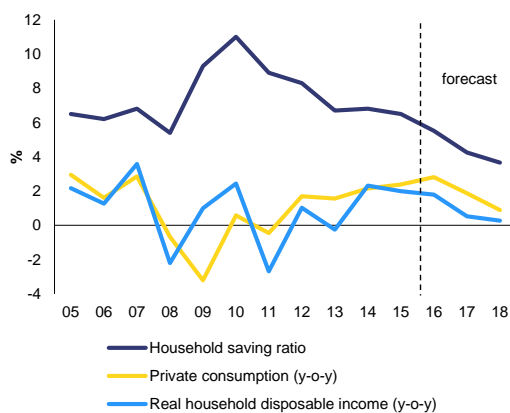


Source: European Commission

Private consumption has been the dominant motor of growth since 2012 but is expected to weaken in 2017 and 2018. It is expected to have increased briskly, by 2.8 %, in 2016, supported by robust growth in real household disposable income. Real household disposable income is, however, forecast to stagnate in 2017 and 2018 as higher inflation following the depreciation of sterling erodes real wage growth. Nominal growth in compensation of employees (per head) is projected to remain broadly unchanged from 2016 — at 2.4 % in 2017 and 2018. The household

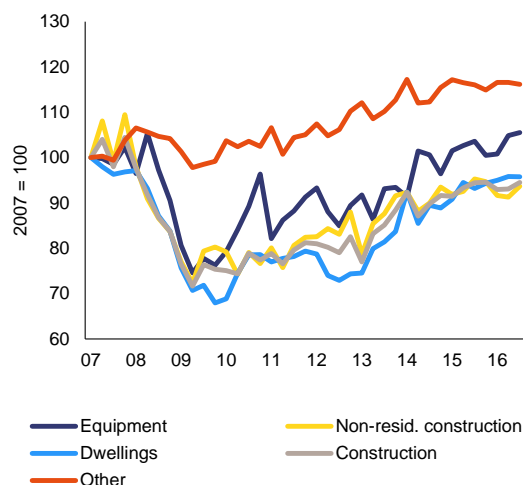
saving ratio is projected to decline further — from 5.6 % in Q3 2016 to 4.3 % in 2017 and 3.7 % in 2018 (graph 1.3), its lowest annual rate since the early 1960s. The low level of the saving ratio limits households' ability to smooth consumption in the face of low growth in disposable income. As a result, private consumption growth is expected to fall sharply to 0.9 % by 2018.

Graph 1.3: Private consumption, real household disposable income & the household saving ratio



Source: European Commission

Graph 1.4: Gross fixed capital formation by component



Source: European Commission

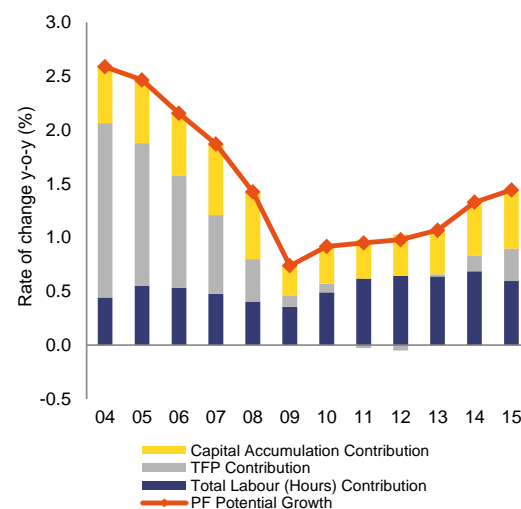
A period of modest growth in gross fixed capital formation (GFCF) growth is in prospect. GFCF has been supported by a low cost of borrowing, healthy business profitability, robust domestic demand and an easing in credit conditions. Plant and equipment and dwelling investment were the

major contributors to growth in GFCF, outstripping that in non residential construction and in 'other' investment, in 2014 and 2015 (graph 1.4). Growth in GFCF is projected to rise to 1.6 % in 2017 but decline to 0.2 % in 2018 as businesses react cautiously to the continued uncertainty over the future relationship between the UK and EU.

Potential growth

Weak productivity has detracted from potential GDP growth. Potential growth has declined markedly since the international economic and financial crisis, driven largely by a sharp fall in the contribution from productivity (see Section 3.5). Although potential growth has picked up more recently, it has been driven predominantly by healthy growth in the labour force and employment over this period, rather than productivity (graph 1.5).

Graph 1.5: Potential growth & its composition

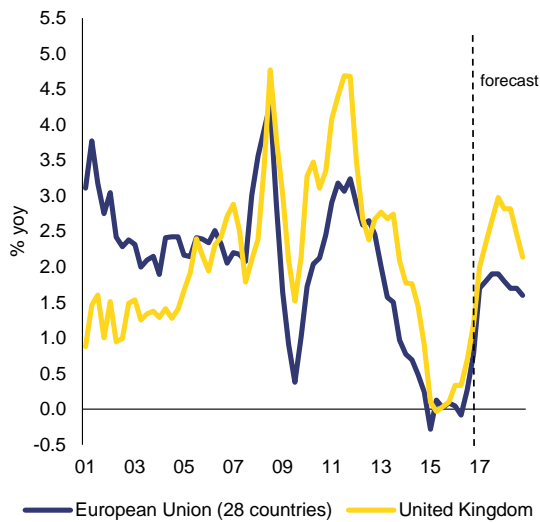


Source: European Commission

Inflation

Inflation rose steadily throughout 2016. Inflation increased from -0.1 % in the year to November 2015 to 1.6 % in the year to December 2016 (graph 1.6). This pick-up reflects strength in domestic demand, the stabilisation, and subsequent modest rises, in world wholesale oil prices following previous falls and the first effects from the depreciation of sterling. Core inflation in the year to December 2016 was also 1.6 %.

Graph 1.6: Inflation



Source: European Commission

The depreciation of sterling is likely to boost inflation in 2017 and 2018. Inflation is expected to pick up sharply, from 0.7 % in 2016 to 2.5 % in 2017 and 2.6 % in 2018, exceeding the Bank of England's 2 % inflation target for the first time since 2013. This mainly reflects the rise in import prices following the depreciation of sterling of around 11 % on a trade-weighted basis since 23 June 2016 (graph 1.7). The fall in the exchange rate will, in time, flow through to producers' input and output prices, and ultimately consumer prices.

Graph 1.7: Nominal effective exchange rate



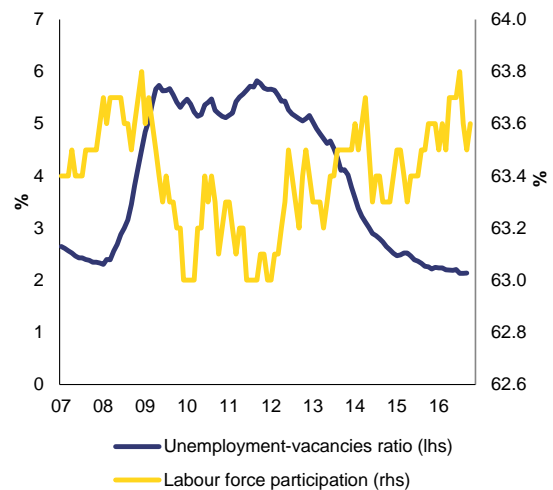
Source: European Commission

Labour market

The labour market continues to perform well.

The employment rate for the 16-64 age group stood at 74.5 % in September-November 2016, and well above the recent low point of 73.1 % in Q1-2010. The unemployment rate has fallen to 4.8 % ⁽¹⁾, from a peak of 8.5 % in late 2011. Long-term unemployment is low at 1.4 % of the active population (28.3 % of those unemployed). The labour force participation rate stood at 63.6 % in the three months to November 2016, slightly lower than recent peaks.

Graph 1.8: Unemployment-vacancies ratio & the labour force participation rate



Source: Office for National Statistics

The labour market has proved flexible and resilient in its ability to absorb additional labour supply and such flexibility is projected to continue.

Employment increased by 0.9 % in the year to (the three months to) November 2016, partly matched by a rising labour force, and the unemployment-to-vacancies ratio is close to a record low (graph 1.8). Average weekly earnings remain relatively modest, rising by 2.8 % in the year to November 2016. Although economic growth is projected to slow in 2017 and 2018, the impact on unemployment is expected to be relatively muted consistent with the experience during the international economic and financial crisis, where much of the negative domestic

⁽¹⁾ The employment rate is calculated for the 16-64 age group while the unemployment rate and the participation rates are calculated based on all employed and unemployed people over 16.

demand shock was absorbed through adjustments to real wage growth in a context of rising inflation. The unemployment rate is expected to rise to 5.6 % by 2018.

Social developments

Inequality before taxes and transfers remains relatively high. Across most measures, overall inequality narrowed somewhat between 2008 and 2013, before widening in 2014 and 2015. While the Gini coefficient ⁽²⁾ before taxes and social transfers widened from 2008 to 2015, the most common income ratios remain narrower than in 2008 and are relatively close to the EU average. The consistent and substantially above-average gap between mean and median income in the UK suggests a concentration of large numbers of low-earners compared to the EU average. The UK also has disparities across age groups, nations and regions, as discussed in Section 3.4.

The tax-benefit system currently performs quite well in alleviating inequality. On 2015 figures, the UK is above the EU average for inequality before taxes and transfers (Gini coefficient: UK 55.5, EU 51.8), but redistribution moves it much closer to the EU average after taxes and transfers (Gini: UK 32.4, EU 31.0). However, this redistributive effect could weaken in the near to medium term as the cumulative effects of previously announced reforms and cutbacks continue to be implemented against a backdrop of higher inflation. In particular, as discussed in Section 3.4 and previous *country reports*, the new Universal Credit system is less generous than its predecessor (Tax Credits) for those in receipt of in-work benefits.

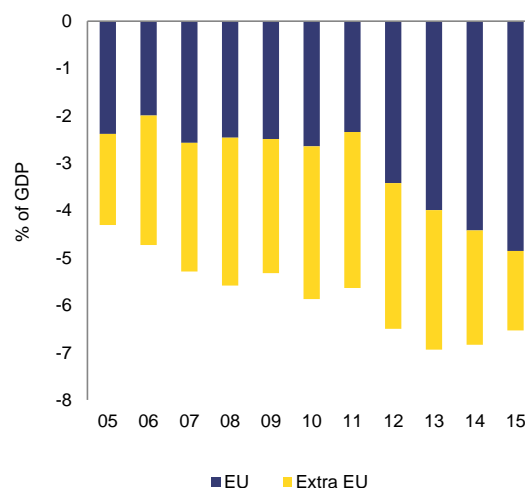
External position

The trade balance remains in modest deficit. Throughout the current decade, the trade deficit has averaged around 2 % of GDP, around ½ pp. lower than the average in the 2000s (of 2½ %). In the year to Q3-2016, the trade deficit stood at 1.8 % of GDP. As discussed in Section 3.3, the

trade deficit has remained broadly constant at a time when the current account deficit has risen sharply. The UK has a large trade deficit with the EU and a modest trade surplus with the rest of the world.

The UK continues to run a very high deficit in goods. There is a deficit in goods with both the EU and the rest of the world (graph 1.9), with half of this overall deficit in goods accounted for by ‘finished’ manufactured goods. There are also large deficits in trade in ‘food, beverages and tobacco’ and ‘semi manufactured’ goods.

Graph 1.9: **Composition of the trade balance in goods by trading partner**



Source: Office for National Statistics

There has been a deterioration in the balance of trade on oil and other fuel products. From a surplus of around ½ % of GDP in 2000, the balance of trade in oil and other fuel products has deteriorated steadily to reach a deficit of around ½ % of GDP in 2015. The trend in the UK is noteworthy given the declining reserves of energy and gas in the UK’s offshore oil and gas fields (Wood, 2014) ⁽³⁾. Output of oil and gas has steadily declined, by around two-thirds since 2000 ⁽⁴⁾. On the other hand, imports of oil and other fuel products have risen to around 1½ % of GDP in 2015 compared with around 1 % of GDP in 2000. As a result, the UK is increasingly

⁽²⁾ The Gini coefficient is a commonly-used measure for monitoring trends in income inequality. A coefficient of 100 expresses total inequality (meaning all the income is earned by one person) and a coefficient of 0 expresses perfect equality (meaning everyone earns the same income).

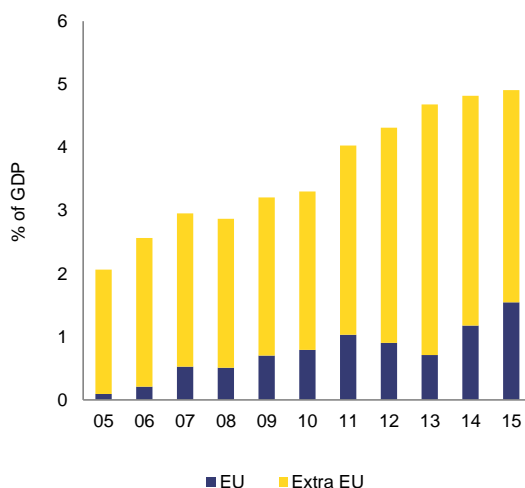
⁽³⁾ For example, the maximum reserves of oil have fallen from 1490 cubic tonnes in 2000 to 1060 cubic tonnes in 2014.

⁽⁴⁾ The output of oil fell from 126 to 40 million tonnes between 2000 and 2014, while the output of gas fell from 108 to 35 billion cubic metres over the same period (ONS).

reliant on imports of oil and other fuel products to meet its needs for these products.

The UK continues to run a substantial trade surplus in services, the majority of which is with countries outside the EU (Graph 1.10). A large surplus in financial and pension and insurance services accounts for around half of the services surplus. The trade surplus in services with the EU, which is considerably smaller than that with the rest of the world, is dominated by a large surplus in financial services, while there is a considerable deficit in travel services.

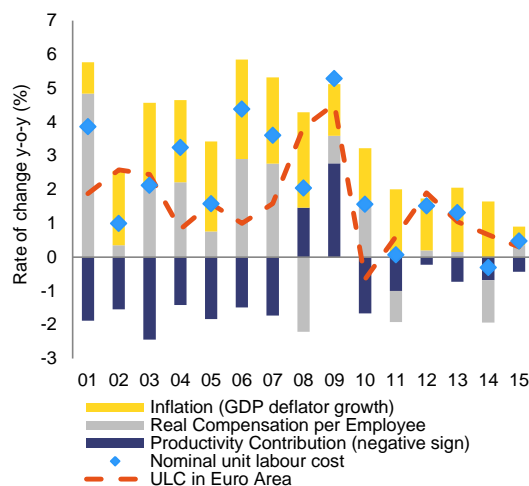
Graph 1.10: **Composition of the trade balance in services by trading partner**



Source: Office for National Statistics

Developments in export market share have been positive and unit labour costs subdued. Despite the persistently high trade deficit in goods, export market shares in both goods and services increased in 2014 and 2015. This is in sharp contrast to 2000-2013, when the UK's overall and goods export market share fell in most years. Nominal unit labour costs have been subdued in a context of muted growth in employee compensation (graph 1.11). The sharp depreciation of sterling in 2016 (graph 1.7) should boost external competitiveness, other factors held constant.

Graph 1.11: **Nominal unit labour costs (all sectors)**



Source: European Commission

Monetary policy

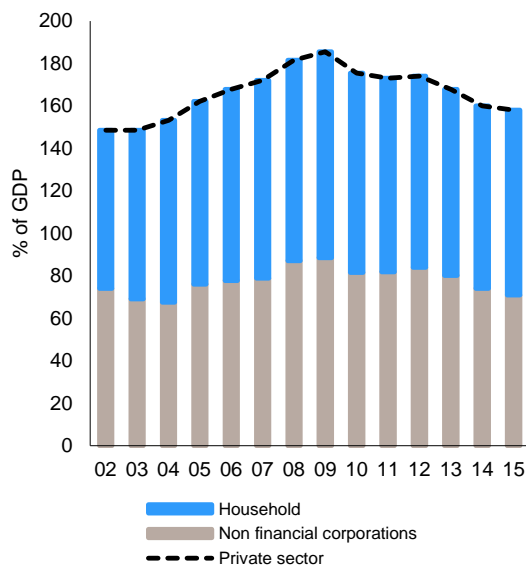
In August 2016, the Bank of England eased monetary policy, following the referendum on EU membership on 23 June 2016. The easing in policy included a reduction in the Bank Rate from 0.5 % to 0.25 %; a new Term Funding Scheme to reinforce the pass through of the reduction in the Bank Rate, and an increase in asset purchases, including purchases of government bonds worth GBP 60 billion (EUR 73 billion) and purchases of up to GBP 10 billion (EUR 12 billion) of UK corporate bonds. The measures are designed to support growth and secure a sustainable return of inflation to its target.

Financial sector and indebtedness

After a number of years of decline, bank lending to private (non-financial) corporations (PNFCs) has picked up. The stock of bank (gross) lending to PNFCs increased by 3.6 % ⁽⁵⁾ in the year to December 2016. Loans outstanding for large businesses increased by 4.8 % while those for SMEs grew at 1.6 %. Growth in lending to PNFCs remains slightly below that to households, which increased by 4.0 % in the year to December 2016. Unsecured lending expanded by 10.6 %, and secured lending by 3.1 %. Brisk growth in unsecured lending throughout 2016 is likely to have supported consumption growth.

⁽⁵⁾ Not seasonally adjusted

Graph 1.12: Private sector indebtedness



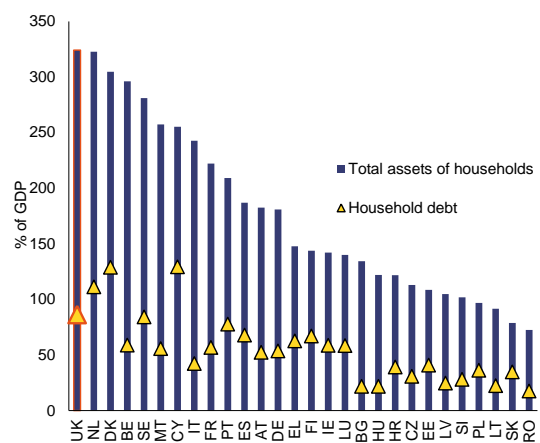
Source: European Commission

Private sector indebtedness remains at relatively high levels. Private sector indebtedness, which has declined from its peak of 190 % of GDP in 2009 to 161 % of GDP in 2015, is split broadly evenly between the corporate and household sectors (graph 1.12). PNFCs' financial liabilities (298 % of GDP in 2015) exceed financial assets (120 % of GDP in 2015). However, corporate balance sheets are likely to be considerably stronger once real assets are included. Over the current decade, balance sheets have strengthened due to increased corporate profitability, which has risen steadily.

Taken as a whole, household balance sheets remain strong, despite relatively high household indebtedness. In 2015, household indebtedness stood at 87 % of GDP. After having fallen steadily from a peak of 97 % of GDP in 2009, household debt has plateaued in the past three years. The European Systemic Risk Board (ESRB) – which conducted in 2016 a forward-looking EU-wide assessment of the real estate market across the EU – issued a warning on 28 November 2016 to the UK (as well as to seven other Member States) on the vulnerabilities of the residential real estate sector, given the high level of indebtedness of households. While there are pockets of risky lending, the aggregate financial position of households is strong. In 2015 households' gross financial assets, and net financial assets, were the

largest in the EU (graph 1.13). Household balance sheets are strengthened further once real assets are included. In 2015, households' real housing assets were valued at over 300 % of GDP.

Graph 1.13: Households' financial assets & liabilities 2015



Source: European Commission

Public finances

The budget deficit is falling but remains relatively high and the pace of deficit reduction has slowed. According to the Commission's 2017 winter forecast, the general government deficit is projected to decline from 4.0 % in 2015-16 to 3.3 % in 2016-2017. The government debt ratio is expected to remain unchanged at 87.5 % of GDP. The slower decrease in the headline deficit is mainly driven by a combination of lower-than-expected growth in revenues and higher-than-planned government consumption.

In 2017-18, the general government deficit is projected to decrease to 2.8 % of GDP. This includes policy decisions announced in the 2016 Autumn Statement that increase the deficit by GBP 2.5 billion in 2017-2018.

Table 1.1: Key economic, financial & social indicators

	2004-2008	2009	2010	2011	2012	2013	2014	2015	forecast		
									2016	2017	2018
Real GDP (y-o-y)	2.0	-4.3	1.9	1.5	1.3	1.9	3.1	2.2	2.0	1.5	1.2
Private consumption (y-o-y)	2.7	-3.2	0.6	-0.5	1.7	1.6	2.2	2.4	2.8	1.9	0.9
Public consumption (y-o-y)	2.3	1.1	0.2	0.2	1.7	0.3	2.3	1.3	1.0	0.7	0.4
Gross fixed capital formation (y-o-y)	1.8	-15.2	5.0	1.9	2.3	3.2	6.7	3.4	1.0	1.6	0.2
Exports of goods and services (y-o-y)	5.0	-8.8	5.8	5.8	0.6	1.1	1.5	6.1	1.7	3.5	2.9
Imports of goods and services (y-o-y)	4.0	-9.2	8.2	0.8	2.9	3.4	2.5	5.5	2.8	3.0	1.1
Output gap	1.3	-4.7	-3.8	-3.3	-3.0	-2.2	-0.5	0.2	0.6	0.5	0.2
Potential growth (y-o-y)	2.1	0.7	0.9	1.0	1.0	1.1	1.4	1.5	1.5	1.6	1.5
Contribution to GDP growth:											
Domestic demand (y-o-y)	2.1	-4.5	1.2	0.0	1.8	1.6	2.9	2.4	2.2	1.6	0.7
Inventories (y-o-y)	-0.2	-0.6	1.5	-0.6	0.4	0.6	0.5	-0.4	-0.1	0.0	0.0
Net exports (y-o-y)	0.1	0.4	-0.8	1.4	-0.7	-0.8	-0.4	0.0	-0.3	0.1	0.5
Contribution to potential GDP growth:											
Total Labour (hours) (y-o-y)	0.5	0.4	0.5	0.6	0.6	0.6	0.7	0.6	0.5	0.5	0.5
Capital accumulation (y-o-y)	0.6	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
Total factor productivity (y-o-y)	1.0	0.1	0.1	0.0	0.0	0.0	0.2	0.4	0.5	0.5	0.6
Current account balance (% of GDP), balance of payments	-2.2	-3.0	-2.7	-1.8	-3.7	-4.4	-4.7	-4.3	.	.	.
Trade balance (% of GDP), balance of payments	-2.7	-2.3	-2.7	-1.7	-2.2	-2.3	-2.0	-1.6	.	.	.
Terms of trade of goods and services (y-o-y)	-1.0	1.7	1.3	-1.0	0.3	2.2	1.5	0.7	0.0	-1.7	0.1
Capital account balance (% of GDP)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	.	.	.
Net international investment position (% of GDP)	-5.4	-10.6	-4.0	-5.9	-22.4	-16.2	-17.6	-4.6	.	.	.
Net marketable external debt (% of GDP) (1)	-28.7	-36.9	-31.6	-33.0	-38.5	-32.5	-25.0	-9.6	.	.	.
Gross marketable external debt (% of GDP) (1)	300.2	342.7	352.1	363.1	344.3	312.7	299.8	271.2	.	.	.
Export performance vs. advanced countries (% change over 5 years)	-4.1	-13.2	-17.5	-19.1	-11.9	-4.1	-3.1	4.90	.	.	.
Export market share, goods and services (y-o-y)	-4.9	0.0	-7.3	-2.5	-1.8	-0.8	2.3	3.9 c	.	.	.
Net FDI flows (% of GDP)	0.9	-2.6	-0.4	2.0	-1.3	-0.4	-6.4	.	.	.	.
Savings rate of households (net saving as percentage of net disposable income)	-0.4	3.8	5.7	3.4	2.7	0.6	0.5	0.2	.	.	.
Private credit flow, consolidated (% of GDP)	13.6	-7.7	-2.8	-1.2	0.5	3.9	2.3	0.8	.	.	.
Private sector debt, consolidated (% of GDP)	167.4	185.5	175.5	173.1	174.0	167.8	160.0	158.0	.	.	.
of which household debt, consolidated (% of GDP)	89.9	96.9	93.8	91.2	90.0	87.6	85.8	86.1	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	77.4	88.5	81.6	81.8	83.9	80.1	74.1	71.7	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	2.0	4.3	2.3	3.3	2.5	1.1	0.9	-0.4	-1.1	0.0	1.6
Corporations, gross operating surplus (% of GDP)	21.5	21.2	20.6	21.0	20.6	21.0	21.6	21.1	20.3	20.6	21.6
Households, net lending (+) or net borrowing (-) (% of GDP)	-0.8	3.3	4.5	2.6	2.2	0.2	0.0	-0.6	-1.1	-2.2	-2.6
Deflated house price index (y-o-y)	4.8	-9.7	3.5	-4.8	-1.5	0.3	6.2	5.6	.	.	.
Residential investment (% of GDP)	3.7	3.0	3.1	3.2	3.1	3.2	3.6	3.7	.	.	.
GDP deflator (y-o-y)	2.7	1.5	1.5	2.0	1.5	1.9	1.6	0.6	1.1	1.9	2.6
Harmonised index of consumer prices (HICP, y-o-y)	2.3	2.2	3.3	4.5	2.8	2.6	1.5	0.0	0.7	2.5	2.6
Nominal compensation per employee (y-o-y)	4.0	2.4	3.2	1.1	1.7	2.1	0.4	0.9	2.3	2.4	2.4
Labour productivity (real, person employed, y-o-y)	1.0	-2.8	1.7	1.0	0.2	0.7	0.7	0.4	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	3.0	5.3	1.6	0.1	1.5	1.3	-0.3	0.5	1.6	1.4	1.5
Real unit labour costs (y-o-y)	0.3	3.7	0.0	-1.9	0.0	-0.6	-1.9	-0.1	0.5	-0.4	-1.0
Real effective exchange rate (ULC, y-o-y)	-0.4	-9.4	2.6	-2.1	4.0	-1.5	5.3	6.8	-10.9	-5.5	-0.2
Real effective exchange rate (HICP, y-o-y)	-1.9	-9.5	0.9	0.5	4.3	-1.4	7.0	5.5	-10.6	-5.8	.
Tax rate for a single person earning the average wage (%)	26.6	25.3	25.5	25.1	24.7	24.0	23.6	23.4	.	.	.
Tax rate for a single person earning 50% of the average wage (%)	20.7*	19.7	20.1	18.2	17.5	15.9	15.2	14.9	.	.	.
Total Financial sector liabilities, non-consolidated (y-o-y)	25.8	-17.4	9.0	10.8	-3.0	-7.6	7.1	-10.3	.	.	.
Tier 1 ratio (%) (2)	.	.	.	.	.	.	.	.	.	.	.
Return on equity (%) (3)	.	.	.	.	.	.	.	.	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (4)	.	.	.	.	.	.	.	.	.	.	.
Unemployment rate	5.2	7.6	7.8	8.1	7.9	7.6	6.1	5.3	4.9	5.2	5.6
Long-term unemployment rate (% of active population)	1.2	1.9	2.5	2.7	2.7	2.7	2.2	1.6	.	.	.
Youth unemployment rate (% of active population in the same age group)	13.6	19.1	19.9	21.3	21.2	20.7	17.0	14.6	.	.	.
Activity rate (15-64 year-olds)	75.5	75.7	75.4	75.5	76.1	76.4	76.7	76.9	.	.	.
People at risk of poverty or social exclusion (% total population)	23.6	22.0	23.2	22.7	24.1	24.8	24.1	23.5	.	.	.
Persons living in households with very low work intensity (% of total population aged below 60)	11.4	12.7	13.2	11.5	13.0	13.2	12.3	11.9	.	.	.
General government balance (% of GDP)	-3.5	-10.2	-9.6	-7.6	-8.3	-5.7	-5.8	-4.4	-3.4	-2.8	-2.5
Tax-to-GDP ratio (%)	35.2	34.1	35.1	35.7	35.0	34.8	34.3	34.9	35.4	35.6	35.4
Structural budget balance (% of GDP)	.	.	-7.3	-5.7	-6.5	-4.4	-5.4	-4.5	-3.7	-3.1	-2.7
General government gross debt (% of GDP)	42.4	64.2	75.7	81.3	85.1	86.2	88.1	89.0	88.6	88.1	87.0

(1) Sum of portfolio debt instruments, other investment and reserve assets.

(2,3) domestic banking groups and stand-alone banks.

(4) domestic banking groups and stand-alone banks, EU and non-EU foreign-controlled subsidiaries and EU and non-EU foreign-controlled branches.

(*) Indicates BPM5 and/or ESA95

Source: European Commission, ECB

2. PROGRESS WITH COUNTRY-SPECIFIC RECOMMENDATIONS

The United Kingdom's progress in implementing the recommendations addressed to it in 2016⁽⁶⁾ has to be seen in a longer-term perspective, which started with the introduction of the European Semester in 2011.

The **fiscal deficit** has gradually decreased but remains above 3 % of GDP.

The UK has announced various policies to raise housing supply. Residential construction has risen over recent years, due both to the ongoing cyclical recovery from a post-crisis trough and to policy action, including major reforms to the planning system. However the challenge is both long term and structural. To date, the housing shortage has continued to intensify and new housing supply is still lower than the growth in demand. House prices remain high and their growth has continued to outpace disposable income growth. Household debt remains high but household balance sheets are strong on aggregate, while households and the broader economy appear resilient to short-term shocks.

The government has set out ambitious plans to remedy shortfalls in network infrastructure in its National Infrastructure Plan. While tangible progress to date has been modest and pressure on networks builds, the UK is starting to deal with the cumulated effects of decades of public under-investment in infrastructure. The government is also taking steps to increase private infrastructure investment, particularly in energy, and some major projects have been approved.

The UK has received evolving recommendations on labour market and social issues. On **skills and apprenticeships**, the high proportion of people obtaining only low-level qualifications remains a concern, both for labour market needs and for progression potential for individuals. Regarding **childcare**, reforms to date have been constant but gradual. A step-change is likely with the full roll-out of some initiatives in the next two years. The UK received recommendations from 2011 to 2014 related to poverty and the welfare system, with a particular focus on **child poverty**, which remains quite high.

Although the tax-benefit system currently performs quite well in alleviating inequality, this may come under pressure as a result of planned welfare reforms and cutbacks.

The UK received recommendations on improving SMEs' access to finance from 2011 to 2014. The government implemented a number of policies to improve access to finance, in a context of tight credit conditions and low business investment. With the continued recovery of the economy and banking sector, and a normalisation of financial conditions, this issue and the case for government intervention became less pressing and the recommendation was dropped in 2015.

Overall, the UK has made some⁽⁷⁾ progress in addressing the 2016 country-specific recommendations (CSRs). The UK currently has three CSRs. CSR 1 is not assessed in this country report. There has been some progress on CSR 2. An ongoing set of reforms should have positive impacts on housing supply, though these will take time and may not be sufficient to address the persistent undersupply of housing. Decisions on a number of major transport and energy investment projects were made in 2016, and the government announced a further prioritisation of public capital spending towards transport and other infrastructure. However, it is not clear that investment backlogs are on track to be remedied in a timely and cost-effective way. There has also been some progress on CSR 3. The UK government has continued to expand and reform the apprenticeship system. The new Post-16 Skills Plan is ambitious in intention and will require coherent, committed and timely implementation. There is some progress on improving childcare affordability, quality and full-time availability.

⁽⁷⁾ For more details on the level of progress and actions taken to address the policy advice in each respective subpart of a CSR, see the Overview Table in the Annex. This overall assessment does not include an assessment of compliance with the Stability and Growth Pact.

⁽⁶⁾ For the assessment of other reforms implemented in the past, see Section 3.

Table 2.1: Assessment of progress with 2016 CSRs

The United Kingdom	Overall assessment of progress: Some progress
<p>CSR 1: Endeavour to correct the excessive deficit in a durable manner by 2016-17. Following the correction of the excessive deficit, achieve a fiscal adjustment of 0.6 % of GDP in 2017-18 towards the minimum medium-term budgetary objective.</p>	<p>CSRs related to the Stability and Growth Pact will be assessed in spring once the final data is available.</p>
<p>CSR 2: Address shortfalls in network infrastructure investment, including by delivering the priorities of the National Infrastructure Plan. Take further steps to boost housing supply, including by implementing the reforms of the national planning policy framework.</p>	<p>Some progress</p> <ul style="list-style-type: none"> • Some progress in addressing shortfalls in infrastructure investment. • Some progress on boosting housing supply.
<p>CSR 3: Address skills mismatches and provide for skills progression, including by strengthening the quality of apprenticeships. Further improve the availability of affordable, high-quality, full-time childcare.</p>	<p>Some progress</p> <ul style="list-style-type: none"> • Some progress in addressing skills and apprenticeship issues. • Some progress in improving childcare availability.

Source: European Commission

Box 2.1: Contribution of the EU budget to structural change in the United Kingdom

The United Kingdom is a beneficiary of significant European Structural and Investment Funds (ESI Funds) amounting to EUR 16.4 billion by 2020. This represents 3% of national public investment ⁽¹⁾. Of the EU financing, over 21%, i.e. EUR 1.2 billion, is aimed to be delivered via financial instruments. By 31 December 2016, an estimated EUR 6.9 billion, which represents about 42 % of the total allocation for ESI Funds, have already been allocated to concrete projects.

Financing under the European Fund for Strategic Investments, Horizon 2020, the Connecting Europe Facility and other directly managed EU funds is additional to the ESI Funds. By end 2016, the UK has signed agreements for EUR 331 million for projects under the Connecting Europe Facility. The EIB Group approved financing under EFSI amounts to EUR 3.2 billion, which is expected to trigger nearly EUR 21.6 billion in total investments (as of end 2016).

All necessary reforms and strategies as required by the ex-ante conditionalities ⁽²⁾ for the ESI funds support were already met before programmes adoption. This ensured timely and effective start of the implementation of the ESI Funds. The UK is already directing considerable domestic resources to address Europe 2020 strategy ambitions. ESI Funds will be helping the UK implement structural reforms in critical and key areas for its future growth throughout the 2014-2020 period. The structural reforms being implemented through ESI Funds are generating broader benefits as they have encouraged and facilitated other public investments, including from national sources and other EU instruments, in particular European Fund for Strategic Investments (EFSI) and Horizon 2020.

All relevant CRSs were taken into account when the 2014-2020 programmes were designed. This includes addressing shortfalls in network infrastructure investment; addressing skills mismatches; providing for skills progression and increasing the labour market flexibility.

In addition to the identified challenges in CSRs, **the Funds address other structural obstacles to growth and competitiveness.** These include investing in low-carbon economy, enlarging the coverage of superfast broadband (targeting 100% of households and SMEs throughout the UK by 2023); incentivising innovation and private investments; and supporting and training several thousand of UK enterprises, the latter by financial instruments to an increasing extent. The Commission expects high take-up levels by end users of rolled out superfast broadband throughout the country that would enable e-Commerce and e-Government by SMEs and inhabitants (100% of settlements and SMEs to be covered by 2023), new competitiveness skills in thousands of SMEs after support and training, and several hundred more RTDI results to come from research institute-company cooperation to make British-owned firms more competitive in producing products and services in demand in global markets. Nearly 19 000 more competitive agricultural SMEs are expected as a result of targeted investment under ESI Funds, 12 000 000 rural inhabitants will be covered by local development strategies leading to improved social inclusion and the creation of 8 100 jobs in rural areas.

<https://cohesiondata.ec.europa.eu/countries/UK>

⁽¹⁾ National public investment is defined as gross capital formation + investment grants + national expenditure on agriculture and fisheries.

⁽²⁾ At the adoption of programmes, Member States are required to comply with a number of ex-ante conditionalities, which aim at improving framework and investment conditions for the majority of areas of public investments. For Members States that do not fulfil all the ex-ante conditionalities by the end 2016, the Commission has the possibility to propose the temporary suspension of all or part of interim payments.

3. REFORM PRIORITIES

3.1. PUBLIC FINANCES AND TAXATION

Taxation policy

The tax-to-GDP ratio remains relatively low in the UK, despite a slight increase in tax receipts in the fiscal year 2015-16. As a percentage of GDP, tax revenues increased from 32.9 % to 33.3 % between 2014-15 and 2015-16. The total tax burden was close to 33 % of GDP in 2015-16 (Table 3.1.1), well below the GDP-weighted EU average of around 39 % ⁽⁸⁾.

Table 3.1.1: **Composition of tax revenues, 2015-2016**

Tax category	GBP billion	% Revenue	% GDP
Income tax	168.9	26.9	9.0
National insurance contributions (employers and employees)	114.1	18.2	6.1
Corporation tax	43.8	7	2.3
Property taxes	68.7	10.9	3.6
Capital taxes	10.4	1.7	0.6
VAT	130.5	20.8	6.9
Excise duty	53.1	8.5	2.8
Other taxes	39.1	6	2.1
Total	628.6	100 %	33.3 %

Source: OBR, November 2016 Economic and Fiscal Outlook

Taxes on labour, which are particularly detrimental to growth, are among the lowest in the EU. The tax wedge ⁽⁹⁾ on labour is well below the EU and OECD averages across the income scale and across household types. For example, for a single person without children at the average wage, the tax wedge was 30.8 % in 2015, compared to an EU GDP-weighted average of 42.9 % and an OECD non-weighted average of 35.5 % ⁽¹⁰⁾.

Corporate tax receipts were 2.3 % of GDP in 2015-16, broadly in line with the EU average. Following a marked decrease in recent years, the effective average tax rate at the corporate level (non-financial sector) stood at 21.5 % in 2016, close to the EU average of 20.9 % (ZEW, 2016). However, as discussed in the 2016 country report, the effective marginal tax rate for new investment

stood at 24.7 % in 2016, above the non-weighted EU-28 average of 15.7 % and among the highest of all Member States (ZEW, 2016). This is largely due to the taxation of property and the capital allowance regime ⁽¹¹⁾.

Following the conclusions of the UK's review of 'business rates' in 2016, the burden on taxpayers in England will be cut by GBP 1.7 billion (EUR 2.1 billion, 0.1 % of GDP) as of 2017-18 ⁽¹²⁾. Payments for business rates comprise a substantial proportion of the total taxes paid by companies in the UK, standing at GBP 28.8 billion (EUR 35.3 billion) in 2015-16, compared to corporation tax payments of GBP 43.8 billion (EUR 53.6 billion). According to the 2016 Budget, the measures adopted for England entail cutting business rates for all properties and ensuring that the smallest businesses no longer pay this tax, which is not linked to their profitability.

Revenues from VAT are relatively low in the UK and reduced VAT rates apply to a relatively wide range of goods and services ⁽¹³⁾. In 2015-2016, VAT receipts accounted for slightly more than one-fifth of government revenues (Table 3.1.1). The loss of potential revenues due to the application of the zero- and reduced-VAT rates is estimated to have stood at GBP 48.1 billion (EUR 58.9 billion) in 2015-16 (around 2.5 % of GDP) (UK Government, 2016). Furthermore, the VAT compliance gap in the UK ⁽¹⁴⁾ has been estimated at 10 % in 2014 (corresponding to around GBP 16 billion or around 0.7 % of GDP), broadly in line with the previous year's figures and below the EU average of 15 %.

In its most recently published plans (HM Treasury, 2016), the government announced limited changes to the tax system. According to

⁽⁸⁾ Data for fiscal years based on OBR, annual data based on Eurostat.

⁽⁹⁾ The tax wedge shows the proportional difference between the costs of a worker to their employer and the employee's net earnings.

⁽¹⁰⁾ European Commission Tax and Benefit Indicator database based on OECD data. OECD for OECD averages.

⁽¹¹⁾ A more in-depth discussion of the factors behind the difference can be found in the 2016 country report.

⁽¹²⁾ Business rates refer to the tax on *non-domestic property*. The collection and distributions of business rates is largely devolved in the UK, with Scotland and Wales administering their own systems. The Scottish Government has set up a review group to make recommendations for reform in this area.

⁽¹³⁾ See the 2016 country report for details.

⁽¹⁴⁾ This gap measures the difference between the collected VAT and theoretical VAT revenue under the tax law.

OBR estimates, these tax measures will raise an extra GBP 350 million (EUR 428 million, 0.02 % of GDP) in 2017-18, mainly from an increase in the insurance premium in addition to measures fighting tax avoidance and evasion. The additional impact should be negligible thereafter.

Long-term sustainability of public finances

The high level of general government debt represents a source of vulnerability for the UK economy. According to the Commission 2017 winter forecast, gross public debt is expected to have levelled off in 2016 at 88.6 % of GDP and to decrease slightly in 2017 and 2018.

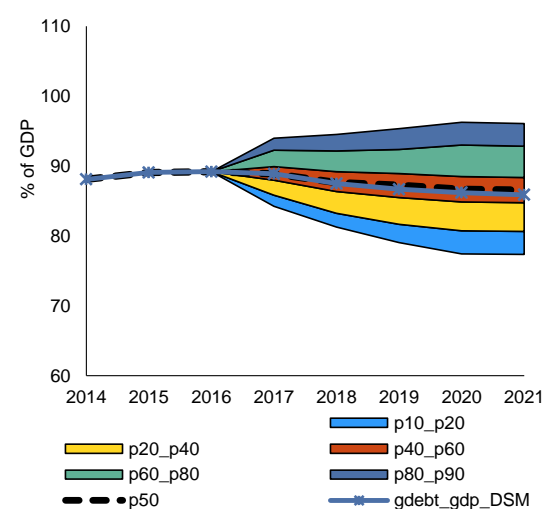
No substantial short-term fiscal risks exist, but some variables point to possible challenges. According to the Commission's analysis (European Commission, 2017), the overall short-term fiscal risk indicator is below the threshold that indicates a risk. This indicator, which is based on a comprehensive approach that takes into account both fiscal and macro-financial variables, points to no significant risks of short-term fiscal stress.

Fiscal risks, however, appear to be higher in the medium term ⁽¹⁵⁾. The same analysis projects a relatively high and increasing stock of debt at the end of the projection period (2027). Potential shocks to nominal growth, interest rates and the structural primary balance could lead to a debt ratio well above 90 % of GDP (graphs 3.1.1 and 3.1.2). To reduce the debt-to-GDP ratio to 60 % of GDP by 2031, a cumulative fiscal adjustment of 3.3 pps. of GDP (relative to the scenario where there is no change in fiscal policy) would be required over 5 years, i.e. by 2023 ⁽¹⁶⁾.

⁽¹⁵⁾ This assessment is broadly confirmed by the OBR's latest Fiscal Sustainability Report, published in January 2017.

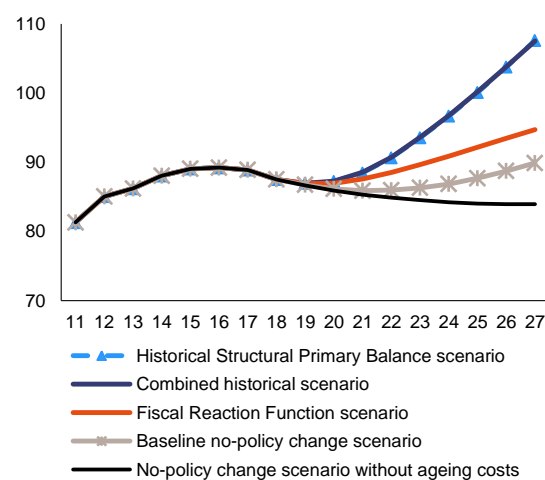
⁽¹⁶⁾ The S1 indicator measures the required fiscal adjustment needed over the next 5 years (from the last forecast year) to drive debt ratio down to 60 % of GDP in 2031. Thus, it is a medium-term sustainability risk indicator.

Graph 3.1.1: Debt projections based on probability



Source: European Commission, Debt Sustainability Monitor 2016

Graph 3.1.2: Gross public debt as a % of GDP



Source: European Commission, Debt Sustainability Monitor 2016

According to the Commission's S2 indicator ⁽¹⁷⁾, **the UK might face medium fiscal risks in the long term.** The Commission's calculations of the long-term sustainability gap show that a fiscal adjustment of 3.0 pps. of GDP would be needed in order to ensure the sustainability of public finances in the long run. The gap is mainly due to the

⁽¹⁷⁾ The S2 indicator measures the required upfront fiscal adjustment needed to stabilise public debt over the infinite horizon, taking full account of future increased liabilities linked to population ageing. Thus, it is a long-term sustainability risk indicator. The indicator is calculated under the assumption of a no-fiscal policy change scenario.

projected impact of age-related public spending (2.3 pps. of GDP), of which pensions account for 0.9 pp. of GDP and healthcare 1.0 pp. of GDP. The unfavourable initial budgetary position, determined by the structural primary balance and the general government debt level in 2018 — the final year of the Commission’s macroeconomic forecast, also contributes 0.7 pp. of GDP to the gap.

Healthcare

The healthcare system is currently under financial pressure and, in the medium to long term, faces high risks to sustainability. Given current rates of increasing demand, the National Health Service (NHS) has estimated a GBP 30 billion (EUR 37 million, 1.6 % of GDP) gap between ‘needs’ and ‘resources’ in 2020-21 in England (NHS, 2014). As a result of this analysis, the government has committed to providing GBP 8 billion (EUR 10 billion) of additional funding allocated in real terms by 2020-21, with NHS England aiming to bridge the remaining GBP 22 billion (EUR 27 billion) through a range of efficiency measures. Healthcare expenditure is expected to increase by at least 1.3 pps. of GDP between 2013 and 2060, due to the ageing population. These projections are based on the assumption that half of the future gains in life expectancy are spent in good health (European Commission, 2015).

Various measures are being considered to achieve further efficiency gains and to mitigate the growth in demand for health services. In the recently published ‘Joint Report on Health Care and Long-Term Care Systems and Fiscal Sustainability’, options for the UK to increase efficiency in the healthcare sector included further strengthening primary care provision, integrated care, a comprehensive workforce strategy and further efforts on health promotion and disease prevention. These are likely to provide benefits several years following implementation, however (The King’s Fund, 2016).

Fiscal frameworks

The UK fiscal framework is solid, helped by the role of independent authorities. The OBR was set up in May 2010. It produces official economic and fiscal forecasts, and assesses the government’s

performance against fiscal targets. Since 2010, these targets have been revised a number of times, including in 2016 (see below). Such frequent revisions reduce the ability of economic agents to predict the medium-term basis of fiscal policy.

In the context of the 2016 Autumn Statement, the government updated its Charter for Budget Responsibility against the backdrop of downward revisions in the OBR’s medium-term forecast. In an environment of subdued growth prospects and substantially revised official projections following the UK’s referendum on EU membership, the new Charter abandons the three targets of the previous Charter⁽¹⁸⁾. The government’s commitment to run a budget surplus by 2019-2020 is replaced by the intention to return to a balanced budget ‘at the earliest possible date in the next Parliament’, which takes office in 2020. To achieve this objective, the numerical target is for ‘cyclically adjusted borrowing’ to go below 2 % of GDP by 2020-21. In conjunction with the changed budget path, the supplementary debt target was revised from a previously planned continuous reduction for the period until 2019-2020 to a first decrease in 2020-2021.

The commitment in the previous fiscal framework to contain welfare spending is retained, with an updated definition for the welfare cap. The new cap is based on the OBR forecast underlying the 2016 Autumn Statement for the benefits and tax credits and will apply to welfare spending in 2021-22. The cap will only be breached if spending exceeds the cap plus a 3 % margin at the point of assessment.

In specifying multi-annual departmental expenditure limits (DELs), UK government spending is well-planned in advance. In November 2015, the government published its ‘Spending Review’, which specifies DELs until 2020-21 for all government departments. DELs only cover around half of total expenditure, however, with spending that is heavily influenced by the business cycle falling under ‘annually managed expenditure’. In its 2016 Autumn Statement, the government repeated its commitment to the Spending Review limits.

⁽¹⁸⁾ Under the new forecast, the government is off-track in complying with the three targets in the previous Charter.

3.2. FINANCIAL SECTOR AND HOUSING

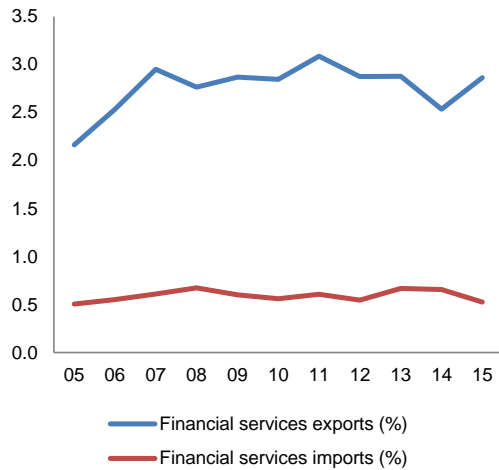
3.2.1. FINANCIAL SECTOR DEVELOPMENTS

Importance of financial services and banking

The UK is home to the largest financial sector in the EU and one of the largest in the world.

The financial services sector accounts for around 8 % of UK GDP (2014) and 3 % of UK employment (September 2016). According to a number of indicators of turnover, the UK accounts for a high proportion of global activity in various types of financial services. London is regarded as one of the main global financial centres.

Graph 3.2.1: Financial services exports & imports (% GDP)



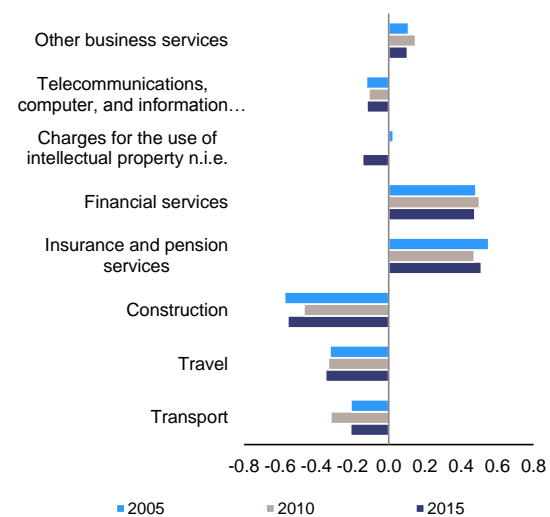
Source: Office for National Statistics

Exports of financial services are an integral contributor to the UK trade surplus in services.

In 2015, exports of financial services were 2.7 % of GDP, or 10 % of all exports. The surplus in financial services stood at 2.3 % of GDP, the highest of all components of services (graph 3.2.1). The EU accounts for a little over 40 % of UK exports of financial services and the UK trade surplus in financial services with the EU was around 1 % of GDP in 2015. The surplus in financial services reflects the UK's sectoral strength in financial services and insurance and pension services, which it has retained for at least the last ten years (graph 3.2.2) ⁽¹⁹⁾.

⁽¹⁹⁾ The bars represent the weight of each sector in the UK's total exports, relative to the proportion of total world exports that sector represents.

Graph 3.2.2: Exports of services: revealed comparative advantage



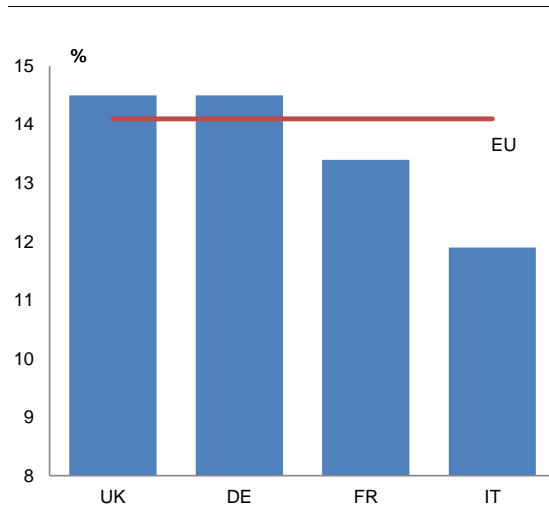
Source: European Commission

Banks' balance sheets

The banking sector has strengthened its capitalisation since the financial crisis. In the past eight years, major UK banks have raised more than GBP 130 billion (EUR 159 billion) of capital. The Tier 1 capital ratio of the aggregate UK banking sector has increased by more than 400 basis points since 2010 and the Core Equity Tier 1 ratio reached 14.5 % of Risk Weighted Assets in Q3-2016 (graph 3.2.3). This compares favourably to the EU average and to other major EU countries. Capital strength has improved over time, partly due to increased regulatory requirements.

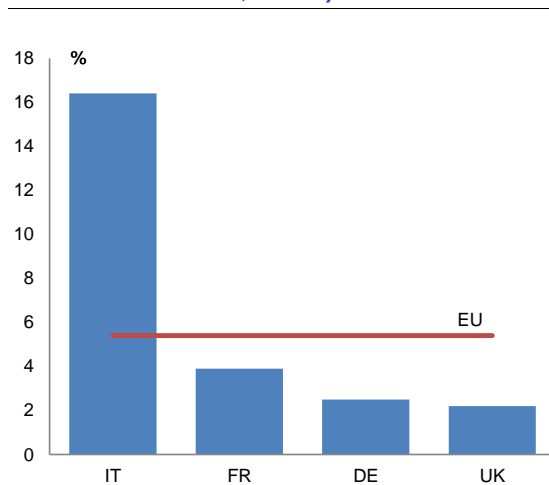
In the aftermath of the international financial and economic crisis, banks have deleveraged and strengthened the composition of their balance sheets. Since end-2008, the total assets of the banking system have declined by some 15 %. Banks have increased the share of their domestic lending as a proportion of total assets, while reducing the share of overseas and intra-financial sector lending. The outstanding stock of overseas loans has fallen by some 20 % and intra-financial sector lending has fallen by more than 30 %. The quality of banks' assets has improved in recent years and the ratio of gross non-performing loans is one of the lowest in the EU at 2.2 % as of Q3-2016 (graph 3.2.4).

Graph 3.2.3: **Bank capitalisation: core equity Tier 1 ratio – Q3 2016**



Source: European Banking Authority

Graph 3.2.4: **Gross non-performing debt instruments (per cent of total, Q3 2016)**



Source: European Central Bank

Major UK banks also now hold a significant amount of high-quality liquid assets. In order to comply with new regulatory standards, the major banks' holdings of high-quality liquid assets have risen by a factor of about four since the crisis. Since 1 October 2015, UK banks have been required by the Prudential Regulation Authority to comply with the Liquidity Coverage Ratio standard, a measure of banks' liquid assets as a proportion of the outflows they might face if funding conditions became stressed. The UK banks' liquidity coverage ratio is, in aggregate, 118 %, and all banks are above 100 %.

Recent performance of the banking sector

Bank profitability has remained modest since the crisis. Banks' profits remain subdued due to continued low interest rates, balance sheet deleveraging, declining trading income and, for some banks, high legacy conduct and litigation provisions. In 2015, banks booked a further GBP 15 billion (EUR 18 billion) of provisions for losses, reducing pre-tax profits by around 50 %. This poses challenges for the capacity of banks to strengthen their capital base organically. The major banks' shares continue to trade around or below their book value. Nevertheless, credit growth has recovered since the beginning of 2016 for all types of borrowers, led by consumer credit (see Section 1).

Macro-prudential regulation

Four banks have been identified by the Financial Stability Board and the Bank of England as global systemically important institutions (G-SIIs). As a result, G-SII buffers have been applied to them ⁽²⁰⁾. The Prudential Regulation Authority has also recently designated 16 banks as other systemically important institutions (O-SIIs), including smaller retail banks, building societies and subsidiaries of investment banks, for which buffer requirements have not yet been set.

Following the referendum on membership of the EU in June 2016, the Bank of England took measures to preserve banks' capacity to lend domestically. It offered banks more than GBP 250 billion (EUR 306 billion) in liquidity plus 'substantial' access to foreign currency to ease any squeeze in markets. In addition, the Bank of England recently reduced, in its role of designated macro-prudential authority, the countercyclical buffer rate for UK banks from 0.5 % to 0 %. This is expected to reduce capital requirements by about GBP 5.7 billion (EUR 7.0 billion).

3.2.2. HOUSING SECTOR

Activity in the housing sector remained moderate in 2016, but high house prices and the

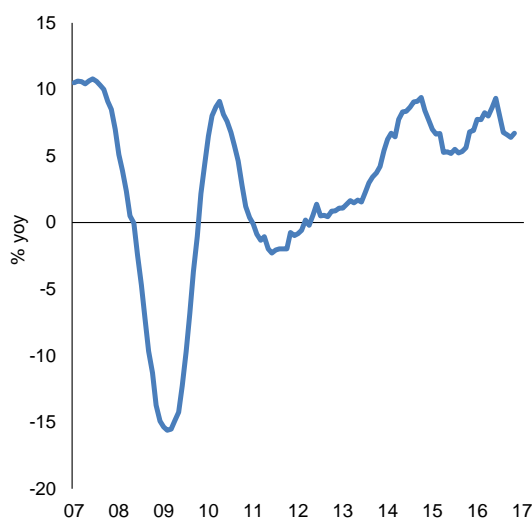
⁽²⁰⁾ These banks are HSBC (2.5 %), Barclays (2 %), Royal Bank of Scotland (1 %) and Standard Chartered (1 %).

housing shortage persist. New housing supply continues to lag behind the growth in demand. This shortage of housing contributes to high house prices and has significant social and economic costs. A range of policies to support residential construction are having positive effects but may not prove adequate. Nevertheless, risks posed by the household sector to macroeconomic stability remain low in the short-term.

Housing affordability and demand

House prices continue to rise. The growth of house prices continues to outstrip that of incomes, with the former growing by a rate of 6.7 % in the year to November 2016 (graph 3.2.5). Regionally, house price growth ranged from 3.2 % in North East England to 10.5 % in the East of England. In London, the increase was 8.1 %. Indicators such as the stock-sales ratio continue to suggest tight housing market conditions (RICS, 2017). Surveyors' expectations of price rises over the next 12 months strengthened in late 2016. The OBR predicts annual national house price growth to average slightly under 5 % between 2016 and 2020 (OBR, 2016).

Graph 3.2.5: House price growth

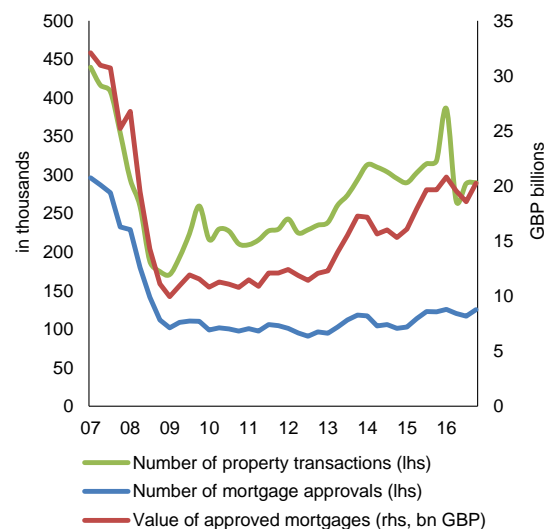


Source: Office for National Statistics

Housing transactions remain subdued, despite good credit conditions. The number of mortgage approvals was broadly flat throughout 2016 and remains low by historical standards (graph 3.2.6). This partly reflects declining affordability. Survey

evidence suggests that secured credit is generally available and sufficient (Bank of England, 2016). The cost of secured borrowing fell further in 2016 to historic lows, supported by looser monetary policy (see Section 1). New buyer enquiries fell steeply in the period around the referendum on EU membership, but subsequently recovered.

Graph 3.2.6: Housing transactions & mortgage approvals



Source: Bank of England

Pockets of relatively risky lending continue to emerge. There was a spike of activity in the buy-to-let sector before the enactment of changes to the taxation of housing announced in the 2016 Budget, which resulted in an increase in taxation of landlords' returns (graph 3.2.6). The proportion of loans advanced at both high loan-to-value ratios and high loan-to-income ratios continues to increase.

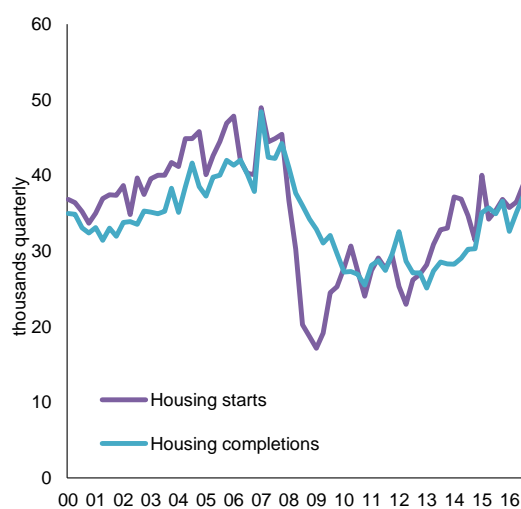
An increasing proportion of households do not have the option of buying a house. The ratio of median house price to median earnings reached a new peak of over 7.5 in England in 2015 (DCLG, 2016a). Houses are least affordable in London and the South East of England. The result is that many people are unable to buy a house, even if they would prefer to, despite the low cost of borrowing. The UK's overall home ownership rate peaked in the early 2000s. In England it fell from 70.9 % in 2003 to 63.6 % in 2014-15 overall, and from 58.6 % to 36.7 % for those aged 25-34 (DCLG, 2016a). In parallel, the proportion of people aged

20-39 living in private rented accommodation has risen to 45.5 %, from 21.4 % in 2003-04.

Housing supply

The fundamental imbalance between housing supply and demand identified in previous country reports persists. Public concern over housing is high, especially among young adults and people living in regions with high housing costs (Ipsos Mori, 2016). High rents, high house prices and moving costs are barriers to labour mobility and efficient job matching. Private and public sector employers report significant difficulties in recruiting in high housing cost areas⁽²¹⁾. Potential commutes, especially into London, are often time-consuming and expensive.

Graph 3.2.7: Housing starts & completions



Source: European Commission

New housing starts and completions in England show signs of levelling off. Annual new-build completions have risen significantly from the post-crisis trough, but at 141 000 in Q3-2016 they remain well below the recent peak of 184 000 in 2007. The growth of both housing starts and completions has reduced in the last year (graph 3.2.7) (DCLG, 2016a). Conversions from business to residential use have increased significantly, to 30 600 per year in 2015-16 (DCLG, 2016b). There is some uncertainty around the level of net housing

⁽²¹⁾ Two thirds of respondents to the September 2016 CBI/CBRE London Business Survey cited housing costs as a significant problem for recruiting and retaining staff.

additions. On one hand, indicators such as Council Tax registrations suggest that official housing data may understate new dwellings by around 20 % (HBF, 2016). On the other hand, the official figures for annual demolitions — around 10 000 — seem much too low.

The continued mismatch between supply and demand is expected to place sustained upward pressure on house prices. The government projects that an average of 210 000 additional households will be formed each year in the 25 years to 2039 (DCLG, 2016c), principally due to a rising population. This is higher than the current level of new supply (see above). There is already considerable pent-up demand from the existing shortfall in housing supply. This mismatch is most acute in regions with faster population growth.

Barriers to increasing housing supply

Regulation of the land market and residential construction remains strict and complex. Planning policies place severe limits on the scope for residential development, particularly around cities as a result of the presence of the ‘Green Belt’. This has contributed to an overall undersupply of land for development, driving the price of residential land up (Cheshire, 2016) and reducing the size of new dwellings. The process of obtaining planning permission for residential developments is often lengthy, uncertain, complex and costly. Housing supply is consequently often not responsive to house prices or to growing housing demand, raising the level, volatility and regional variation of house prices.

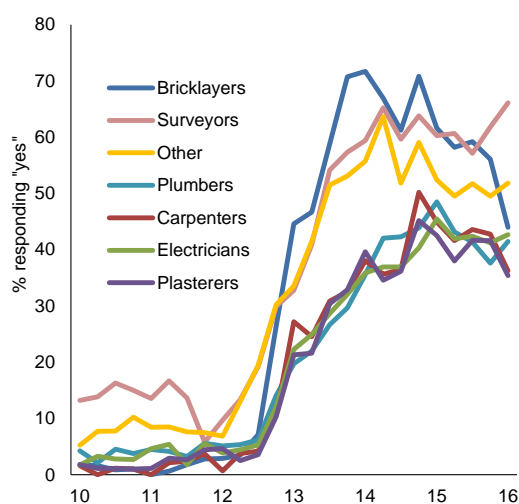
The reformed planning system is somewhat more supportive of development but risks remain to its operation in practice. The use of land is guided by the principles set out in the National Planning Policy Framework, which has been significantly reformed in recent years with the aim of facilitating increased construction. In England planning permission for 277 000 homes was granted in the year to September 2016, a rise of 9 % on the year before, although to date this level of planning permissions has not been matched by a commensurate increase in construction.

Large firms may not increase the number of houses they build much further. The 10 largest

builders now build around 60 % of new private homes and they have gradually increased their volumes since the post-crisis trough in housing supply. However it does not look likely that they can bridge much more of the current gap between housing supply and demand (Policy Exchange, 2016). High and volatile land and house prices and the complex planning system favour a cautious business model, focusing on profit margins and holding a reserve of land more than raising volumes.

There are barriers to the entry and expansion of smaller house-builders. Builders who construct fewer than 500 units a year now build only 26 % of new homes, down from two thirds in the late 1980s (FMB, 2016). Building firms that left the market following the financial crisis have not been replaced. The high cost of land and difficulty of obtaining planning permission puts a premium on specialist knowledge, raises the amount of up-front capital needed to build houses, and increases uncertainty over whether and when completed homes can be sold. Although credit conditions are healthy in the economy as a whole, construction firms are still particularly likely to report that a lack of access to finance limits building activity (RICS, 2016).

Graph 3.2.8: Skills shortages in the construction sector



Source: RICS Newsletter

The construction sector faces skills shortages. A Federation of Master Builders survey of construction SMEs (FMB, 2016) found that they

had greater challenges in securing adequate numbers of skilled workers than in gaining new work, although skills shortages seem to have moderated in the last year (graph 3.2.8). According to the CBI 2016 Education and Skills Survey, the balance of firms confident of accessing high-skilled construction employees in future was a record low of -74 %. Many construction workers are set to retire in the next decade and the industry sees a need to improve training and increase the number of construction apprenticeships (Farmer Review, 2016). Strong housing demand should help to stimulate this.

The government's policy response

The government has continually emphasised the need to boost housing supply. As reported in previous country reports, the government has adopted a number of initiatives to help meet its target for 1 million homes to be built by 2020. These reforms should have a positive impact on housing supply but may not be sufficient to address chronic undersupply in the market. In October 2016, the government announced plans for further changes to make a 'de facto' presumption that development will be allowed on brownfield sites. Despite these positive signs, 55 % of industry participants still cite the planning regime as a barrier to building activity (RICS, 2016). In February 2017 the government published a housing white paper 'Fixing our broken housing market' (DCLG, 2017) setting out further changes to planning rules and the operation of the planning system.

The government is seeking to address local barriers to increased development. Residential planning is largely implemented at a local level. Public employment on planning has fallen sharply in recent years (LGIU, 2016) and different agencies do not always coordinate well. The Housing and Planning Act 2016 has put in place measures to force local authorities to deliver local plans and increase the likelihood of housing-led developments being permitted. While surveys show social attitudes are changing in response to a growing recognition of the severity of the housing crisis, there is often still strong local public and political opposition to development.

Targets for the sale of public land may prove difficult to achieve. While departments have

identified land with the potential to meet two thirds of the UK's target to dispose land for 160 000 houses by 2020, in the first 10 months of the programme only land for 8 500 homes was disposed of. The National Audit Office (NAO) has questioned the results of the 2010-15 public land disposal programme and said delivery of the 2020 target will be challenging (NAO, 2016). In October 2016 the government announced plans for GBP 2 billion (EUR 2.4 billion) of new public borrowing to fund an Accelerated Construction Scheme, to make public land with planning permission available to builders.

The emphasis on demand-focused policies is declining. Since 2013 the two aspects of the Help to Buy scheme (equity loans and mortgage guarantees) have provided support to over 100 000 people buying a house with a limited deposit, principally first time buyers. The mortgage guarantee aspect of Help to Buy was withdrawn at the end of 2016. The equity loans part will continue until 2021. By stimulating housing demand, these policies may have further boosted house prices. Public spending on subsidising private rents has risen substantially in the last decade. This reflects rising housing costs but does not deliver increased housing supply.

Policy is shifting away from a focus on home ownership to supporting a mix of tenures. The government will provide up to GBP 10 billion (EUR 12 billion) of government-backed guarantees to build more homes for rent, which would encourage the growth of more large-scale private landlords. In the 2016 Autumn Statement, the rules on grant funding were relaxed to allow housing providers to deliver the mix of homes for ownership or rent that they deem appropriate.

Publically-funded housing construction is limited. The proportion of new houses built by local authorities has fallen sharply, from just under 50 % in 1969-1970 to little more than 1 % today. This decline has been only partly replaced by the growth of not-for-profit Housing Associations. In recent years, public sector capital spending on housing has continued to fall (DCLG, 2016d). In 2015-16, the construction of affordable housing fell to a 24-year low of 32 100, compared to 66 600 in 2014-15 (*ibid.*), partly reflecting strong cyclicity and long lead times in affordable housing delivery. In the November 2016 Autumn

Statement, the government announced it would spend GBP 2.3 billion (EUR 2.8 billion) on building infrastructure — such as roads — related to housing developments, and GBP 1.4 billion (EUR 1.7 billion) under three existing schemes (Affordable Rent, Shared Ownership and Rent to Buy) to support the construction of 40 000 affordable homes. This is welcome but the budgetary allocation is relatively small. Housing Associations have also expressed concerns that the extension of the Right to Buy scheme could weaken their balance sheets and their capacity to invest in new housing supply.

The government is seeking to resume a more active role in facilitating an increase in housing supply. The government would like to see public-sector bodies, in particular local authorities, act as 'Housing Delivery Enablers' (Elphicke-House, 2015). This can range from the simple sale of land, to the public sector acting as a partner throughout the development process. If public participation can smooth the planning process it could reduce delays and overall development costs.

Public bodies are increasingly seeking to partner private-sector builders to develop and deliver residential developments. A growing number of local authorities have set up their own development companies to deliver new housing. This is happening on a largely decentralised basis, using a variety of models. The government plans to directly commission new houses on public land for which planning permission is in place.

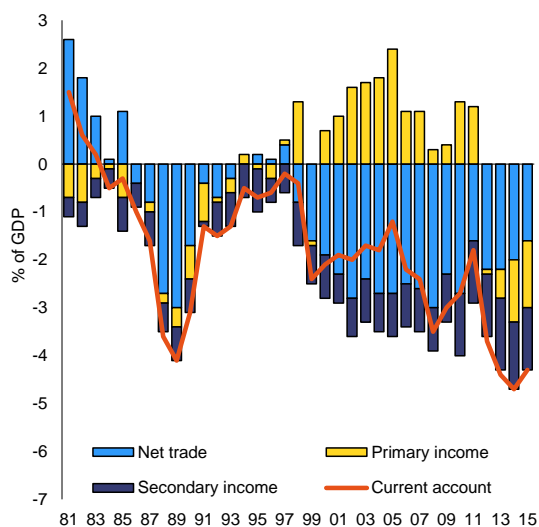
Conversions and alternative construction methods can help mitigate the housing shortage. Business-to-residential property conversions have increased significantly. Converting single houses into multiple dwellings is often more feasible for smaller builders than new construction. Modular construction has scope to expand in the UK. As part of its approach to the collaborative economy, the UK has established a 'Rent a Room Scheme' permitting people to earn up to GBP 7 500 (EUR 9 180) per year, tax-free, from renting out a room. The UK approach to the collaborative sector in the accommodation sector imposes a lighter regulatory regime on occasional providers than professionals, and the UK aims to establish trust standards in the collaborative economy.

3.3. EXTERNAL ISSUES

After recently reaching record highs, the current account deficit is projected to decline. In 2016, the current account deficit is projected to have widened to 5.0 % of GDP, from 4.3 % of GDP in 2015, and it is one of the highest deficits in the EU. The current account deficit is projected to narrow in 2017 and 2018. However, continued projected current account deficits indicate that, if other factors were held constant, the net international investment position (NIIP) could be expected to deteriorate over time. This may leave the economy exposed to risks such as a sudden change in the preference of international investors and affect external sustainability.

the primary income balance was discussed in detail in the 2016 country report. Those trends are likely to have continued in 2016. Since 2011, the balance of income on portfolio investments has been broadly constant at a deficit of around 1.3 % of GDP on average whereas the balance of income on FDI has fallen significantly from a surplus of 3.3 % of GDP in 2011 to 0.5 % of GDP in 2015⁽²²⁾ (graph 3.3.2). The decline in the surplus in the FDI income balance reflects a large fall in FDI credits – from 6.4 % of GDP in 2011 to 3.3 % of GDP in 2015. A modest fall in FDI debits of 0.3 pps. over the same period has slightly offset the impact on the FDI income balance.

Graph 3.3.1: Current account balance and its components

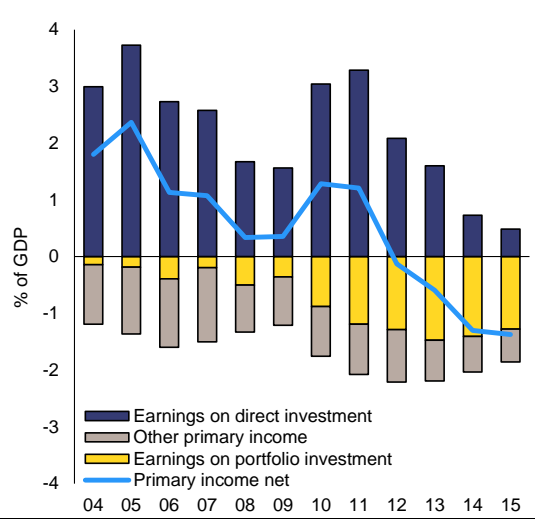


Source: Office for National Statistics

A sharp increase in the primary income deficit has been the main cause of the rise in the current account deficit since a recent trough in 2011. The primary income balance was in surplus from 2000-2011. However, since 2011, it has moved from a surplus of 1.2 % of GDP to a deficit of 1.4 % of GDP in 2015 (graph 3.3.1). By contrast, the trade deficit has remained stable throughout most of the current decade. The relatively low level of the trade deficit in the face of a large increase in the current account deficit is unusual in historical perspective.

A rapid decline in the foreign direct investment (FDI) income balance explains the deterioration in the primary income balance. The relationship between the decline in the FDI income balance and

Graph 3.3.2: Primary income balance and its components



Source: Office for National Statistics

The fall in the FDI income balance largely reflects changes in the relative rates of return on FDI assets and liabilities⁽²³⁾. Movements in the relative stocks of FDI assets (the stock of foreign assets held by UK nationals) and liabilities (the stock of UK assets held by foreign nationals) and relative rates of return on those stocks have contributed to the movement in the FDI income balance. In particular, the return on the UK's FDI assets has fallen by around 3 pps. between 2011 and 2015 while that paid on FDI liabilities rose slightly (by 0.1 pps.) over the same period although the return paid on FDI liabilities is above that received on assets in absolute terms.

⁽²²⁾ There has also been a significant decline in earnings from 'other' investment, the return on these investments has fallen by 0.5 pps. over this period.

⁽²³⁾ See the 2016 country report for further details.

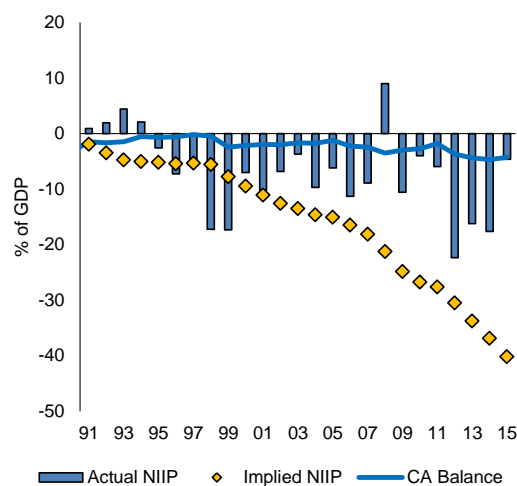
It is not possible from available data to provide a definitive explanation for the decline in the return on foreign FDI assets relative to that paid on FDI liabilities. The movement may reflect predominantly cyclical factors. For example, the UK is in a more mature position in its economic cycle *vis-à-vis* some other major destinations for FDI investment and thus generates higher relative returns. It may also reflect structurally higher returns generated in the UK *vis-à-vis* other FDI destinations. Further discussion of this issue can be found in the 2016 country report.

The Net International Investment Position (NIIP)

The NIIP is close to balance despite sustained current account deficits. The NIIP stood at -5 % of GDP in 2015 (graph 3.3.3), less negative than in 2014 and around the level at the beginning of the current decade. However, over the last decade, the NIIP has not deteriorated in the manner that would be implied by the size of the current account deficit. The discrepancy largely reflects the impact of ‘valuation effects’. Such valuation effects could be reversed in future years and pose downside risks for the NIIP.

The sustainability of the NIIP could be undermined by continued current account deficits. Although the current account deficit is projected to decline in 2017 and 2018, it is likely to remain high. The rise in the primary income deficit since 2011 reflects, in part, the rise in gross liabilities relative to gross assets. If other factors are held constant, continued current account deficits would entail a further deterioration in the primary income deficit and consequently in the NIIP. There is clearly potential for a ‘vicious circle’ to emerge, with a consequent threat to external sustainability. Such trends would be exacerbated if the rate of return on external liabilities continued to exceed that on external assets or if the relative rates of return were themselves affected by the size of the current account deficit (for example, if foreign investors demand a higher risk premium for holding UK assets).

Graph 3.3.3: Net international investment position



Source: Office for National Statistics

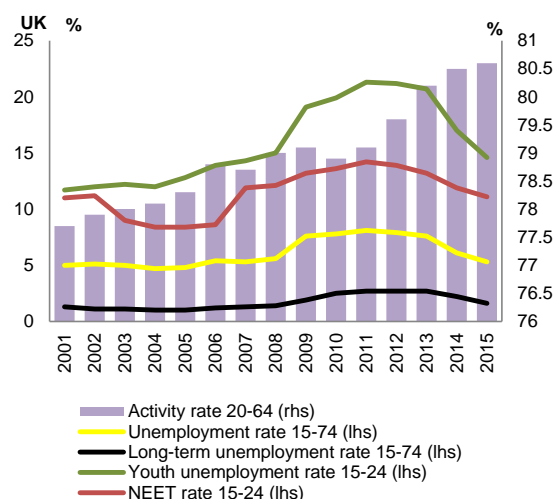
The external position is vulnerable to negative shocks. Such shocks could include: a negative shock to exports (for example due to a downturn in major export markets), a rise in imports, or a rise in the rate of return paid on external liabilities relative to that received on external assets. However, as the UK has a floating exchange rate, it is likely that the threat to external sustainability would be diminished by a further depreciation of sterling. This would act as a stabilising mechanism and lead to the adjustment in the current account deficit required to stabilise the NIIP. In particular, a depreciation would likely result in a reduction in the trade deficit, as exports become cheaper (in foreign currency terms) and imports become more expensive (in sterling terms), other factors held constant. Sustainability also depends, crucially, on growth prospects over the next few years.

3.4. LABOUR MARKET, EDUCATION AND SOCIAL POLICIES

Labour market

There remains untapped potential in the labour market. Against a backdrop of continuing economic growth, the UK labour market continued to perform well throughout 2015 and 2016 (see Section 1). Headline employment and unemployment indicators are resilient (graph 3.4.1), although the picture is more mixed on other indicators and at a disaggregated level. A stable share of the labour force are underemployed (i.e. employed but would like to work more hours), available to work but not seeking work (discouraged), and seeking work but not immediately available (graph 3.4.2). Skills mismatches remain an issue, as does the quality of some of the jobs available.

Graph 3.4.1: Key labour market indicators

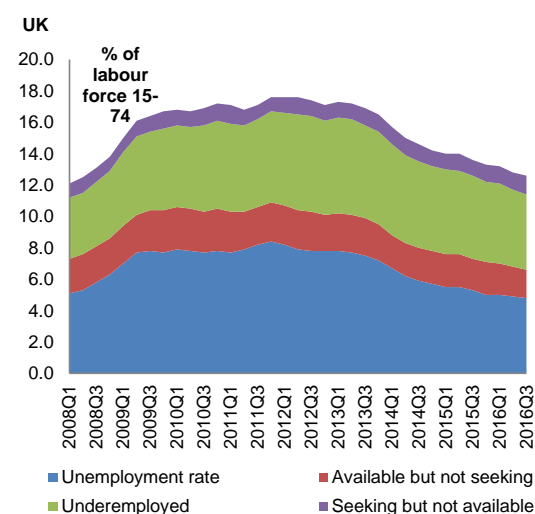


Source: Eurostat

There is room for higher labour market participation of women, as well as other diverse segments. Inactivity has not changed significantly and the cohort of more than nine million inactive working age people represents a substantial potential resource. For workers aged 20-64, the proportion working part time is four times higher among women (39.7 %) than men (9.7 %) and the female part-time employment rate in the UK is 8.1 pps. higher than the EU average. As discussed below, the proportion of female part-time employment that is due to caring responsibilities is particularly high, and this is linked to gaps in the provision of childcare and social care. While the employment rate of low-skilled workers is relatively high by EU standards, their employment

rate (55.9 %) is still nearly 30 pps. lower than that of the high skilled (84.7 %). The large disability employment gap in the UK (33.7 pps. vs. the EU average of 23.8 pps. based on EU-SILC 2014) is also at odds with positive aggregate labour market indicators.

Graph 3.4.2: Unemployment rate & potential additional labour force



Source: Eurostat

The young face particular challenges. A recent study illustrated the strong disparity in youth unemployment rates in 2015, from a low of 7.9 % in Inverness to a high of 27.3 % in Middlesbrough and Swansea (EY, 2016). The rate of those not in employment, education and training (NEET) continued to decline in 2015, but it is relatively high for inactive young women aged 15-24 (8.5 %) compared to other EU Member States. In this context, the UK continues to pursue very active intervention policies with young people. Emphasis is placed on conditional ‘earn or learn’ welfare policies, with little scope for passive receipt of benefits.

Wage growth is moderate, while productivity remains subdued. As described in Section 1 and graph 1.11, the growth of both nominal wages and unit labour costs has remained restrained. A slight uptick in unemployment is expected by 2018, as a result of weaker economic growth, with real wages forecast to stagnate in a context of higher inflation. While there has been some recent growth in labour productivity, it remains subdued (see Section 3.5). This may be partly linked to the growth in work

that has low or intermittent hours, and a shift to low-skilled jobs. As noted in Section 3.1, taxes on labour in the UK are among the lowest in the EU, thus eliminating a potential brake on employment retention, creation and utilisation.

Skills

Skills utilisation presents challenges for the UK and may contribute to low productivity. Recent publications note the high number of graduates in jobs which may not utilise their high qualifications. One study (CIPD, 2016) contends that around 60 % of graduates in the UK are working in non-graduate jobs. A statistical report (ONS, 2016) notes that one-sixth of workers are overqualified for their current position, and a similar proportion are under-qualified. There has been no new official data on skills mismatches since the 2016 country report but industry surveys by the Confederation of British Industry and other bodies point to ongoing concerns regarding skills gaps and skills shortages. This is also an issue for SMEs (European Commission, 2016a).

High expenditure on in-work benefits is related to the prevalence of low pay. As reported in previous UK country reports, those entering the workforce often face obstacles to increasing their working hours and remuneration, and achieving career progression. Up-skilling and reskilling policies (see below) could improve labour resilience, decrease expenditure on in-work benefits, and boost future productivity and growth. The UK's policy response includes the National Living Wage, a higher minimum wage rate that applies to adults aged 25 and over. A new Social Justice Strategy, expected to be published in spring 2017, will aim to assist lifelong progress on merit. Additional policy levers include in-work support and conditionality for those claiming Universal Credit, and apprenticeship and other vocational education/training reform. Prime Minister May has commissioned an 'Independent Review of Employment Practices in the Modern Economy', which is to consider 'the implications of new forms of work, driven by digital platforms, for employee rights and responsibilities, employer freedoms and obligations, and our existing regulatory framework surrounding employment'.

The number of low-wage earners remains substantial and further compression at the

bottom of the wage distribution is likely. Early indications suggest employers have been largely successful in absorbing or adapting to the initial impact of the National Living Wage, but particular challenges are anticipated for certain sectors in future. The Resolution Foundation reports that compression at the bottom of the wage scale will increase substantially as the National Living Wage gradually rises (Resolution Foundation, 2016a). It forecasts that about 15 % of all employees are likely to be on a minimum wage by 2020, with much higher proportions in certain regions and occupational sectors such as hospitality. As highlighted in the 2016 country report, there is a particular challenge in the social care sector, where employee pay is the major cost. The Resolution Foundation notes that compression of pay presents challenges for progression opportunities for workers in this sector (Resolution Foundation, 2016b).

A number of policies have been announced or are being implemented to respond to the skills challenges facing the UK. The Independent Panel on Technical Education (Department for Education, 2016a) – known as the Sainsbury Report – is a significant and multi-faceted analysis of the issue, including 34 recommendations. The Post-16 Skills Plan, published in July 2016 (Department for Education, 2016b), sets out the UK Government's response. In the plan and the accompanying evidence paper (Department for Education, 2016c), the government acknowledges that the UK is suffering from skills shortages and that these represent challenges to employers. It indicated that there is a lack of employer engagement and investment in education and training; the current technical education system is complex and opaque; and there is little incentive for providers to do better. Both documents call for more tailoring to individual needs (including adult learners), clear routes and flexible bridging between routes. The Sainsbury Report emphasises that the government must retain key strategic – and some operational – control over the very significant changes to technical education proposed. The prospect of a full Further Education and Training Authority which could provide for more strategic control, as emphasised in the Sainsbury report, is not currently being considered.

The Industrial Strategy green paper published in January 2017 confirmed that technical

education reforms are a key focus for skills policy (HM Government, 2017). The paper highlighted regional and sectoral disparities in skills and opportunity. It also proposed new capital funding of GBP 170 million (EUR 208 million) for Institutes for Technology, action to tackle shortages of science, technology, engineering and maths (STEM) skills and exploring new approaches to delivery of lifelong learning. Furthermore, it identified a knowledge gap linked to the lack of a single authoritative source on skills forecasting, and proposed to analyse whether a portal analogous to the higher education UCAS system could be developed for technical education.

Apprenticeship reform will see key developments take place from April 2017. Chief amongst these is the beginning of the apprenticeship levy (see the 2016 country report) and the operations of the Institute for Apprenticeships in England. As reported by representative groups, employers have expressed concerns about the flexibility of the new apprenticeship system, whether the digital platform will be available immediately when the levy starts, and whether existing and future non-apprenticeship related training will be recognised appropriately. The need to ensure high-quality apprenticeships should also be taken into account. Other concerns have been expressed in a number of reports, including from the UK Parliament's Public Accounts Committee. The NAO (NAO, 2016a) expressed concern that the Department for Education had not defined what would constitute success for the reformed system, including its contribution to increased productivity. It also echoes the Sainsbury report's call to clarify where strategic control responsibility will lie between government and the Institute for Apprenticeships. Issues highlighted in the 2016 country report on the characteristics of apprenticeships remain. These include the number of completions versus the number of starts, the levels of the apprenticeships undertaken, the sectors in which apprenticeships take place and the somewhat atypical age-profile of those commencing apprenticeships in the UK. The Government published its response to the Committee on 6th February 2017, accepting the Committee's recommendations.

Skills policy is largely devolved to Scotland, Northern Ireland and Wales, and there is little

scope to reflect differentiation in this report. The UK government has also expressed an intention to devolve elements of skills policy and operations within England. The 2016 Autumn Statement announced that the adult education budget in London will be devolved from 2019-20. The key vehicle for devolving skills management in England is planned to be the Local Enterprise Partnerships.

Education

UK students' basic skills in science, maths and reading are stable, high and fairly equitable.

The average science, maths and reading performance of 15-year-olds has remained stable since 2006 (OECD, 2016a). Compared to 2012, the proportion of low achievers is unchanged in maths (22 %), slightly worse in reading (18 %) and science (17 %), but still above the EU average in all three fields. According to PISA 2015, the impact of socio-economic and migrant status on performance is rather small. For example, 11 % of the variation in student performance in science is attributed to differences in socio-economic status.

Guided by the principle that school autonomy leads to higher standards for all learners, in England the government has gone ahead with the 'academisation' of primary and secondary schools ⁽²⁴⁾. It is usually a voluntary process, but schools which are underperforming will have to convert to academy status. In England, 67 % of secondary and 22 % of primary schools have converted to academies. The extent of the planned structural changes has led to concerns within the teaching profession, in particular concerning the difficulty of assuring quality in large multi-academy trusts (European Commission, 2016a), and as distracting from real challenges such as the supply of teachers (TUC, 2016).

There are mixed approaches to raising the attainment of learners from disadvantaged backgrounds. On the one hand, recent government policy in England focuses on reducing

⁽²⁴⁾ Academies are state-funded schools which are independently run with minimum involvement by local authorities and set up with the help of outside sponsors. They are free to set staff salary levels and organise their timetable as they see fit and they do not need to follow the national curriculum. In return for autonomy, academies are subjected to enhanced forms of accountability.

disadvantages stemming from geographical origin (Department for Education, 2016d) and shifting from end grades to assessing educational progress. The Pupil Premium, providing schools additional funds for every disadvantaged learner, is delivering cultural change. On the other hand, the government is expanding grammar schools (new grammar schools were banned in 1998 on the grounds that selection based on ability tests was discriminatory towards pupils from low socio-economic backgrounds). Without compensatory measures, the reversal of the ban has the potential to create more inequalities in education.

Higher education is booming in terms of graduate numbers and their employability.

Unlike most EU countries, the proportion of graduates among the foreign-born is higher than among the native-born. Disadvantaged young people are 2.4 times less likely to enrol than those from advantaged background, with especially low enrolment among white males from state schools (UCAS, 2016). The employability of recent graduates⁽²⁵⁾ rose in 2015, and at 89.7 % it is one of the highest in the EU. The proportion of UK-domiciled graduates finding employment within 6 months of graduating increased from 63.5 % in 2012 to 67.3 % in 2015. An exception is computer science graduates, with a relatively high 10 % unemployment rate 6 months after graduation.

Higher education reforms in England aim to open the market further and link funding to teaching quality.

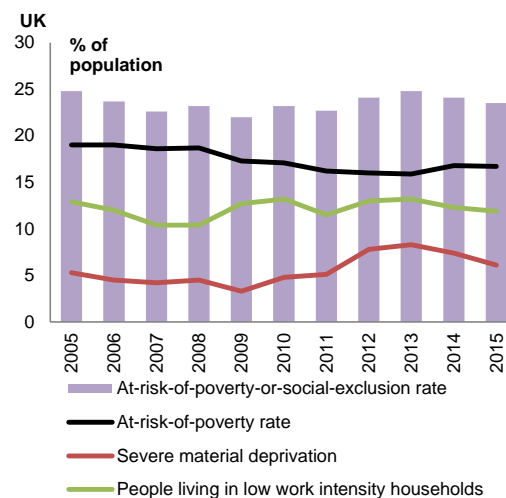
England is passing legislation to promote more choice and competition and make it easier for new providers to enter the higher education market. The new Teaching Excellence Framework is an ambitious policy to encourage quality teaching by measuring the level of teaching quality in higher education institutions and linking it to the level of tuition fees that institutions may charge as of September 2019.

Social indicators and policies

Poverty rates remain stable but with disparities across age segments. As noted in Section 1, the tax-benefit system currently substantially alleviates inequality. At a glance, there has been no dramatic movement in some of the common headline social

indicators, especially the risk of poverty or social exclusion (graph 3.4.3). However, there is a large divergence between the elderly, working-age adults and children (graph 3.4.4). Child poverty is worryingly high, particularly in light of the further welfare reforms/cutbacks that are to be implemented, which will hit this group harder than elderly welfare recipients protected by the ‘triple-lock’. A number of think tanks have reported concerns over intergenerational fairness, and the House of Commons Work and Pensions Select Committee called for the scrapping of the ‘triple lock’ (House of Commons, 2016). The risk of poverty or social exclusion (AROPE)⁽²⁶⁾ for those with disabilities (33 %) is also relatively high by EU standards. The 13.6 pp. gap between the rate for those with and without disabilities in the UK was higher than the EU average (8.7 pps.) in 2014.

Graph 3.4.3: At-risk-of-poverty rate and its components

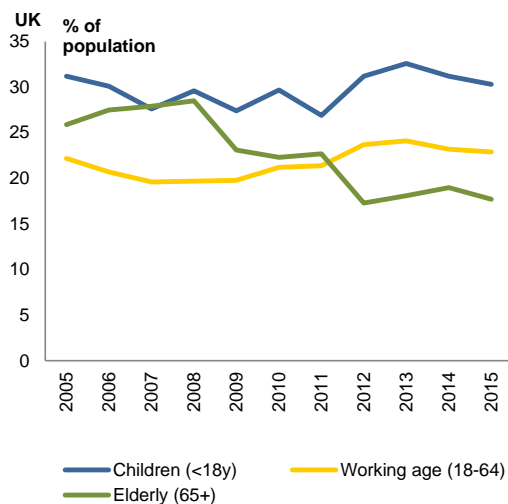


Source: European Commission

⁽²⁶⁾ At-risk-of-poverty or social exclusion rate (% of total population). People who are at-risk-of poverty (AROP) and/or suffering from severe material deprivation (SMD) and/or living in household with zero or very low work intensity (LWI).

⁽²⁵⁾ People aged 20-34 who left further/higher education between 1 and 3 years before the reference year.

Graph 3.4.4: Risk of poverty (AROPE) by age



Source: European Commission

The number of children in poverty who live in working households is a particular cause for concern. At 13.4 %, the share of UK children living in jobless households remained one of the highest in the EU in 2015, though it has been falling. The share of children in absolute income poverty (after housing costs) who live in working households has increased from 54 % in 2003-04 to 67 % in 2014-15 (Institute for Fiscal Studies, 2016).

The cumulative effect of welfare reforms and cutbacks will continue to mount for a number of years. The Institute for Fiscal Studies predicts that the share of children at risk of poverty ⁽²⁷⁾ will rise from 17.8 % in 2015-16 to 25.7 % in 2020-21, increasing the number of children experiencing poverty by 1.2 million (*ibid.*). In-work support, which is crucial for the working poor, will be reduced by cuts in the levels of Universal Credit (which will replace Tax Credits as the vehicle for in-work support) and the intention to cap support at two children maximum, regardless of family size, for new births after April 2017. The 2016 Autumn Statement introduced a decrease in the taper rate at which Universal Credit is withdrawn once a claimant earns more than the fixed Work Allowance from 65 % to 63 %, which is projected to cost the Exchequer approximately GBP 700 million (EUR 857 million) per year by 2021-2022. This compares with the nearly GBP 3 billion (EUR

⁽²⁷⁾ The proportion of children living in absolute poverty, who live in a household where at least one adult is working.

3.7 billion) savings expected to accrue by the same period from reducing Universal Credit Work Allowances. As discussed in Section 1, the forecast higher inflation in 2017 and 2018 will squeeze real wages and also the real value of working age welfare payments.

Universal Credit aims to both reduce workless households and fully activate all working-age adults within households. According to an assessment by the Resolution Foundation, the cuts in Universal Credit have made the incentives for many potential second earners to enter or increase work ‘far worse’ when compared to the predecessor Tax Credits system. Conversely the analysis indicates that Universal Credit still addresses ‘the very worst disincentives to enter work’ (Resolution Foundation, 2016c). Conditions will apply to most working-age adults in a Universal Credit claim, including ongoing conditionality for those who attain work but remain in receipt of Universal Credit. This is designed to assist and encourage claimants to access higher working hours, higher wages or both, to reduce dependence on in-work support and reduce poverty in families.

The full roll-out of Universal Credit has been subject to a further delay, with full implementation now not expected until 2022. As of 8 December 2016, there were 430 000 claimants on Universal Credit (some 43 % of them in employment). The Department of Work and Pensions has begun to implement in-work conditionality, via a randomised control trial. The ultimate claim load when fully rolled out is expected to number around 7 million households.

Notable gender divergences in overall earnings and poverty rates are associated with gender disparities in the labour market, including inactivity or part-time work. This in turn is associated with the lack of affordable formal childcare, which remains, in relative terms, expensive in the UK (see below). Childcare costs, lack of availability and issues regarding quality can reduce female participation in the labour market, whether part- or full-time. The percentage of inactivity among working age women that is due to looking after children or incapacitated adults (29.5 %), and of part-time work that is for the same reasons (40.1 %), remained high in 2015. This leads to diminished career opportunities,

lower pay and earnings, lower prospective pensions and underutilised human capital. At 20.9 % in 2014, the unadjusted gender pay gap is well above the EU average of 16.7 %. The overall gender earnings gap of 45.7 % is above the EU average of 39.8 %, and the gender pension gap is 39.5 %.

Housing affordability remains a challenge, particularly for certain groups. As discussed in Section 3.2, the cost of housing is high and rising, which is linked to inadequate supply. 12.5 % of the UK population spend over 40 % of their income on housing, which is above the EU average and has been rising. The proportion is higher for city-dwellers (14.7 %) and young people (22.1 %).

Childcare provision

In 2014, 29 % of children under three years attended formal childcare, although only 4 % did so for more than 30 hours per week. The Childcare Act 2016 plans to double the free part-time pre-school provision for eligible three and four year olds in England to 30 hours per week over 38 weeks of the year from September 2017. Although this goes some way to improving the availability and affordability of full-time childcare, data for 2015 shows that average full-time working hours in the UK were much longer (41.3 per week). So the new childcare provision may not be compatible with many full-time jobs. Furthermore, this measure does not address the low participation of children under three years in formal childcare. There are also concerns that the allocated funding is not sufficient.

The 2016 Childcare Survey (Family and Childcare Trust, 2016a) found that the cost of sending a child under two to a nursery on a part-time basis (i.e. 25 hours per week) has risen by a fifth over the last five years. Childcare costs are likely to have a negative impact on women's labour market participation, as they tend to be the second earners and therefore returning to work is not always financially worthwhile. The substantial assistance offered via Universal Credit, which can cover up to 85 % of the costs of childcare, has the potential to alleviate this situation for some low-earners.

In addition to high childcare costs, the UK is facing a challenge with regard to childcare

provision. According to a widely regarded 2016 survey (Family and Childcare Trust, 2016a), only 45 % of councils in England had sufficient childcare for parents working full-time, a slight improvement on the 43 % in the previous year. This was despite the legal obligations imposed by the Childcare Act 2006 to ensure there is enough childcare for working parents and those undertaking training or education with the intention of returning to work. In Scotland, only 13 % of councils reported that they had sufficient childcare for working parents, compared to 15 % last year. There was a significant improvement in Wales, however, with 40 % of councils reporting sufficient provision, compared to 18 % last year.

The quality of childcare provision in the UK can be difficult to assess, given the varied nature of provision. In the area of early childhood care and education, there are some metrics and some concern has been expressed by interest groups.

The Family and Childcare Trust has published a report on quality of early-years services which emphasises the importance of resources, including expert practitioners as well as continuing quality and professional development for all staff (Family and Childcare Trust, 2016b). The government has also expressed a determination to focus on quality, targeting staff qualifications and promising to publish a workforce strategy in 2017 (Department for Education, 2016e). The most recent Ofsted annual report notes some positive trends in the quality of childcare provision, including: 90 % of early-years providers are now good or better (a 22 pp. increase since 2010); there is no great divergence in the proportion of nurseries judged good or outstanding across the least and most deprived areas; and almost 70 % of young children now reach a good level of development by the age of five, compared to just over half in 2013 (Ofsted, 2016).

Health sector

The rising demand for healthcare in the UK, combined with budget constraints (see Section 3.1) and an ageing workforce, is causing healthcare staff shortages and unfilled vacancies. In recent years, the UK has had fewer doctors per 100 000 citizens compared to the EU average (281 vs 350 in 2014). Retention and recruitment of healthcare professionals is problematic, and there is considerable reliance on

healthcare staff who qualified outside the UK (NAO, 2016b; Royal College of Physicians, 2016). To mitigate the situation, the administrations in the constituent nations of the UK have announced plans to increase the training places for nurses and doctors. Action is also being considered to improve staff retention and adjust the workforce skill mix, by introducing extended, advanced and new roles. The impact of most of these measures will be seen in the medium- to long-term. Until the impact of these measures materialises, the health services may need to continue recruiting doctors and nurses from outside the UK.

The funding model for long-term care in England is unsustainable and is also putting pressure on the NHS. Fiscal consolidation since 2010 has resulted in cuts to funding for local government which, combined with demographic pressure, impact the provision of social care. This also puts additional pressure on acute hospital services. Another concern arises over the equitable distribution of social care regionally, as local authorities across the UK face widely differing funding positions.

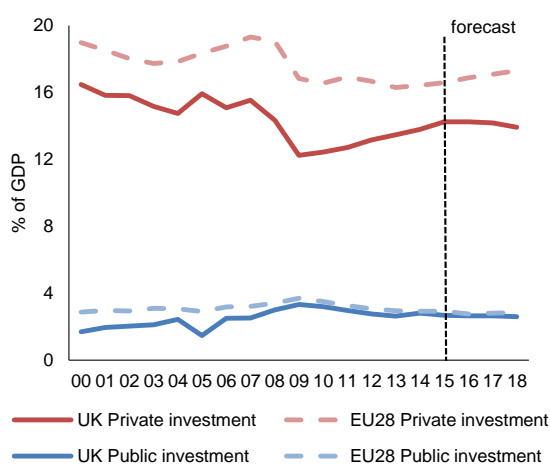
Access to and quality of mental health services in England have raised concerns (Independent Mental Health Taskforce to the NHS in England, 2016). The economic and social impact of mental ill health is significant, estimated at GBP 105 billion (EUR 129 billion) in England. The government has announced plans to reinforce the provision of mental health services for children and adults. It has introduced targets for timely treatment, pledged increased funding and announced measures for improved support in schools, the workplace and at community care level. Furthermore, NHS England has published an implementation plan setting out how it will deliver the recommendations made by the Mental Health Taskforce, and in January 2017 the government formally accepted the recommendations made by the Taskforce.

3.5. INVESTMENT AND PRODUCTIVITY

Investment trends

The UK has had relatively low levels of investment for a long time. The UK has ranked in the bottom quartile of OECD countries for fixed capital investment for 48 of the last 55 years (HM Government, 2017). Total gross fixed capital formation was 16.9 % of GDP in 2015, one of the lowest levels in the EU. As graph 3.5.1 shows, since 2000, private investment has been consistently significantly below the EU average, while public investment has tended to be marginally below the EU average. This gap, partly related to the UK's specialisation in services, looks set to remain and possibly widen in the near term. Box 3.5.1 summarises UK investment trends and sets out the principal barriers to higher investment.

Graph 3.5.1: Public & private investment shares, UK & EU28



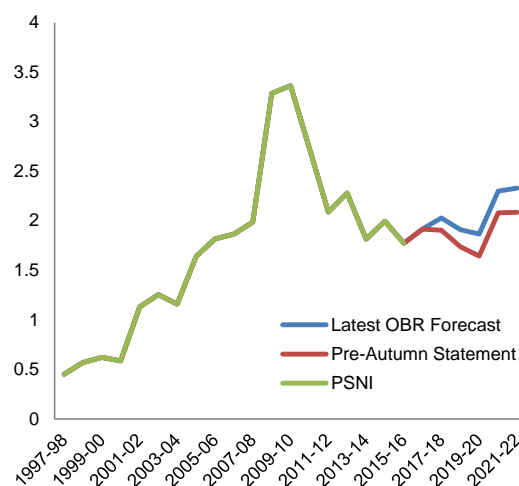
Source: European Commission, 2016 Winter Forecast

Business investment has recovered from the post-crisis trough but is set to soften. Private investment fell sharply during the crisis, from 15.5 % of GDP in 2007 to 12.2 % of GDP in 2009. Private investment subsequently gradually recovered, expanding more rapidly than GDP in the period from 2010 to 2015. After modest growth in 2016, business investment is expected to remain subdued in 2017 and 2018, reflecting continued uncertainty following the referendum on EU membership (see Section 1).

Overall public capital spending is flat but there is an increasing focus on infrastructure investment. UK public sector net investment (PSNI) increased gradually from less than 1 % of

GDP in the late 1990s to around 2 % of GDP before the international economic and financial crisis (graph 3.5.2). After temporarily expanding to over 3 % of GDP during the crisis, as part of a fiscal stimulus package, PSNI has fallen back to pre-crisis levels. In the 2016 Autumn Statement, the government announced increases to planned future infrastructure spending (see graph 3.5.2 and Section 3.6). PSNI is now expected to remain broadly flat at 1.9-2.0 % of GDP until 2019-2020. The government is increasingly focusing PSNI on infrastructure, while reducing the proportion spent on public services such as education and healthcare.

Graph 3.5.2: UK public sector net investment (% of GDP)

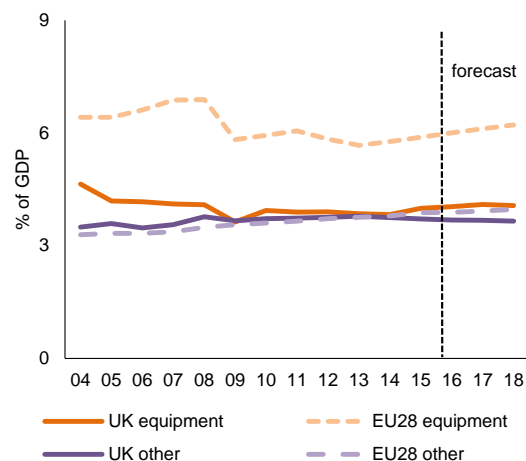


Source: Office for Budget Responsibility

EU funding currently complements domestic sources. Box 2.1 discusses European Structural and Investment Funds (ESIF) investment, which is expected to reach up to EUR 16.4 billion (GBP 13.4 billion) in the UK by 2020. The European Investment Bank (EIB) has also taken an important role in funding UK infrastructure. The EIB lent EUR 7.77 billion (GBP 6.35 billion) to UK projects in 2015, of which two thirds was for infrastructure. This represented an increase of 10.8 % compared to 2014. By December 2016 the European Fund for Strategic Investments (EFSI) had approved projects worth some EUR 3.2 billion (GBP 2.6 billion) in EIB financing under the EFSI, which is expected to trigger total investment of EUR 21.6 billion (GBP 17.6 billion). The UK has been one of the largest recipients of EFSI funds to date. The government has committed to making

available national resources equivalent to EU funding for a period following the UK's departure from the EU.

Graph 3.5.3: Investment by category in the UK & EU28



Source: European Commission, 2016 Winter Forecast

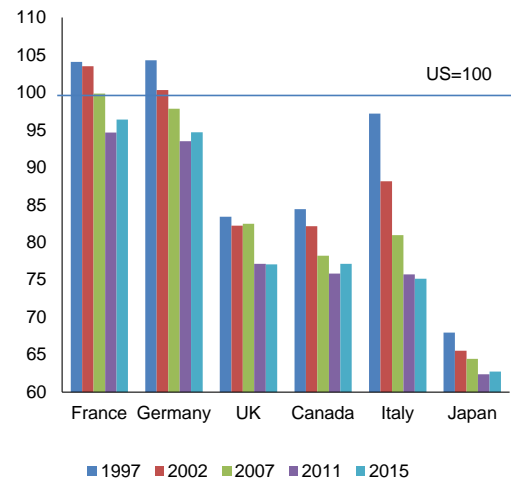
The UK could benefit from higher investment across the economy. As discussed below, weak investment across the economy is one explanation for the UK's low productivity growth. As graph 3.5.3 shows, investment in equipment has been consistently below the EU average, which is partially but not fully explained by the relatively low share of manufacturing in UK GDP. The UK also has a relatively high effective marginal rate on new investment (Section 3.1). As set out in Sections 3.2 and 3.6, the government is putting a strong emphasis on the need to raise investment in dwellings and infrastructure. In the Council's 2016 recommendations to the UK, CSR2 highlighted the particular need to tackle the effects of persistent shortfalls in housing and infrastructure investment (see Section 2).

Productivity

UK productivity is relatively low. Graph 3.5.4 shows UK productivity relative to the US and other G7 countries. UK workers' output per hour is currently 20-25% lower than their counterparts in the US, France and Germany, similar to Canada and Italy, and higher than Japan. While the UK's productivity gap relative to the top performers is longstanding, it has fallen further behind since the

financial crisis. The reasons for this trend were analysed in the 2016 country report.

Graph 3.5.4: Output per hour, by country



Source: OECD

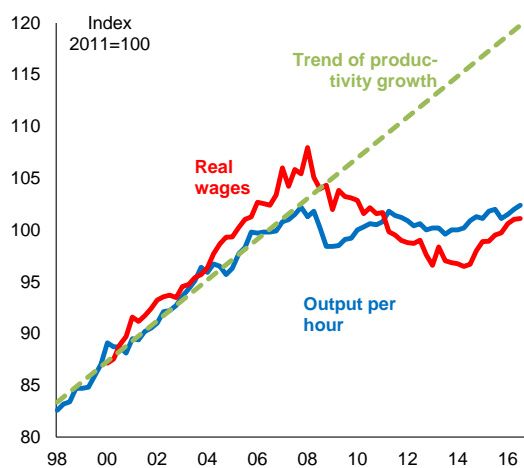
The UK is a large, open economy with a generally good business environment. The UK ranks 7th in the World Bank's 'ease of doing business' index (World Bank, 2016). It has comparatively low levels of regulation in product and labour markets, a high-quality public administration, deep capital markets, and strong universities. These factors are supportive of economic efficiency and contribute to the UK's high employment rate. They are also one of the reasons for the high level of FDI in the UK (see Section 3.3) and its strength in the high productivity pharmaceuticals and financial services sectors.

Nevertheless, a number of persistent structural problems weigh on investment, the efficient allocation of resources and hence productivity. The UK has the lowest capital stock of all G7 nations (HM Government, 2017). There are shortcomings in infrastructure (Section 3.6), the workforce has significant gaps in basic and technical skills (Section 3.4), the land market is very tightly regulated (Section 3.2) and there is evidence that the quality of management in UK firms and the dissemination of technological innovations could be improved (Bloom *et al.*, 2016). The latter contributes to the UK's long tail of low-performing firms (Productivity Leadership Group, 2016). Two-thirds of UK employees work

for firms whose productivity is below average (McKinsey, 2016).

Productivity growth has been weak since the crisis and output per hour remains at around 2008 levels (Graph 3.5.5). From 2000 to 2008, growth in UK output per hour at 1.7 % p.a. was higher than the EU average (of 1.2 % p.a.), driven largely by capital accumulation. Productivity fell sharply in the financial crisis, as real wage flexibility cushioned the rise in unemployment. It recovered to approximately pre-crisis levels by 2011, and since then output per hour has been largely stagnant. The post-crisis UK economy has been characterised by strong employment growth in a context of weak real wage growth.

Graph 3.5.5: Recent trends in UK productivity & real wages



Source: ONS and European Commission

Productivity is now over 15 % below its pre-crisis trend. As discussed in the 2016 country report, there is no single explanation for the opening of this ‘productivity gap’. Some of the temporary factors that could have been important in the immediate aftermath of the crisis, such as weak aggregate demand or labour hoarding, should no longer be significant in an economy close to full employment. In 2015 and 2016, productivity finally started to grow modestly, although growth remains subdued. In Q3-2016, output per hour rose by an annual 0.9 % in the services sector and 0.8 % in the manufacturing sector.

However, some persistent supply-side drivers of weak UK productivity may continue to exert a

negative impact. Several years of low investment and the substitution of labour for capital in a context of strong and responsive labour supply and weak wage growth have lowered the UK’s capital stock per worker (Barnett *et al.*, 2014). There has also been a shift in the composition of the economy towards business sectors with lower productivity. Since 2011, shifts between sectors account for half of the slowdown in productivity growth (IPPR, 2016). In addition, within these low-wage sectors, UK firms tend to lag behind their European peers in skills, training, adoption of new technologies and consequently productivity (*ibid.*).

The government is focused on the need to boost productivity growth but this will be challenging.

An Industrial Strategy green paper published in January 2017 (HM Government, 2017) summarised the UK’s growth and productivity challenges and set out the government’s approach to tackling these and building on the UK’s existing strengths. The green paper is based around a 10 pillar strategy and emphasises the importance of long-term investment in economic capital, including infrastructure, skills and knowledge, promoting a dynamic economy that encourages innovation, and measures to help specific sectors and places. In the 2016 Autumn Statement, the government announced a new ‘National Productivity Investment Fund’ (NPIF). This will provide a total of GBP 23 billion (EUR 28 billion) of additional funding between 2017-18 and 2021-22 for housing, transport, digital communications and R&D. At the same time, forecast weak business investment growth in 2017 and 2018 (Section 1) is likely to weigh on productivity growth in the near term.

Box 3.5.1: Investment challenges and reforms in the United Kingdom

Macroeconomic perspective

Total investment in the UK (measured as gross fixed capital formation) fell significantly during the crisis, with a sharp fall in private investment only partially offset by a temporary increase in public investment. Private investment is significantly below the EU average, although it has recovered robustly from a post-crisis trough. Public investment is marginally below the EU average (see Section 3.5) and there are shortcomings in public infrastructure. Equipment investment is particularly low, partly reflecting the UK's specialisation in services. Relatively low investment in housing has contributed to the UK's housing shortage (see Section 3.2). Heightened uncertainty following the EU referendum is expected to weigh on investment in the next couple of years (see Section 3.1).

Assessment of barriers to investment and ongoing reforms

Public administration/ Business environment	Regulatory/ administrative burden		Financial Sector / Taxation	Taxation		
	Public administration			Access to finance		
	Public procurement /PPPs			R&D&I	Cooperation btw academia, research and business	
	Judicial system				Financing of R&D&I	
	Insolvency framework			Sector specific regulation	Business services / Regulated professions	
	Competition and regulatory framework				Retail	
Labour market/ Education	EPL & framework for labour contracts		Construction		CSR	
	Wages & wage setting		Digital Economy / Telecom		CSR	
	Education	CSR	Energy		CSR	
			Transport		CSR	

Legend:

	No barrier to investment identified		
CSR	Investment barriers that are also subject to a CSR		Some progress
	No progress		Substantial progress
	Limited progress		Fully addressed

Overall barriers to private investment in the UK are moderate, as confirmed by the European Commission's assessment. Some reforms have been adopted in the area of spatial planning and technical skills, but effective implementation is challenging and structural problems remain.

Main barriers to investment and priority actions underway

1. Spatial planning regulations: Regulation of the land market, particularly of residential construction, is strict and complex (see Section 3.2). The process of obtaining planning permission is often lengthy, complex, uncertain and costly. Limits on the scope for development, particularly around poles of economic growth, have led to an undersupply of housing and very high prices of non-agricultural land. Expensive land and the complex planning system contribute to the tendency for infrastructure projects to take longer and cost more than in other European countries (see Section 3.6). Planning restrictions can also hinder the construction or modernisation of commercial buildings and equipment. Substantial ongoing reforms to the planning system should help to facilitate increased development but may not prove sufficient.

2. Technical skills: While the UK has a strong higher education system, there are weaknesses in both technical and basic skills (see Section 3.4) which contribute to the UK's weak productivity performance. More specifically, skills shortages are often most acute in occupations linked closely to investment, such as engineers, tradesmen and construction workers. The UK is implementing a programme to expand and reform the apprenticeship system. The government intends to add responsibilities to the new Institute for Apprenticeships by expanding its remit and renaming it the Institute for Apprenticeships and Technical Education from April 2018. This, and wider plans to address skills issues set out in the new Post-16 Skills Plan, are ambitious in intention and will require coherent, committed and timely implementation.

3.6. SECTORAL POLICIES

Infrastructure investment

Improving network infrastructure is a key challenge for the UK. In recent years, the UK has underspent on infrastructure. In a context of rising demand, this has led to significant shortcomings in the capacity and quality of the UK's infrastructure networks (WEF, 2017) and contributed to low productivity (see Section 3.5). As discussed below, pressure on network capacity has continued to build across multiple sectors (ICE *et al.*, 2016).

While important recent decisions on infrastructure have been taken, concerns remain regarding their delivery. In 2016, the UK took significant and long-awaited decisions on investment in new airport capacity, high-speed rail and nuclear power. Rectifying the investment backlog, as well as meeting new needs, will remain challenging in a context of ongoing fiscal consolidation. While many firms are positive on the government's infrastructure policy approach over the last five years, only 27 % are of the view that UK infrastructure will improve over the next five years (CBI/AECOM, 2016).

The government is reorienting a tight overall public capital budget towards infrastructure, particularly transport (see Section 3.5). The government announced additional network infrastructure spending in the 2016 Autumn Statement. As part of a new 'National Productivity Investment Fund', the government announced additions to its previously planned spending between 2017-18 and 2020-21. This includes money for transport links to connect new housing developments, to alleviate road 'pinch points', and for digital communications. Both macroeconomic and microeconomic (cost-benefit) evidence suggests that, in countries that do not have excess capacity, network infrastructure spending (construction and maintenance) tends to have particularly strong positive impacts on demand in the short term and productivity in the longer term (OECD, 2016b).

Ambitious plans for improvements to infrastructure are set out in the National Infrastructure Delivery Plan (NIDP), published in March 2016 (IPA, 2016a). The body responsible for monitoring and helping deliver the NIDP is the Infrastructure and Projects Authority (IPA). Its December 2016 National Infrastructure

and Construction Pipeline (IPA, 2016a) sets out a pipeline of over GBP 500 billion (EUR 610 billion) of planned public and private investment across the economy, the majority of which is in the areas of energy generation, utilities and transport. Of this, over GBP 300 billion (EUR 367 billion) is expected to be invested by 2021. More than half of the value of the pipeline requires private funding, of which 30 % relates to privatised utilities subject to economic regulation.

The government will be advised by the National Infrastructure Commission (NIC) on major long-term infrastructure challenges. The NIC's goals are to: support sustainable economic growth across all regions of the UK; improve competitiveness; and improve quality of life. It is an Executive Agency of HM Treasury, rather than the fully independent body originally envisaged. In October 2016, the NIC launched a call for evidence to inform its first full National Infrastructure Assessment, which will make recommendations to the government about infrastructure needs over a 30-year horizon (NIC, 2016). The NIC will publish a 'Vision and Priorities' document in summer 2017, and the full assessment in 2018. It has been asked to plan on the basis that the government will spend 1.0-1.2 % of GDP on economic infrastructure between 2020 and 2050. This would likely require a significant proportion of investment needs to be met through user charging.

The UK is seeking to increase long-term investment in infrastructure by pension schemes and insurers. In principle, there should be both strong supply and demand for such investment. However, both financial regulations and risk aversion can make such bodies more willing to buy existing assets than to invest in the construction phase. This is being addressed at an EU level by the European Fund for Strategic Investments (EFSI) (see Section 3.5). Domestically, the UK Guarantees Scheme has so far issued GBP 1.8 billion (EUR 2.2 billion) of guarantees supporting GBP 4 billion of investment across nine projects (IPA, 2016c). The scheme has the capacity to provide up to GBP 40 billion (EUR 49 billion) of guarantees and has been extended until at least 2026. Pension schemes are being encouraged to invest through the Pensions Infrastructure Platform, though take-up has so far been modest.

There are barriers to delivering timely and cost-effective infrastructure. The NAO has drawn attention to shortcomings in the planning and management of major public projects (NAO, 2016c). Government policy, particularly on energy, has not always provided sufficient consistency or certainty to private investors. A stop-start approach can also weaken supply chains, which tend to be relatively fragmented in the UK. Many of the factors that constrain residential construction (see Section 3.2) also apply to infrastructure, including a complex planning system, expensive land, public and political opposition, and skills shortages (technical skills are discussed in Section 3.4). The government's Infrastructure Cost Review found that delivery can take longer and cost more than in other European countries (HM Treasury, 2014).

The UK is taking steps to facilitate smoother project delivery. Industry and potential investors should get greater clarity from the structures that have been established to oversee long-term infrastructure need assessment and planning, as well as more practical assistance with project financing and delivery. At the same time, there has been progress in speeding up planning approval for major infrastructure projects (IPA, 2016a). In summer 2017 the IPA will report on how government and industry can improve the quality, cost and performance of UK infrastructure.

The government is promoting Private Finance 2 (PF2), a revised approach to involving private finance in the delivery of public infrastructure and services. In early 2017 the government will identify a pipeline of public sector projects which could be delivered through PF2. The challenge will be to avoid the shortcomings of previous public-private partnerships, including questionable value for money (NAO, 2011).

Transport infrastructure

There are issues with the capacity and quality of transport networks. Relative to population, the UK's road and rail networks are less dense than the EU average (European Commission, 2016c). In terms of higher capacity routes — motorways and electrified rail — the UK has fallen further behind the EU average since the 1990s (*ibid.*). Urban areas and the connections between them have high road congestion. Capacity in parts of the rail

network is increasingly inadequate in the face of rapidly growing demand. The number of people spending more than two hours per day commuting has increased by 72 % in the last decade (TUC, 2015). The level of public satisfaction with the quality of transport infrastructure is among the lowest in Western Europe (European Commission). As discussed in Sections 3.2 and 3.5, this can hamper economic efficiency and growth. UK transport policy has traditionally been quite fragmented (Independent Transport Commission, 2015) and the different levels of government, sectoral regulators and operating companies do not always collaborate effectively. Both business and the government consider it a priority to improve interconnections between different transport modes (CBI/AECOM, 2016).

Historically, there have been low rates of public investment in transport infrastructure. Over 85 % of transport investment is publicly funded (IPA, 2016b). Between 1995 and 2013, UK transport infrastructure investment was 0.6-0.8 % of GDP, compared to an average of 0.9-1.0 % of GDP across the OECD.

Reliable, rapid and affordable public transport is critical for the viability of mass commuting. Investment in public transport within, and around, major cities can ease travel to, and around, those cities. For London in particular, efficient and affordable public transport can help people and businesses manage the scarcity and high price of property in and around that city (see Section 3.2). In 2014, 26 % of morning peak trains arriving in London were over capacity (ICE *et al.*, 2016). The government, at both central and local levels, has been significantly reducing financial support to the day-to-day delivery of public transport services. For example, there was a 12.3 % annual decrease in subsidised bus mileage in England outside London in 2015-16 (DfT, 2016), and rail and bus fares have been rising faster than wages.

Road transport

Road congestion is a significant problem (INRIX, 2016a) ⁽²⁸⁾. The government acknowledges that, over recent decades, the quality

⁽²⁸⁾ INRIX found more than 20,300 "traffic hotspots" in UK cities, many more than in Germany (8,517), Italy (5,069), Spain (2,335 traffic hotspots) and France (1,844).

of the road network has declined and that congestion and air quality are significant problems in some areas (IPA, 2016a). London is one of Europe's most congested cities and this situation has been getting worse (INRIX, 2016b). Poor or missing links between some cities limit the development of close economic interconnections (IPA, 2016a). This is partly a legacy of a prolonged period of under-investment that started in the 1990s (Commission Services).

The management and funding of the motorway and main road networks have been reformed. A new publicly-owned company, Highways England, was set up in 2015 to manage the strategic roads network (motorways and main roads). The first Road Investment Strategy, published in December 2014, sets out planned improvement and maintenance work from 2015 to 2020, with guaranteed funding of GBP 15 billion (EUR 18 billion) (IPA, 2016a). The Department for Transport (DfT) has commissioned studies to inform the second Roads Investment Strategy (DfT *et al.*, 2016). By 2020-21 the UK will create a new Roads Fund, using revenues from Vehicle Excise Duty to support ongoing investment in the major road network.

Central funding is being increased but cuts to local funding threaten maintenance. In the 2016 Autumn Statement, the government announced an additional GBP 1.3 billion (EUR 1.6 billion) of spending on road improvements. This is targeted mostly at repairs and reducing bottlenecks, rather than the construction of new roads. At the same time, the ongoing squeeze on local authority budgets could threaten the maintenance of local and minor roads (NAO, 2016d). Adequate maintenance can provide high value for money and prevent the need for more expensive remedial work (Audit Commission, 2011).

Rail transport

Demand for both passenger and freight rail services has increased rapidly. Passenger numbers are rising at 4 % a year and rail freight has increased by 34 % in the last 20 years. UK railways are now one of the most intensively used in Europe (DfT, 2015). The DfT is responsible for designing and procuring rail franchise services. It also sets out medium-term plans for the railways, which form part of the basis for the Office of Rail

and Road's five-yearly assessments of Network Rail, the not-for-profit public body that runs and maintains the rail infrastructure.

Upgrades to the existing network are progressing but with some delays. Network Rail has a total budget of GBP 38 billion (EUR 47 billion) over 2015-19 (called 'Control Period 5'), including GBP 15 billion (EUR 18 billion) of enhancements. Following a review, a number of planned projects that were assessed as not affordable or deliverable within allocated resources have been delayed until after 2019, including the electrification of the Great Western Line. The NAO has identified problems with rail programme management and planning (NAO, 2016e). Partly in response to this, in December 2016 the government announced plans to better integrate track maintenance and the running of passenger rail services.

The full route for a new high-speed rail link from London to Northern England will go ahead. Construction of the first phase of 'High Speed 2' between London and Birmingham will start in 2017, and the government has confirmed its preferred route for the later second phase to Manchester and Leeds. This high speed link should alleviate the growth of congestion on routes between major cities. When 'Crossrail', a new underground rail link linking east and west London and the surrounding area, opens in 2018 it will increase London's rail capacity by 10 % and help ease congestion for commuters. Demand is growing rapidly and the business case for another potential new rail link — 'Crossrail 2' — is being developed.

Aviation

The government has provisionally approved a third runway at Heathrow, after much delay. No additional runway capacity has been built in the south-east of England for several decades and London's main airports, Heathrow and Gatwick, currently operate at or close to capacity. Additional capacity is needed if London is to maintain its status as an international aviation hub and meet growing domestic demand. On 25 October 2016, the government announced the decision to build a third runway at Heathrow, but there remain a number of further steps before this project gains final approval.

Telecommunications networks

There is a large gap in superfast broadband availability between urban and rural areas. Superfast broadband — speeds of 30 Mbps and higher — is now available in 89 % of UK homes and 80 % of SME businesses, with take-up of only 31 % (copper-based technologies in the access network limit the performance of the service) (Ofcom, 2016). Superfast broadband coverage in rural areas is 59 %. This, together with low superfast broadband take-up, affects the competitiveness of rural small businesses and farmers. In the 2016 Autumn Statement the government committed GBP 1.1 billion (EUR 1.35 billion) to support the expansion of full-fibre networks. The ERDF is also currently co-investing in the rollout of the high-speed fibre network to areas not covered by commercial operators (see Box 2.1).

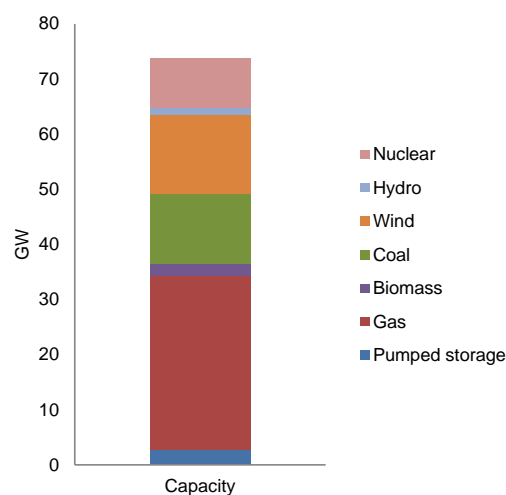
Energy infrastructure

Substantial investment is needed to gradually change the energy supply mix, increase efficiency, and reduce emissions. The UK faces an energy ‘trilemma’ in balancing security of supply, environmental objectives and affordability. The government puts the need for investment in generation and supply infrastructure at over GBP 100 billion (EUR 122 billion) in the next 15 years (HM Government, 2016). The complexity of energy regulation and pricing can make it more difficult for the market to respond effectively to the need for future generating capacity. The government, therefore, has a major role in facilitating most new investment in generating capacity, including through consumer-funded price guarantees (Helm, 2016). Currently only 9 % of infrastructure providers are satisfied with government policy to boost energy investment (CBI/AECOM, 2016).

There is a growing risk of electricity supply gaps emerging. Graph 3.6.1 shows the UK’s current generating capacity mix. A substantial number of ageing coal and nuclear stations are closing due to obsolescence and environmental requirements, and gas generators have been squeezed by low wholesale prices. In 2014, the capacity margin decreased to 5 % after accounting for derating (ICE *et al.*, 2016). Over the last decade, both electricity demand and generating

capacity have fallen, but demand is expected to increase again in the future (National Grid, 2016). Since 2010, a total of 20 Gigawatts (GW) of new electricity generation capacity has been constructed in the UK (IPA, 2016b). The government estimates that 95 GW is needed between now and 2035 (NAO, 2016f). There are growing concerns that a serious shortage of capacity could emerge by winter 2020 and this could be exacerbated by the phasing out of unabated coal (BEIS, 2016a).

Graph 3.6.1: **Generation capacity (winter 2016/17)**



Source: National Grid winter outlook report 2016

Investors need confidence to commit to long-term investment in new generating capacity. Wholesale electricity prices have been low in recent years. Higher energy prices during periods of tight capacity margins can deliver a signal to invest. Market participants may still be hesitant to build new capacity due to uncertainty about future market developments, such as the impact on their investment of the increasing market share of renewable energy and potentially extreme price volatility (European Commission, 2016d).

Recent changes to policy on renewables have raised some concerns with potential investors. The government supports new renewable generation through Contracts for Difference, which give revenue stability to investors in specified technologies. It has terminated schemes to support solar power and carbon capture and storage. It is also ending public subsidies for new onshore wind, while providing support for offshore wind, which

is significantly more expensive (IPA, 2016a). The UK's participation in the new Northern Seas Countries initiative may help facilitate the further cost-effective deployment of offshore renewable energy and the required transmission infrastructure whilst minimising environmental impacts.

The UK has introduced a capacity market for electricity. To ensure secure electricity supplies, the government has introduced the capacity market, which pays providers (including demand reduction and interconnectors, as well as generators) in return for a commitment to maintain system reliability when needed. The level of this payment is determined through a yearly auction. The December 2016 auction for 2020/21 cleared at similar prices to earlier auctions and attracted significant amounts of new build small-scale generating capacity. A separate auction for delivery in 2017-18 concluded in early February 2017. There has been some criticism of whether the capacity market has provided value for money and done enough to promote decarbonisation and the use of alternatives such as storage (Orme, 2016). In March 2016, the government consulted on detailed changes to the capacity market (BEIS, 2017b).

A new nuclear power plant — Hinkley Point C — will diversify the energy mix. In September 2016, contracts were signed with EDF for the new GBP 18 billion (EUR 22 billion) plant, which will provide 7 % of the UK's electricity needs. Risks remain with regards to the timely delivery of the project, including legal challenges, financing, and the supply-chain challenges of delivering the UK's first new nuclear plant in a generation.

Enhancing the UK's congested interconnections between generators and consumers would help to maintain security of supply. New sources of electricity generation need to be connected to major markets. Five projects have received initial regulatory approval, which could provide 6.7 GW of new transmission capacity by the early 2020s. The government is seeking to introduce competition in the provision of connections between offshore wind generation and the grid.

The UK is taking action to deliver more effective competition in the retail energy market. In June 2016, the Competition and Markets Authority released the results of an

investigation into the functioning of the electricity and gas, wholesale and retail markets (CMA, 2016). It found that customers have been paying GBP 1.4 billion (EUR 1.7 billion) a year more than they would in a fully competitive market. 70 % of domestic customers of the six largest suppliers are still on an expensive 'default' standard variable tariff. These suppliers still dominate the market, though the combined market share of new entrants has risen to around 13 % for both electricity and gas — the highest level since liberalisation in the 1990s. The authority proposed a set of measures to improve competition and in the 2016 Autumn Statement the government announced it would look carefully at whether the retail energy market is functioning fairly for all consumers.

Climate, energy and environment

The UK is currently on track to meet its Europe 2020 target for greenhouse gas emissions that are not covered by the EU Emissions Trading Scheme (ETS). According to initial data⁽²⁹⁾, in 2015 UK greenhouse gas emissions were 16 % lower than 2005 levels. Projections based on existing measures indicate that emissions from non-ETS sectors will be 19 % below 2005 levels by 2020, over-achieving the 16 % Europe 2020 target.

Final energy consumption rose slightly in 2015, reversing the previous downward trend, and a fall in emissions in the energy sector has not been matched in transport (see Annex A). Recent changes in the fuel mix for electricity generation, with less use of coal, are responsible for a significant decrease in CO₂ emissions in the energy supply sector. Similar reductions are, however, not materialising for transport carbon emissions, which have been rising. The increased transport investment announced in the 2016 Autumn Statement included spending and tax incentives to promote the use of ultra-low emissions vehicles (ULEV) in public and private transport.

At 8.2 % in 2015, the UK is still some distance off its 2020 renewable energy target of 15 %. Even though it is above its indicative national trajectory, and the cost of deploying individual technologies is falling (as detailed above), the

⁽²⁹⁾ EEA, European Commission.

ending of subsidies for new onshore wind could hamper the prospects for increasing renewable electricity generation in the most cost-effective way (NAO, 2016e).

The UK's environmental performance is among the best as regards resource efficiency. The intensity of waste generation has fallen relative to the EU average, but air quality continues to give cause for concern.

Research, development and innovation

Public R&D investment is flat and remains low by EU standards, though domestic funding is set to rise. Underinvestment risks jeopardising the UK's scientific excellence and impact its long-term economic growth potential. Public investment in R&D has been stagnant in recent years, having declined from its 2009 peak (0.63 % of GDP) to 0.55 % of GDP, lower than in most EU Member States. This has not so far diminished the UK's scientific excellence, which continues to rank highly in the EU context, but there could be a lagged impact. The 2016 Autumn Statement announced an increase in the annual science budget of GBP 2 billion (EUR 2.4 billion) by 2020-21, linked to a new Industrial Strategy challenge fund. The UK's research and innovation system faces uncertainty as a result of the decision to withdraw from the EU. HM Treasury has committed to underwrite funding for UK participants in Horizon 2020 projects bid for while the UK remains in the EU, as well as the EUR 1.4 billion (GBP 1.14 billion) to be co-invested in RTDI projects through the European Regional Development Fund (ERDF) by 2020 (see Box 2.1).

Private R&D investment has been increasing in recent years but remains below the EU average. Private R&D investment was 1.12 % of GDP in 2015, compared to an EU average of 1.3 %. The UK is also below the EU average for in-house innovation by SMEs and patent applications (European Innovation Scoreboard, 2016). This reflects, to a certain extent, the UK's specialisation in services. Manufacturing is slightly over 10 % of UK GDP, one of the lowest shares in the EU. Knowledge-intensive services made up 45.5 % of the UK economy in 2014, higher than the EU average, and the UK performs well in exporting them (European Commission, 2016e). The proposed new Industrial Strategy Challenge Fund

(see above) can help support R&D, particularly in manufacturing.

Building stronger science-business linkages can ensure that the excellent output of the public research base translates into the creation of new firms focusing on high-tech activities. The UK ranks above the EU average in terms of the amount of public-private scientific co-publications, although the number of these publications has fallen since 2010. The amount of public research financed by the private sector is well below the EU average. The UK's Catapult Centres aim to be world-leading facilities for connecting businesses with the research and academic communities. The creation of UK Research and Innovation, bringing together the Research Councils, Innovate UK and the science and innovation functions of the Higher Education Funding Council for England, can help improve the rationale and complementarity of different government schemes.

Public procurement

The UK public procurement system is one of the most efficient in the EU. The professionalism and efficiency of the system are quite high at central government level. The UK has a high take-up of e-procurement (31 %) and its procurement system is also fairly transparent (European Commission, 2016f). The government has pledged to increase the proportion of goods and services purchased from SMEs from its current 27 % to 33 %. The NAO considers that, although there has been clear progress in removing barriers to SMEs' access to public procurement, further efforts could be made (NAO, 2016h). A move towards centralised procurement, and aggregating demand, enabled the government to achieve reported savings of over GBP 500 million (EUR 612 million) in 2015-16 (CCS, 2016). At same time, a recent report identified potential savings of up to GBP 700 million (EUR 857 million) a year in National Health Service procurement (Carter, 2016).

ANNEX A

Overview Table

Commitments

2016 Country-specific recommendations (CSRs)

CSR 1:

Endeavour to correct the excessive deficit in a durable manner by 2016-17. Following the correction of the excessive deficit, achieve a fiscal adjustment of 0.6 % of GDP in 2017-18 towards the minimum medium-term budgetary objective.

CSRs related to compliance with the Stability and Growth Pact will be assessed in spring once the final data is available.

CSR 2:

Address shortfalls in network infrastructure investment, including by delivering the priorities of the National Infrastructure Plan.

The United Kingdom has made **some progress** in addressing CSR 2:

Some progress in addressing shortfalls in infrastructure investment. In the November 2016 Autumn Statement the UK announced a further prioritisation of public capital spending towards transport and other infrastructure. A number of major transport and energy investment decisions have been made in 2016. However it is not clear that the conditions are fully in place to secure the large amount of private funding that the UK is relying on to remedy investment backlogs in a timely and cost-effective way.

Take further steps to boost housing supply, including by implementing the reforms of the national planning policy framework.

Some progress on boosting housing supply. The government continues to treat housing as a top policy priority. An ongoing set of reforms should have positive impacts on housing supply, though these will take time and may not be sufficient to address the

⁽³⁰⁾ The following categories are used to assess progress in implementing the 2016 country-specific recommendations:

No progress: The Member State has not credibly announced nor adopted any measures to address the CSR. Below a number of non-exhaustive typical situations that could be covered under this, to be interpreted on a case by case basis taking into account country-specific conditions:

- no legal, administrative, or budgetary measures have been announced in the National Reform Programme or in other official communication to the national Parliament / relevant parliamentary committees, the European Commission, or announced in public (e.g. in a press statement, information on government's website);
- no non-legislative acts have been presented by the governing or legislator body;
- the Member State has taken initial steps in addressing the CSR, such as commissioning a study or setting up a study group to analyse possible measures that would need to be taken (unless the CSR explicitly asks for orientations or exploratory actions), while clearly-specified measure(s) to address the CSR has not been proposed.

Limited progress: The Member State has:

- announced certain measures but these only address the CSR to a limited extent;

and/or

- presented legislative acts in the governing or legislator body but these have not been adopted yet and substantial non-legislative further work is needed before the CSR will be implemented;
- presented non-legislative acts, yet with no further follow-up in terms of implementation which is needed to address the CSR.

Some progress: The Member State has adopted measures that partly address the CSR

and/or the Member State has adopted measures that address the CSR, but a fair amount of work is still needed to fully address the CSR as only a few of the adopted measures have been implemented. For instance: adopted by national parliament; by ministerial decision; but no implementing decisions are in place.

Substantial progress: The Member State has adopted measures that go a long way in addressing the CSR and most of which have been implemented.

Full implementation: The Member State has implemented all measures needed to address the CSR appropriately.

	chronic undersupply of housing.
<p>CSR 3:</p> <p>Address skills mismatches and provide for skills progression, including by strengthening the quality of apprenticeships.</p> <p>Further improve the availability of affordable, high-quality, full-time childcare.</p>	<p>The United Kingdom has made some progress in addressing CSR 3:</p> <p>Some progress in addressing skills and apprenticeship issues. The government has continued with implementation of apprenticeship expansion and reform, including the April 2017 advent of both the Apprenticeship levy and the Institute for Apprenticeships. Wider reform which will contribute to addressing skills mismatches and progression issues is demonstrated in the new Post-16 Skills Plan, which is ambitious in intention and will require coherent, committed and timely implementation.</p> <p>Some progress in improving childcare availability albeit more mixed progress in the three different elements of affordability, quality and full-time availability. A pilot of the expansion of the doubling of the free childcare offer to three and four year olds has commenced, with full roll-out foreseen for September 2017. However, supply-side concerns, in particular the concerns of providers, appear to require further progress.</p>
Europe 2020 (national targets and progress)	
Employment rate target set in the 2016 NRP: None	76.8 % of the population aged 20-64 was employed in 2015.
R&D target set in the 2016 NRP: None	<p>R&D intensity rose to 1.7 % in 2015. Public R&D intensity was 0.55 %, business R&D intensity was 1.12 % and Private non-for profit R&D, 0.03 %.</p> <p>The UK is below the EU average of 2.03 % in terms of R&D intensity. EU average public R&D intensity was of 0.71 %, business R&D, 1.3 % and private non-for-profit, 0.02 %.</p>
Greenhouse gas (GHG) emissions target:	2020 target: -16 %
National Greenhouse gas (GHG) emissions target: -16 % in 2020 compared to 2005 (in non-ETS sectors)	According to the latest national projections and taking into account existing measures, the target is expected to be achieved: -19 % in 2020 compared to 2005 (with a margin of 3 percentage points).

	<p>Non-ETS 2015 target: -10 %</p> <p>According to preliminary estimates, the change in non-ETS greenhouse gas emissions between 2005 and 2015 was -16 %, therefore the target is expected to be achieved.</p>
<p>2020 Renewable energy target: 15 %</p> <p>2020 Share of renewables in transport:</p>	<p>At 8.2% in 2015 ⁽³¹⁾, the UK is still some distance from its 2020 target of 15 %, even though it is above its indicative national trajectory. There are concerns that the recent changes in the support framework may have impacted the prospects for developing the most cost effective forms of renewable electricity generation.</p> <p>With a 4.9 % share of RES in transport in 2014, the UK is almost halfway towards the binding 10 % target in transport to be achieved by 2020.</p>
<p>2020 Energy Efficiency Target:</p> <p>129.2 million tonnes of oil equivalent (Mtoe) for final energy consumption corresponding to 177.6 Mtoe for primary energy consumption.</p>	<p>The UK is now 3.1 % above its 2020 primary energy consumption target and 0.9 % above its 2020 final energy consumption target. The UK has to increase its effort to cut primary and final energy consumption by the required levels.</p>
<p>Early school leaving target in the 2016 NRP: None</p>	<p>The indicator on early school leavers recorded a 4.1 pps reduction over a five year period, from 14.9 % in 2011 to 10.8 % in 2015, which is below the EU average of 11.0 %.</p>
<p>Tertiary education target in the 2016 NRP: None</p>	<p>The tertiary attainment rate of 30-34 year olds reached 47.9 % in 2015, a small increase on the 2014 rate of 47.7 %. This is significantly above the EU average of 38.7 %.</p>
<p>Target on the reduction of population at risk of poverty or social exclusion in number of persons in the 2016 NRP: None</p>	<p>The 'at risk of poverty or social exclusion rate' stood at 23.5 % in 2015, a decrease from the 2014 figure of 24.1 %.</p>

⁽³¹⁾ Renewable energy shares for 2015 are approximations and not official data, reflecting the available data (04.10.2016). See the Öko-Institut Report: Study on Technical Assistance in Realisation of the 2016 Report on Renewable Energy, <http://ec.europa.eu/energy/en/studies>.

ANNEX B

MIP Scoreboard

Table B.1: **The MIP scoreboard**

			Thresholds	2010	2011	2012	2013	2014	2015	
External imbalances and competitiveness	Current account balance, (% of GDP)	3 year average	-4%/6%	-3.1	-2.5	-2.7	-3.3	-4.2	-4.8	
	Net international investment position (% of GDP)			-35%	-4.0	-5.9	-22.4	-16.2	-17.6	-14.4
	Real effective exchange rate - 42 trading partners, HICP deflator	3 years % change	±5% & ±11%	-20.4	-8.3	5.8	3.4	10.0	11.3	
	Export market share - % of world exports	5 years % change	-6%	-23.5	-25.6	-20.7	-12.0	-9.9	1.0	
	Nominal unit labour cost index (2010=100)	3 years % change	9% & 12%	9.1	7.0	3.2	2.9	2.6	1.7	
Deflated house prices (% y-o-y change)			6%	3.5	-4.8	-1.5	0.3	6.2	5.7	
Private sector credit flow as % of GDP, consolidated			14%	-2.7	-1.2	0.5	3.9	2.3	2.5	
Internal imbalances	Private sector debt as % of GDP, consolidated			133%	175.5	173.1	174.0	167.8	160.0	157.8
	General government sector debt as % of GDP			60%	76.0	81.6	85.1	86.2	88.1	89.1
	Unemployment rate	3 year average	10%	7.0	7.8	7.9	7.9	7.2	6.3	
Total financial sector liabilities (% y-o-y change)			16.5%	8.3	10.9	-2.9	-6.9	4.7	-7.8	
New employment indicators	Activity rate - % of total population aged 15-64 (3 years change in p.p)			-0.2%	-0.1	-0.3	0.4	1.0	1.2	0.8
	Long-term unemployment rate - % of active population aged 15-74 (3 years change in p.p)			0.5%	1.2	1.3	0.8	0.2	-0.5	-1.1
	Youth unemployment rate - % of active population aged 15-24 (3 years change in p.p)			2%	5.6	6.3	2.1	0.8	-4.3	-6.6

Figures highlighted are those falling outside the limit established in the European Commission's Alert Mechanism Report. For real effective exchange rate and unit labour costs, the first limit applies to eurozone members.

Source: European Commission, Eurostat and Directorate General for Economic and Financial Affairs (for real effective exchange rate), and International Monetary Fund.

ANNEX C

Standard Tables

Table C.1: **Financial market indicators**

	2011	2012	2013	2014	2015	2016
Total assets of the banking sector (% of GDP)	518.7	462.7	434.3	398.0	363.0	391.5
Share of assets of the five largest banks (% of total assets)	43.5	42.8	43.7	38.6	36.8	-
Foreign ownership of banking system (% of total assets)	48.2	46.0	44.3	48.2	48.9	-
Financial soundness indicators: ¹⁾						
- non-performing loans (% of total loans)	2.2	2.0	1.8	-	2.1	1.9
- capital adequacy ratio (%)	15.7	17.1	19.3	-	19.5	19.6
- return on equity (%) ²⁾	4.2	1.9	2.2	3.8	3.2	2.3
Bank loans to the private sector (year-on-year % change)	-1.5	2.9	-4.7	1.9	7.6	-11.5
Lending for house purchase (year-on-year % change)	3.9	4.4	-0.8	9.7	9.6	-13.7
Loan to deposit ratio	104.0	102.6	99.3	96.1	96.8	94.2
Central Bank liquidity as % of liabilities	-	-	-	-	-	-
Private debt (% of GDP)	173.1	174.0	167.8	160.0	157.8	-
Gross external debt (% of GDP) ¹⁾ - public	27.7	26.5	25.9	26.5	28.1	30.9
- private	125.4	124.7	122.7	127.0	105.5	107.2
Long-term interest rate spread versus Bund (basis points)*	26.1	24.9	45.7	97.7	129.8	110.0
Credit default swap spreads for sovereign securities (5-year)*	64.8	51.2	34.9	21.8	18.4	32.7

1) Latest data Q2 2016.

2) Quarterly values are not annualised.

* Measured in basis points.

Source: European Commission (long-term interest rates); World Bank (gross external debt); Eurostat (private debt); ECB (all other indicators).

Table C.2: Labour market & social indicators — I

	2011	2012	2013	2014	2015	2016 ⁴
Employment rate (% of population aged 20-64)	73.5	74.1	74.8	76.2	76.8	77.5
Employment growth (% change from previous year)	0.5	1.1	1.2	2.4	1.8	1.6
Employment rate of women (% of female population aged 20-64)	67.8	68.4	69.3	70.6	71.3	72.0
Employment rate of men (% of male population aged 20-64)	79.3	80.0	80.4	81.9	82.5	83.1
Employment rate of older workers (% of population aged 55-64)	56.7	58.1	59.8	61.0	62.2	63.3
Part-time employment (% of total employment, aged 15-64)	25.5	25.9	25.6	25.3	25.1	25.2
Fixed-term employment (% of employees with a fixed term contract, aged 15-64)	6.0	6.2	6.1	6.3	6.1	6.0
Transitions from temporary to permanent employment	51.0	52.5	62.7	57.8	:	:
Unemployment rate ¹ (% active population, age group 15-74)	8.1	7.9	7.6	6.1	5.3	4.9
Long-term unemployment rate ² (% of labour force)	2.7	2.7	2.7	2.2	1.6	1.3
Youth unemployment rate (% active population aged 15-24)	21.3	21.2	20.7	17.0	14.6	13.2
Youth NEET ³ rate (% of population aged 15-24)	14.2	13.9	13.2	11.9	11.1	:
Early leavers from education and training (% of pop. aged 18-24 with at most lower sec. educ. and not in further education or training)	14.9	13.4	12.4	11.8	10.8	:
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	45.5	46.9	47.4	47.7	47.9	:
Formal childcare (30 hours or over; % of population aged less than 3 years)	5.0	3.0	4.0	4.0	:	:

1) The unemployed persons are all those who were not employed but had actively sought work and were ready to begin working immediately or within 2 weeks.

2) Long-term unemployed are those who have been unemployed for at least 12 months.

3) Not in education employment or training.

4) Average of first three quarters of 2016. Data for total unemployment and youth unemployment rates are seasonally adjusted.

Source: European Commission (EU Labour Force Survey).

Table C.3: Labour market & social indicators — II

Expenditure on social protection benefits (% of GDP)	2010	2011	2012	2013	2014	2015
Sickness/healthcare	8.3	8.8	8.8	8.7	8.6	:
Disability	2.0	1.9	1.8	1.7	1.5	:
Old age and survivors	11.8	11.9	12.2	12.1	11.7	:
Family/children	3.2	3.1	3.1	2.9	2.8	:
Unemployment	0.7	0.7	0.7	0.6	0.5	:
Housing	1.4	1.4	1.5	1.4	1.4	:
Social exclusion n.e.c.	1.0	0.9	0.8	0.7	0.7	:
Total	28.3	28.7	28.9	28.1	27.2	:
of which: means-tested benefits	4.3	4.2	4.2	3.8	3.4	:
Social inclusion indicators	2010	2011	2012	2013	2014	2015
People at risk of poverty or social exclusion ¹ (% of total population)	23.2	22.7	24.1	24.8	24.1	23.5
Children at risk of poverty or social exclusion (% of people aged 0-17)	29.7	26.9	31.2	32.6	31.2	30.3
At-risk-of-poverty rate ² (% of total population)	17.1	16.2	16.0	15.9	16.8	16.7
Severe material deprivation rate ³ (% of total population)	4.8	5.1	7.8	8.3	7.4	6.1
Proportion of people living in low work intensity households ⁴ (% of people aged 0-59)	13.2	11.5	13.0	13.2	12.3	11.9
In-work at-risk-of-poverty rate (% of persons employed)	6.8	7.9	9.0	8.4	8.7	8.2
Impact of social transfers (excluding pensions) on reducing poverty	44.8	46.9	46.1	47.2	42.9	42.8
Poverty thresholds, expressed in national currency at constant prices ⁵	8123	7975	7977	7920	8054	8095
Gross disposable income (households; growth %)	3.1	1.4	4.1	2.2	3.2	4.0
Inequality of income distribution (S80/S20 income quintile share ratio)	5.4	5.3	5.0	4.6	5.1	5.2
GINI coefficient before taxes and transfers	54.2	54.6	55.0	54.3	53.6	:
GINI coefficient after taxes and transfers	32.9	33.0	31.3	30.2	31.6	:

1) People at risk of poverty or social exclusion: individuals who are at risk of poverty and/or suffering from severe material deprivation and/or living in households with zero or very low work intensity.

2) At-risk-of-poverty rate: proportion of people with an equivalised disposable income below 60 % of the national equivalised median income.

3) Proportion of people who experience at least four of the following forms of deprivation: not being able to afford to i) pay their rent or utility bills, ii) keep their home adequately warm, iii) face unexpected expenses, iv) eat meat, fish or a protein equivalent every second day, v) enjoy a week of holiday away from home once a year, vi) have a car, vii) have a washing machine, viii) have a colour TV, or ix) have a telephone.

4) People living in households with very low work intensity: proportion of people aged 0-59 living in households where the adults (excluding dependent children) worked less than 20 % of their total work-time potential in the previous 12 months.

5) For EE, CY, MT, SI and SK, thresholds in nominal values in euros; harmonised index of consumer prices = 100 in 2006 (2007 survey refers to 2006 incomes).

Source: For expenditure on welfare benefits ESSPROS; for social inclusion EU-SILC.

Table C.4: Product market performance & policy indicators

Performance indicators	2010	2011	2012	2013	2014	2015
Labour productivity (real, per person employed, year-on-year % change)						
Labour productivity in industry	3.48	-1.91	-3.78	-1.80	1.54	0.17
Labour productivity in construction	14.04	2.94	-7.12	-0.41	2.62	2.43
Labour productivity in market services	2.48	0.19	-0.33	0.28	0.57	2.04
Unit labour costs (ULC) (whole economy, year-on-year % change)						
ULC in industry	-0.62	3.38	4.48	4.55	-0.24	2.19
ULC in construction	-7.46	0.87	9.45	2.12	-3.72	-1.26
ULC in market services	0.24	-0.71	0.05	2.37	-0.91	-0.23
Business environment	2010	2011	2012	2013	2014	2015
Time needed to enforce contracts ¹ (days)	399.0	399.0	437.0	437.0	437.0	437.0
Time needed to start a business ¹ (days)	11.5	11.5	11.5	11.5	6.0	4.5
Outcome of applications by SMEs for bank loans ²	na	1.12	na	0.76	0.57	0.35
Research and innovation	2010	2011	2012	2013	2014	2015
R&D intensity	1.68	1.68	1.61	1.66	1.68	1.70
Total public expenditure on education as % of GDP, for all levels of education combined	6.15	5.98	6.10	na	na	na
Number of science & technology people employed as % of total employment	45	51	51	52	53	53
Population having completed tertiary education ³	32	33	35	36	37	38
Young people with upper secondary education ⁴	81	80	82	83	84	86
Trade balance of high technology products as % of GDP	-1.23	-0.65	-0.88	-0.96	-1.15	-1.13
Product and service markets and competition				2003	2008	2013
OECD product market regulation (PMR) ⁵ , overall				na	1.21	1.08
OECD PMR ⁵ , retail				2.15	2.18	1.79
OECD PMR ⁵ , professional services				0.96	0.82	0.82
OECD PMR ⁵ , network industries ⁶				1.30	0.98	0.79

1) The methodologies, including the assumptions, for this indicator are shown in detail at :

<http://www.doingbusiness.org/methodology>.

2) Average of the answer to question Q7B_a. '[Bank loan]: If you applied and tried to negotiate for this type of financing over the past six months, what was the outcome?'. Answers were scored as follows: zero if received everything, one if received most of it, two if only received a limited part of it, three if refused or rejected and treated as missing values if the application is still pending or if the outcome is not known.

3) Percentage population aged 15-64 having completed tertiary education.

4) Percentage population aged 20-24 having attained at least upper secondary education.

5) Index: 0 = not regulated; 6 = most regulated. The methodologies of the OECD product market regulation indicators are shown in detail at : <http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm>

6) Aggregate OECD indicators of regulation in energy, transport and communications.

Source: European Commission; World Bank — Doing Business (for enforcing contracts and time to start a business); OECD (for the product market regulation indicators); SAFE (for outcome of small firms applications for bank loans).

Table C.5: **Green growth**

Green growth performance		2010	2011	2012	2013	2014	2015
Macroeconomic							
Energy intensity	kgoe / €	0.12	0.11	0.11	0.10	0.10	0.09
Carbon intensity	kg / €	0.30	0.27	0.27	0.26	0.24	-
Resource intensity (reciprocal of resource productivity)	kg / €	0.28	0.28	0.27	0.26	0.26	0.26
Waste intensity	kg / €	0.12	-	0.11	-	0.11	-
Energy balance of trade	% GDP	-0.4	-1.0	-1.1	-0.9	-0.7	-
Weighting of energy in HICP	%	8.80	8.70	10.20	8.80	8.00	7.60
Difference between energy price change and inflation	%	-6.1	5.4	5.2	4.6	2.9	-3.3
Real unit of energy cost	% of value added	9.3	9.9	10.0	10.0	10.0	-
Ratio of environmental taxes to labour taxes	ratio	0.18	0.18	0.19	0.19	0.20	-
Environmental taxes	% GDP	2.5	2.5	2.5	2.5	2.5	-
Sectoral							
Industry energy intensity	kgoe / €	0.10	0.09	0.10	0.10	0.10	0.09
Real unit energy cost for manufacturing industry excl. refining	% of value added	11.2	10.9	11.1	11.1	10.9	-
Share of energy-intensive industries in the economy	% GDP	7.00	6.59	6.26	6.08	5.93	5.92
Electricity prices for medium-sized industrial users	€ / kWh	0.10	0.10	0.12	0.12	0.13	0.15
Gas prices for medium-sized industrial users	€ / kWh	0.02	0.03	0.03	0.04	0.04	0.04
Public R&D for energy	% GDP	0.00	0.01	0.01	0.01	0.01	0.01
Public R&D for environmental protection	% GDP	0.02	0.02	0.02	0.02	0.01	0.01
Municipal waste recycling rate	%	40.2	42.0	42.6	43.3	43.7	43.5
Share of GHG emissions covered by ETS*	%	39.2	39.2	39.8	39.4	37.9	34.8
Transport energy intensity	kgoe / €	0.72	0.70	0.70	0.69	0.66	0.66
Transport carbon intensity	kg / €	1.64	1.58	1.58	1.55	1.49	-
Security of energy supply							
Energy import dependency	%	28.2	36.0	42.2	46.3	45.5	37.4
Aggregated supplier concentration index	HHI	2.2	4.9	5.2	5.8	6.3	-
Diversification of energy mix	HHI	0.30	0.28	0.27	0.26	0.27	-

All macro intensity indicators are expressed as a ratio of a physical quantity to GDP (in 2005 prices).

Energy intensity: gross inland energy consumption (in kgoe) divided by GDP (in EUR).

Carbon intensity: greenhouse gas emissions (in kg CO₂ equivalents) divided by GDP (in EUR).

Resource intensity: domestic material consumption (in kg) divided by GDP (in EUR).

Waste intensity: waste (in kg) divided by GDP (in EUR).

Energy balance of trade: the balance of energy exports and imports, expressed as % of GDP.

Weighting of energy in HICP: the proportion of 'energy' items in the consumption basket used for the construction of the HICP.

Difference between energy price change and inflation: energy component of HICP, and total HICP inflation (annual % change).

Real unit energy cost: real energy costs as a percentage of total value added for the economy.

Environmental taxes over labour taxes and GDP: from European Commission's database, 'Taxation trends in the European Union'.

Industry energy intensity: final energy consumption of industry (in kgoe) divided by gross value added of industry (in 2005 EUR).

Real unit energy costs for manufacturing industry excluding refining: real costs as a percentage of value added for manufacturing sectors.

Share of energy-intensive industries in the economy: share of gross value added of the energy-intensive industries in GDP

Electricity and gas prices for medium-sized industrial users: consumption band 500–20 000 MWh and 10 000–100 000 GJ; figures excl. VAT.

Recycling rate of municipal waste: ratio of recycled and composted municipal waste to total municipal waste

Public R&D for energy or for the environment: government spending on R&D for these categories as % of GDP

Proportion of GHG emissions covered by EU Emissions Trading System (ETS) (excluding aviation): based on greenhouse gas emissions (excl. land use, land use change and forestry) as reported by Member States to the European Environment Agency.

Transport energy intensity: final energy consumption of transport activity (kgoe) divided by transport industry gross value added (in 2005 EUR).

Transport carbon intensity: GHG emissions in transport activity divided by gross value added of the transport sector

Energy import dependency: net energy imports divided by gross inland energy consumption incl. consumption of international bunker fuels.

Aggregated supplier concentration index: covers oil, gas and coal. Smaller values indicate larger diversification and hence lower risk.

Diversification of the energy mix: Herfindahl index over natural gas, total petrol products, nuclear heat, renewable energies and solid fuels.

* European Commission and European Environment Agency.

Source: European Commission (Eurostat), unless indicated otherwise.

REFERENCES

- Audit Commission (2011), *Going the distance: Achieving better value for money in road maintenance*.
- Bank of England (2016), *Credit Conditions Survey 2016 Q3*.
- Barnett et al. (2014), "The UK Productivity Puzzle", *Quarterly Bulletin, 2014 Q2*, Bank of England.
- BEIS - Department for Business, Energy & Industrial Strategy (2016a), *Coal generation in Great Britain: The pathway to a low-carbon future*, Crown.
- BEIS - Department for Business, Energy & Industrial Strategy (2016b), *Government Response to the 6 March 2016 consultation on further reforms to the Capacity Market*, Crown.
- Bloom, N. et al (2016), *Management as a technology?*, Harvard Business School, Working Paper 16-133.
- Carter, L. (2016), *Operational productivity and performance in English NHS acute hospitals: unwarranted variations. An independent report for the Department of Health by Lord Carter of Coles*.
- CBI/AECOM (2016), *CBI/AECOM Infrastructure Survey 2016*.
- CCS - Crown Commercial Service (2016), *Annual report and accounts 2015/16*.
- CIPD - Chartered Institute of Personnel and Development (2016), *Alternative Pathways into the Labour Market*.
- CMA - Competition and Markets Authority (2016), *Energy Market Investigation: Summary of final report*.
- DCLG - Department for Communities and Local Government (2016a), *English housing survey 2014 to 2015, February 2016*.
- DCLG - Department for Communities and Local Government (2016b), *Housing supply: net additional dwellings, England: 2015 to 2016, November 2016*.
- DCLG - Department for Communities and Local Government (2016c), *House building; new build dwellings, England: September Quarter 2016*, Crown.
- DCLG - Department for Communities and Local Government (2016d), *Affordable Housing Supply: April 2015 to March 2016, England*, Crown.
- Department for Education (2016a), *Post-2016 Skills Plan*, Crown.
- Department for Education (2016b), *Report of the Independent Panel on Technical Education*, Crown.
- Department for Education (2016c), *Technical Education Reform: the case for change*, Crown.
- Department for Education (2016d), *Educational excellence everywhere*, Crown.
- Department for Education (2016e), *Speech by the Childcare and Education Minister Mr. Sam Gyimah: Vision for early years workforce and Millie's Mark*.
- DfT - Department for Transport (2016), *Annual bus statistics: England 2015/16*.
- DfT - Department for Transport (2015), *Rail trends factsheet: 2014 to 2015*.

- DfT et al. (2016), *Roads Investment Strategy: Post 2020*.
- European Commission (2017), *Debt Sustainability Monitor 2016*, Institutional Papers 047, Publications Office of the European Union, Luxembourg.
- European Commission (2016a), *SBA Fact Sheet 2016: UK*.
- European Commission (2016b), *Education and Training Monitor 2016 - Country Analysis, United Kingdom*, Publications Office of the European Union, Luxembourg.
- European Commission (2016c), Updated data of European Commission (2014), *Infrastructure in the EU: Developments and Impact on Growth*, European Economy, Occasional Papers, No 203.
- European Commission (2016d), *COM(2016)752 Final Report of the Sector Inquiry on Capacity Mechanisms*.
- European Commission (2016e), *RIO Country Report 2016: UK*.
- European Commission (2016f), *Single Market Scoreboard: Public Procurement, 01/2015–12/2015*
- European Commission (2015), *The 2015 ageing report, Economic and budgetary projections for the 28 EU Member States (2013-2060)*, Publications Office of the European Union, Luxembourg.
- EY (2016), *The employment landscape for young people in the UK: Challenges and opportunities*.
- Family and Childcare Trust (2016a), *2016 Childcare Survey*.
- Family and Childcare Trust (2016b), *Putting quality at the heart of the early years*.
- Farmer Review (2016), *The Farmer Review of the UK Construction Labour Model, October 2016*.
- FMB - Federation of Master Builders (2016), *House Builders Survey, September 2016*.
- HBF – Home Builders Federation (2016), *Ghost towns: The true level of housing supply and the official statistics that ignore 30,000 new homes per year*, September 2016.
- Helm, D. (2016), *Greg Clark's Energy Agenda, Energy Futures Network: Paper 20*.
- HEPI - Higher Education Policy Institute (2016), *Boys to Men: The underachievement of young men in higher education – and how to start tackling it*.
- HM Government (2017), *Building our Industrial Strategy*, Crown.
- HM Treasury (2016), *Autumn Statement 2016*, Crown.
- HM Treasury (2014), *Infrastructure Cost Review: measuring and improving delivery*, Crown.
- House of Commons (2016), *House of Commons Work and Pensions Committee (2016) Intergenerational Fairness*.
- ICE et al. (2016), *National needs assessment: A vision for UK infrastructure*.

- Independent Mental Health Taskforce to the NHS in England (2016), *The five year forward view for mental health*.
- Independent Transport Commission (2015), *Devolution in England and Transport: Key Issues*.
- INRIX (2016a), *INRIX 2015 Traffic Scoreboard*.
- INRIX (2016b), *London congestion trends*.
- Institute for Fiscal Studies (2016), *Living Standards, Poverty and Inequality in the UK: 2016*.
- IPA - Infrastructure and Projects Authority (2016a), *National Infrastructure Delivery Plan 2016-2021*.
- IPA - Infrastructure and Projects Authority (2016b), *National Infrastructure and Construction Pipeline Analysis*.
- IPA - Infrastructure and Projects Authority (2016c), *National Infrastructure Delivery Plan: Funding and Finance Statement*.
- IPPR (2016), *Boosting Britain's low wage sectors: A strategy for productivity, innovation and growth*.
- Ipsos Mori (2016), *Ipsos Mori Issues Index*.
- Lane, P. (2015), "A financial perspective on the UK current account deficit", *National Institute Economic Review*, Vol. 234, Issue 1, NIESR, SAGE Journals.
- LGIU (2016), *Small is beautiful: Delivering more homes through small sites*.
- McKinsey (2016), *Productivity: The route to Brexit success*.
- NAO - National Audit Office (2016a), *Delivering value through the apprenticeships programme*.
- NAO - National Audit Office (2016b), *Managing the supply of NHS clinical staff in England*
- NAO - National Audit Office (2016c), *Delivering major projects in government: a briefing for the Committee of Public Accounts*
- NAO - National Audit Office (2016d), *Financial sustainability of local authorities: capital expenditure and resourcing*.
- NAO - National Audit Office (2016e), *Modernising the Great Western Railway*.
- NAO - National Audit Office (2016f), *Nuclear power in the UK*.
- NAO - National Audit Office (2016g), *Controlling the consumer-funded costs of energy policies: The Levy Control Framework*.
- NAO - National Audit Office (2016h), *Report by the Comptroller and Auditor General (9 March 2016) Government's spending with small and medium-sized enterprises*.
- NAO - National Audit Office (2011), *Lessons from PFI and other projects*.
- National Grid (2016), *Future Energy Scenarios*.

- NHS - National Health System (2014), *Five Year Forward View*.
- NIC - National Infrastructure Commission (2016), *National Infrastructure Assessment Call for Evidence*.
- OBR - Office for Budget Responsibility (2016), *Economic and Fiscal Outlook - November 2016*, Crown.
- OECD (2016a), *Programme for International Student Assessment (PISA) 2015 Results*.
- OECD (2016b), *Can an increase in public investment sustainably lift economic growth?* OECD Economics Department Working Papers No.1351.
- Ofcom (2016), *Connected Nations Report 2016*.
- OFSTED - Office for Standards in Education, Children's Services and Skills (2016), *The Annual Report of Her Majesty's Chief Inspector of Education, Children's Services and Skills 2015/16*.
- ONS - Office for National Statistics (2016), *An analytical study into the potential impact of financial engineering on UK Foreign Direct Investment: July 2016*.
- Orme, B. (2016), *Incapacitated: Why the electricity capacity market for electricity generation isn't working, and how to reform it*, Institute for Public Policy Research.
- Policy Exchange (2016), *A New Settlement Between Government and Independent Housing Associations*.
- Productivity Leadership Group (2016), *How good is your business really? Raising our ambitions for business performance*.
- RICS (2017), *Q4 2016: RICS UK Construction Market Survey*.
- Resolution Foundation (2016a), *The first 100 days: early evidence on the impact of the National Living Wage*.
- Resolution Foundation (2016b), *Rising to the challenge: early evidence on the introduction of the National Living Wage in the social care sector*.
- Resolution Foundation (2016c), *Universal Challenge – making a success of Universal Credit & accompanying press release, 'New Work and Pensions Secretary must reclaim Universal Credit from the Treasury*.
- Royal College of Physicians (2016), *Underfunded. Underdoctored. Overstretched. The NHS in 2016*.
- The King's Fund (2016), *New care models – Emerging innovations in governance and organisational form*.
- TUC - Trades Union Congress (2016), *Schools that Work for Everyone, TUC Response to the Green Paper Consultation Document*.
- TUC - Trades Union Congress (2015), *Number of commuters spending more than two hours travelling to and from work up by 72% in last decade, says TUC*, 6 November 2015.
- UCAS (2016), *UCAS Analysis and Research: UK application rates by the January deadline published on 4 February 2016*.

UCAS (2015), *Undergraduate End of Cycle Reports: 2015 End of Cycle Report*.

UK Government (2016), *Estimated costs of principal tax reliefs*, 30 December 2016.

Wood, I. (2014), *UKCS Maximising Recovery Review: Final Report*, Crown.

World Bank (2016), *Doing Business 2017, Equal opportunity for all*.

World Economic Forum (2017), *The Global Competitiveness Report 2016-17*.

ZEW (2016), *Project for the EU Commission TAXUD/2013/CC/120, Final Report 2016, Effective tax levels using the Devereux/Griffith methodology*.