Construction Industry Forecasts 2017-2019

Summer 2017 Edition - £375




cpa | construction products association

Contents

DISCLAIMER

All construction figures (starts, completions, orders and output) refer to Great Britain.

All output figures are in 2013 constant prices using the historic figures from the Office for National Statistics (ONS).

All new orders figures are in 2005 constant prices using the historic figures from the Office for National Statistics (ONS).

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Overview

Construction output is forecast to rise by 1.6% in 2017, a revision upwards from the 1.3% in our previous forecasts, primarily driven by growth in new infrastructure activity and private house building, offsetting declines in commercial offices, retail and industrial factories.

The revision is partly due to momentum from new contracts and activity in the second half of 2016 and early 2017. However, it also reflects the impacts of a revision in the public housing repair, maintenance and improvement sector in 2017 and 2018 to deal with short-term urgent measures on existing social housing towers that will need to be made in the light of the Grenfell Tower fire.

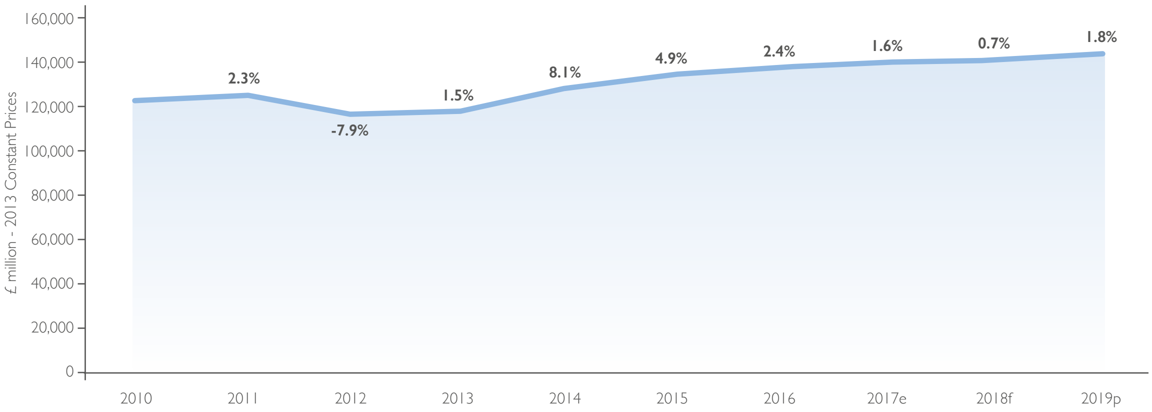
Construction activity remains at historically high levels but more recently, activity has slowed due to subdued economic activity, an acceleration in costs and falling real wages. As a consequence, this is expected to impact on new contract awards and activity during the second half of 2017 and in 2018. Construction output during 2018 is expected to grow by only 0.7%. This is a downward revision from the 1.2% forecast in our previous forecast due to delays in delivery of infrastructure projects. Furthermore, even the 0.7% growth forecast is heavily reliant on increases in private house building and infrastructure delivery. Without growth in these two sectors, construction output would remain flat in 2017 and fall by over 1.0% in 2018.

The UK is set to leave the EU in March 2019, which may have considerable impacts upon the availability of construction labour and trade in construction materials and products. In line with previous CPA forecasts, there is assumed to be a five-year transition agreement or implementation period as 18 months is not enough to negotiate fully on all issues around movements of people, goods, services and capital. Growth of 1.8% is expected in 2019 but the risks around the forecasts in 2019 are considerable. Given unprecedented levels of economic and political uncertainty, domestically following the lack of a significant majority for the UK government

Key Points Include

- Construction output to grow by **1.6% in 2017** and **0.7% in 2018**
- Private housing starts to rise by **3.0% in 2017** and **2.0% in 2018**
- Public housing repair, maintenance and improvement output to remain flat in **2017** and **2018**
- Commercial offices output to fall by **1.0% in 2017** and by **12.0% in 2018**
- Infrastructure construction to grow by **7.4% in 2017** and **6.4% in 2018**

Construction Output



Source: ONS, Construction Products Association

Public & Private Sector Construction Output

£ million	2015	2016	2017	2018	2019
Change on previous year	Actual	Actual	Estimate	Forecast	Projection
Public Sector inc. PFI	35,929	33,945	34,293	34,693	35,567
	-0.7%	-5.5%	1.0%	1.2%	2.5%
Private Sector	98,457	103,638	105,514	106,106	107,716
	7.2%	5.3%	1.8%	0.6%	1.5%
Total Construction	134,386	137,583	139,806	140,798	143,283
	4.9%	2.4%	1.6%	0.7%	1.8%

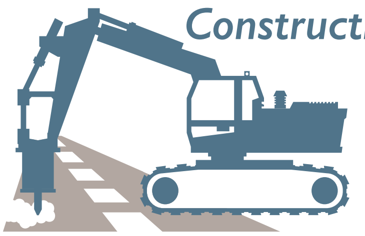
Source: ONS, Construction Products Association

following the snap General Election in June and European-wise with respect to Brexit, it is vital to look beyond the overall industry output and look at the sectors and sub-sectors, the assumptions made in the forecasts and the upper and lower scenarios around the forecasts.

Private housing starts in 2017 Q1 in England rose by 3.5% compared with Q4 and were 22.2% higher than the rain-affected 2016 Q1. However, the majority of forward looking indicators that the CPA tends to use for the general housing market are currently looking pessimistic; mortgage approvals, property transactions and house prices. In addition, there remain concerns about the oversupply within the small niche of prime residential within Central London. The government's Help to Buy equity loans, on which major house builders are highly dependent, appear to have distorted the normal relationship between new build and general housing transactions. Generally, new building housing has tended to be around 10-12% of property transactions. However, Help to Buy equity loans, which are for new build not just first-time buyers, has increased this proportion. As a result, despite a slowing general housing market, private housing starts in Great Britain are expected to rise by 3.0% in 2017 to 151,240 and 2.0% in 2018 to 154,265 despite the recent slowdown in the general housing market. Within **public housing**,

last year's hiatus in funding appears to have been addressed with finance on the Affordable Homes Programme coming through and providing activity on the ground. Housing associations are expected to resume building with the guaranteed funding in place until 2021. Public housing starts are expected to rise by 8.0% to 33,012 in 2017 and by 2.0% to 33,672 in 2018.

Prospects for the **private housing repair, maintenance and improvement** sector are less bright. Activity during 2017 has been largely boosted by the lagged impact of improvements on homes following the spike in property transactions just before the rise in the stamp duty for buy-to-lets and second homes and also activity by those with considerable housing/pension wealth that are not anticipating moving property in the near or medium-term. However, the slowdown in property transactions since the stamp duty change, the slowdown in UK economic activity, falling real wages and historic low savings ratios (see Economy) are likely to lead to falls in activity in the sector from the second half of 2017. Overall, activity is expected to rise by 3.0% in 2017 before a fall in output of 1.0% in 2018.



***Construction growth** between*
2017** & **2019
primarily due to major infrastructure projects

Activity in the **public housing repair, maintenance and improvement** sector fell 23.0% between May 2010 and May 2017. Previous CPA forecasts had anticipated that output would fall each year between 2017 and 2019 due to a continuation of the government's austerity programme and the consequent financial constraints placed upon local authorities. However, following the tragic events at the Grenfell Tower in London, it is highly likely that there will need to be urgent works by local authorities on towers across the country. The extent of the urgent work is currently difficult to ascertain. However, it is expected that even if local authorities delay non-essential maintenance in order to focus on urgent fire safety work, it is likely to require additional resource and further cuts to public housing rm&i are difficult to envisage in the light of this. The CPA has been asked by the Department of Communities and Local Government to join an Industry Response Group alongside Build UK and the Construction Industry Council to help address safety issues in buildings, and this may help give a clearer idea of construction activity needs in the sector. Furthermore, the issues are unlikely to be restricted to social housing and may impact upon many other building sectors in the medium-term including existing schools, hospitals, prisons, private housing and commercial sectors. Long-term structural changes to sector activity or construction will be dependent on the outcome of the Independent Public Inquiry.

Activity on-site in the **commercial** sector remains buoyant overall and is currently at peak levels in London, which accounts for over one quarter of the commercial sector. Output in the sector rose by 8.5% in 2016 and output between January and May 2017 was 6.0% higher than a year ago. However, output in May fell by 1.6% compared with April and this may spell a turning point for the sector. Commercial new orders fell sharply post-referendum and in the three quarters since the referendum, to 2017 Q1, were 12.9% lower than in the previous three quarters, pre-referendum. These falls are expected to feed through onto the ground from the second half of 2017 although momentum from the first half of the year is likely to ensure that the activity in the year as a whole remains broadly flat. 2018 is set to see a sharp decline in activity as existing

projects finish and last year's fall in new contract awards feeds through. In addition, the impacts of rising costs will exacerbate issues within the sub-sector. Within the offices sub-sector, demand from Technology, Media and Telecommunications firms in London remains strong. However, this is offset by the sharp fall in high-profile new offices construction for financial services, where the long-term demand is uncertain when the UK leaves the EU. Within the retail sub-sector, existing trends away from the high street and towards internet shopping and poor growth prospects for the major supermarkets are likely to lead to falls in activity. Overall in the commercial sector, major one-off projects such as the £1.4 billion Croydon Partnership and £1.4 billion Brent Cross extension will help to offset the falls in output yet commercial offices output is still expected to decline by 1.0% in 2017 before falling 12.0% in 2018.

Activity in the **infrastructure** sector is set to rise 7.4% in 2017, 6.4% in 2018 and 9.8% in 2019 with growth anticipated in all key sub-sectors. However, delivery of government announcements and ambitious spending plans may be an issue across roads, rail and energy as the sector continues to suffer from cost rises and delays, the most notable once again being Hinkley Point C.

In the water & sewerage sub-sector, growth is currently being driven by progression on London's £4.2 billion Thames Tideway Tunnel project but general activity levels are mainly being provided by work on AMP6, which continues until 2020. Despite work to iron out the cyclical nature of work under the five-year spending plans, it is expected that the majority of work will continue to occur in 2017 and 2018 before activity levels fall away towards the end of the decade. In the roads sub-sector, despite ambitious spending plans, little new roads activity is currently being seen on the ground as Highways England focuses on smart motorways and endures challenges with procurement regarding new roads projects whilst local authorities struggle with a lack of finance. Energy construction continues to rise, albeit relatively slowly compared with expectations two years ago due to delays, yet again, on the first of the new nuclear power stations, Hinkley Point C, which will be delayed by up to 15 months and rise in cost by £1.5 billion. Work on National Grid power connections and offshore wind will ensure growth of 7.0% in both 2017 and 2018 before growth may rise to 14.0% if main works on Hinkley Point C begin. Work in the rail sub-sector is set to rise in the near-term due to activity on the final stages of Crossrail. In 2019, progression on HS2 is likely to boost rail sub-sector growth to 20.0% after key contracts were let in July 2017. However, sub-sector growth in 2018 may slow to 5.0% due to an hiatus in work on the major projects.

Education including PFI, at £9.9 billion in 2016, is at historic high levels, only surpassed by the 2010/11 peak prior to the cancellation of the Building Schools for the Future Programme. Current activity levels are being sustained by the Priority School Building Programme and work on universities around the country that have large expansion plans. In the near-term, these drivers are likely to lead to further growth of 0.8% in 2017 and 1.5% in both 2018 and 2019. However, there are considerable medium-term concerns that university expansion plans are based around increasing student numbers, student fees and the proportion of students from abroad, the latter being highly uncertain with Brexit approaching in 18 months and no agreements on EU citizens or students as yet.

Health including PFI activity is expected to fall due to a lack of new major projects signed so far this year and because of major projects currently on site being delayed over the next two years. The opening of Sandwell's £353 million Midland Metropolitan Hospital will be delayed by six months and only open in Spring 2019. The opening of the £335 million Royal Liverpool University Hospital job has been delayed once again from March 2017 to Summer 2018. In addition, further delays cannot be ruled out. Falls in output in the sector are unlikely to be sharp as projects within the £4.0 billion ProCure22 will provide a stream of work over the next few years. There are currently 294 active projects valued at £1.0 million or more still in the ProCure21+ pipeline. Overall, output is expected to fall by 2.6% in 2017 before a fall of 3.2% in 2018.

Construction Industry Forecasts - Summer 2017

£ million 2013 constant prices	2015	2016	2017	2018	2019
% annual change	Actual	Actual	Estimate	Forecast	Projection
Housing					
Private	24,053	27,218	28,035	28,876	29,453
	8.7%	13.2%	3.0%	3.0%	2.0%
Public	4,604	4,310	4,396	4,528	4,664
	-18.1%	-6.4%	2.0%	3.0%	3.0%
Total	28,657	31,528	32,431	33,404	34,117
	3.3%	10.0%	2.9%	3.0%	2.1%
Other New Work					
Public Non-Housing	9,535	9,800	9,769	9,730	9,960
	-1.9%	2.8%	-0.3%	-0.4%	2.4%
Infrastructure	19,580	17,777	19,092	20,304	22,285
	37.9%	-9.2%	7.4%	6.4%	9.8%
Industrial	4,310	3,901	3,573	3,462	3,423
	9.6%	-9.5%	-8.4%	-3.1%	-1.1%
Commercial	24,305	26,376	26,339	25,460	25,453
	1.3%	8.5%	-0.1%	-3.3%	0.0%
Total other new work	57,730	57,854	58,773	58,956	61,121
	11.4%	0.2%	1.6%	0.3%	3.7%
Total new work	86,387	89,382	91,204	92,360	95,238
	8.5%	3.5%	2.0%	1.3%	3.1%
Repair and Maintenance					
Private Housing RM&I	17,065	17,972	18,511	18,326	17,960
	2.0%	5.3%	3.0%	-1.0%	-2.0%
Public Housing RM&I	7,478	6,930	6,930	6,930	6,791
	0.5%	-7.3%	0.0%	0.0%	-2.0%
Private Other R&M	10,631	11,079	11,079	11,190	11,302
	2.6%	4.2%	0.0%	1.0%	1.0%
Public Other R&M	4,671	4,601	4,463	4,374	4,374
	-13.0%	-1.5%	-3.0%	-2.0%	0.0%
Infrastructure R&M	8,154	7,619	7,619	7,619	7,619
	-5.0%	-6.6%	0.0%	0.0%	0.0%
Total R&M	47,999	48,201	48,602	48,439	48,045
	-1.0%	0.4%	0.8%	-0.3%	-0.8%
TOTAL ALL WORK	134,386	137,583	139,806	140,798	143,283
	4.9%	2.4%	1.6%	0.7%	1.8%

Source: ONS, Construction Products Association

Scenario A - Lower Scenario

Scenario A – Assumptions

- Economic growth slows further during the second half of 2017
- Unemployment rises due to the slowdown in economic activity
- Nominal wage growth subdued due to rising unemployment and uncertainty regarding UK politics and economic prospects
- Inflation averages over 3.0% in 2017, peaking at the end of the year and leading to real wages falls during 2017

- Bank lending to businesses weak due to Bank of England constraints on consumer credit
- Property transactions fall further due to slowing demand leading to subdued house price growth
- Delivery of infrastructure projects by regulated sectors slows further
- Main works at Hinkley Point C and work on HS2 subject to further delays

Scenario A – Key Effects

- Construction activity falls in 2017 and 2018 due to a slowdown in the UK economy that, in turn, leads to existing contracts being put on hold and new contract awards falling. Output falls by 2.1% in 2017 followed by a decline of 3.2% in 2018
- Private housing output remains flat in 2017 and falls 2.0% in 2018 as property transactions, mortgage lending and house prices slow further, reflecting falls in demand and house builders responding to a decline in margin, due to rising labour and material cost inflation, by slowing supply
- Falling real wages and further slowdown in property transactions leads to a fall in consequent private housing repair, maintenance and improvements work. Output remains flat in 2017 and then declines by 3.0% in 2018
- The rise in economic and political uncertainty hinders new investment in high-profile commercial offices space. Furthermore, commercial retail investment is adversely affected by a fall in consumer spending as a result of falling real wages and Bank of England consumer credit constraints. Commercial output declines 4.4% in 2017 and 9.6% in 2018
- Infrastructure growth suffers from further delays to main works at Hinkley Point C once again and HS2 whilst Highways England and Network Rail struggle to fulfil announced capital investment programmes during 2018 and 2019. Despite this, infrastructure output is still expected to grow by 1.8% in 2017 and 4.1% in 2018

Construction Industry Forecasts - Summer 2017 - Lower Scenario

£ million 2013 constant prices	2015	2016	2017	2018	2019
% annual change	Actual	Actual	Estimate	Forecast	Projection
Housing					
Private	24,053	27,218	27,218	26,674	25,340
	8.7%	13.2%	0.0%	-2.0%	-5.0%
Public	4,604	4,310	4,095	4,054	4,054
	-18.1%	-6.4%	-5.0%	-1.0%	0.0%
Total	28,657	31,528	31,313	30,727	29,394
	3.3%	10.0%	-0.7%	-1.9%	-4.3%
Other New Work					
Public Non-Housing	9,535	9,800	9,466	9,098	8,871
	-1.9%	2.8%	-3.4%	-3.9%	-2.5%
Infrastructure	19,580	17,777	18,105	18,842	19,680
	37.9%	-9.2%	1.8%	4.1%	4.4%
Industrial	4,310	3,901	3,317	3,080	2,861
	9.6%	-9.5%	-15.0%	-7.2%	-7.1%
Commercial	24,305	26,376	25,209	22,798	21,160
	1.3%	8.5%	-4.4%	-9.6%	-7.2%
Total other new work	57,730	57,854	56,098	53,817	52,572
	11.4%	0.2%	-3.0%	-4.1%	-2.3%
Total new work	86,387	89,382	87,410	84,544	81,966
	8.5%	3.5%	-2.2%	-3.3%	-3.1%
Repair and Maintenance					
Private Housing RM&I	17,065	17,972	17,972	17,433	16,910
	2.0%	5.3%	0.0%	-3.0%	-3.0%
Public Housing RM&I	7,478	6,930	6,584	6,254	5,942
	0.5%	-7.3%	-5.0%	-5.0%	-5.0%
Private Other R&M	10,631	11,079	10,858	10,641	10,428
	2.6%	4.2%	-2.0%	-2.0%	-2.0%
Public Other R&M	4,671	4,601	4,417	4,240	4,071
	-13.0%	-1.5%	-4.0%	-4.0%	-4.0%
Infrastructure R&M	8,154	7,619	7,390	7,168	6,953
	-5.0%	-6.6%	-3.0%	-3.0%	-3.0%
Total R&M	47,999	48,201	47,220	45,736	44,303
	-1.0%	0.4%	-2.0%	-3.1%	-3.1%
TOTAL ALL WORK	134,386	137,583	134,630	130,281	126,269
	4.9%	2.4%	-2.1%	-3.2%	-3.1%

Source: ONS, Construction Products Association

Scenario B - Upper Scenario

Scenario B – Assumptions

- UK economic activity returns to quarter-on-quarter growth rates above 0.5% despite political uncertainty as firms focus on near-term prospects
- The employment rate remains at highest levels on record
- The depreciation in Sterling leads to a persistent increase in UK net trade during 2018 and global inflows of finance into the UK
- Rises in inflation lead to pressure on employers to raise nominal wage increases from the second half of 2017 that, in turn, ensures real wage growth
- Consumer spending growth in 2017 despite rising inflation due to real wage growth and an historic low savings ratio
- Government and regulated sectors start to deliver consistently on infrastructure activity in line with announced projects and programmes

Scenario B – Key Effects

- Construction output rises by 3.9% in 2017 and by 4.4% in 2018 due to both private and public sector work
- Private housing output rises by 4.0% in both 2017 and 2018 despite a slowdown in mortgage lending, property transactions and house prices in the general housing market as Help to Buy sustains demand in the new build market. In addition, price falls in the Central London market come to an end during 2017
- Private housing rm&i output is sustained over the next 18 months despite lower property transactions as households in key areas of demand choose to improve rather than move. Output in the sector rises by 4.0% in 2017 and 2.0% in 2018
- Infrastructure output increases by 11.8% in 2017 and by 16.1% in 2018 due to improved delivery of spending programmes in regulated sectors and no further delays on existing major infrastructure projects

Construction Industry Forecasts - Summer 2017 - Upper Scenario

£ million 2013 constant prices	2015	2016	2017	2018	2019
% annual change	Actual	Actual	Estimate	Forecast	Projection
Housing					
Private	24,053	27,218	28,307	29,439	30,617
	8.7%	13.2%	4.0%	4.0%	4.0%
Public	4,604	4,310	4,482	4,707	4,989
	-18.1%	-6.4%	4.0%	5.0%	6.0%
Total	28,657	31,528	32,789	34,146	35,605
	3.3%	10.0%	4.0%	4.1%	4.3%
Other New Work					
Public Non-Housing	9,535	9,800	10,119	10,364	10,682
	-1.9%	2.8%	3.3%	2.4%	3.1%
Infrastructure	19,580	17,777	19,867	23,074	27,476
	37.9%	-9.2%	11.8%	16.1%	19.1%
Industrial	4,310	3,901	3,790	3,790	3,790
	9.6%	-9.5%	-2.9%	0.0%	0.0%
Commercial	24,305	26,376	26,949	27,483	28,121
	1.3%	8.5%	2.2%	2.0%	2.3%
Total other new work	57,730	57,854	60,724	64,711	70,069
	11.4%	0.2%	5.0%	6.6%	8.3%
Total new work	86,387	89,382	93,513	98,856	105,675
	8.5%	3.5%	4.6%	5.7%	6.9%
Repair and Maintenance					
Private Housing RM&I	17,065	17,972	18,691	19,065	19,446
	2.0%	5.3%	4.0%	2.0%	2.0%
Public Housing RM&I	7,478	6,930	7,069	7,210	7,354
	0.5%	-7.3%	2.0%	2.0%	2.0%
Private Other R&M	10,631	11,079	11,301	11,527	11,757
	2.6%	4.2%	2.0%	2.0%	2.0%
Public Other R&M	4,671	4,601	4,601	4,601	4,647
	-13.0%	-1.5%	0.0%	0.0%	1.0%
Infrastructure R&M	8,154	7,619	7,771	7,926	8,085
	-5.0%	-6.6%	2.0%	2.0%	2.0%
Total R&M	47,999	48,201	49,432	50,329	51,290
	-1.0%	0.4%	2.6%	1.8%	1.9%
TOTAL ALL WORK	134,386	137,583	142,946	149,185	156,964
	4.9%	2.4%	3.9%	4.4%	5.2%

Source: ONS, Construction Products Association

Assumptions

Key Issues:

- Brexit
- UK Economic Uncertainty
- UK Political Uncertainty
- Infrastructure
- Housing
- Energy

Brexit: The CPA has assumed a five-year transition agreement or implementation period, as with previous forecasts. As a consequence, key issues regarding available labour and skills, trade in construction products, regulations and standards do not impact upon the construction industry during the forecast period.

UK Economic Uncertainty: In line with the Winter and Spring macroeconomic forecasts, the CPA has assumed that the majority of macroeconomic forecasters have underestimated the impacts of inflation and, as a consequence, overestimated UK GDP growth for 2017. In May, the Bank of England forecast CPI inflation peaking in Q4 at 2.8% and the Office for Budget Responsibility (OBR) forecasts CPI inflation peaking at 2.6% in Q4 yet May's inflation was already 2.9%. The CPA continues to forecast an average of 3.0% CPI inflation this year, peaking at 3.5% in the second half of 2017 and leading to a period of real wage falls this year. As a result, UK GDP is forecast at only 1.4% in 2017 compared with the Bank of England's 1.9% and the OBR forecast of 2.0%. The concern regarding slowing UK economic growth this year and in 2018 is likely to ensure that there are no rises in the Bank of England interest rate despite recent moves by the Bank's Monetary Policy Committee.

UK Political Uncertainty: As recently as 2015, the CPA was highlighting the UK's political stability as one of the key reasons why international investment is attracted to the UK. However, three general elections and three referenda in the past seven years, many of which have had surprise outcomes, have put an end to this political stability. The forecast is published at a point in time when the UK has a government with a small majority and, as a consequence, there is considerable uncertainty regarding government's policies over austerity and spending. In addition, the UK is almost half a year into the two-year Brexit negotiation period, which the CPA stated was already insufficient to reach an agreement on all key issues regarding, movements of people, products, services and capital. At this point, there is still no agreement with the EU on even the simplest issues; a reciprocal agreement on EU nationals already in the UK and UK nationals in the EU as well as a significant transition agreement or implementation period. As a consequent, the CPA continues to assume a five-year transition agreement or implementation period due to a lack of practical alternatives.

Infrastructure: The government has announced its intention to drive growth in the UK economy by investment in infrastructure through the National Productivity Investment Fund in Autumn Statement 2016. However, infrastructure investment from private, public and regulated

sectors continues to be adversely affected by inadequate delivery that does not match capital investment plans and substantial delays on major infrastructure projects, the latest of which is July's announcement that the first of the new nuclear power stations Hinkley Point C would be delayed by almost two years and rise in cost by a further £1.5 billion. However, poor infrastructure delivery is not confined to major projects and the National Audit Office highlighted that the three-year £15.0 million Sheffield to Rotherham tram-train project was 2.5 years overdue and had risen in cost by 401.0%.

Energy: investment in energy construction continues to increase despite continual delays to the long awaited new nuclear programme as a result of decommissioning work and offshore wind. Main works at the first of these new nuclear power stations, Hinkley Point C are subject to further delays once again and main works are now not anticipated until 2019, out of the scope of the forecasts.

Housing: private house building is currently in an uncertain period. Current data highlight growth but the usual early indicators (mortgage approvals, transactions and house prices) suggest falls. However, it is possible that Help to Buy has distorted the usual relationship between the general housing market and house building (around 10-12% of housing transactions). Help to Buy may be increasing the proportion of transactions that are new build and sustaining demand in new house building despite a slowdown in the general market. In the year to 2017 Q1, one-third of new house building sales were sold under Help to Buy and for some house builders such as Persimmon, Help to Buy accounted for 46% of home sales in 2016.

Economy

Global

Global economic growth is expected to accelerate in 2017 and 2018 according to the World Bank's Global Economic Prospects. After rising only 2.4% in 2016, global GDP is expected to rise by 2.7% in 2017 and 2.9% in 2018. This is despite further expected slowdowns in GDP growth in China over the next 18 months, which are expected to be offset by an acceleration in growth in the US, Japan and India, combined with a general improvement in prospects for manufacturing and global trade. However, the key risks continue towards the downside, due to political uncertainty and the potential for shifts towards increased protectionism from many major economies. Poor productivity growth also remains a key issue for many developed economies. In addition, long-term concerns regarding economies in Greece, Italy and China continue.

The **US** enjoyed strong GDP growth of 2.6% in 2015 and although 2016 saw a sharp slowdown in economic growth, to only 1.7%, due to a weakness in investment and exports, GDP growth is expected to recover in 2017. At the beginning of 2017, growth was constrained by a slowdown in consumer spending due to one-off factors but this was partially offset by an acceleration in private investment. The labour market continued to remain strong during the first half of the year and the unemployment rate in June was 4.4%, only marginally higher than May's 4.3%, the lowest rate in 16 years. Consumer price inflation in June slowed to 1.7% and core inflation, also at 1.7%, was at its lowest rate since May 2015. The Federal Reserve raised the Federal Funds target range to between 1% and 1.25% in June, up from 0.75% to 1.0%. This is the second rate rise from the Federal

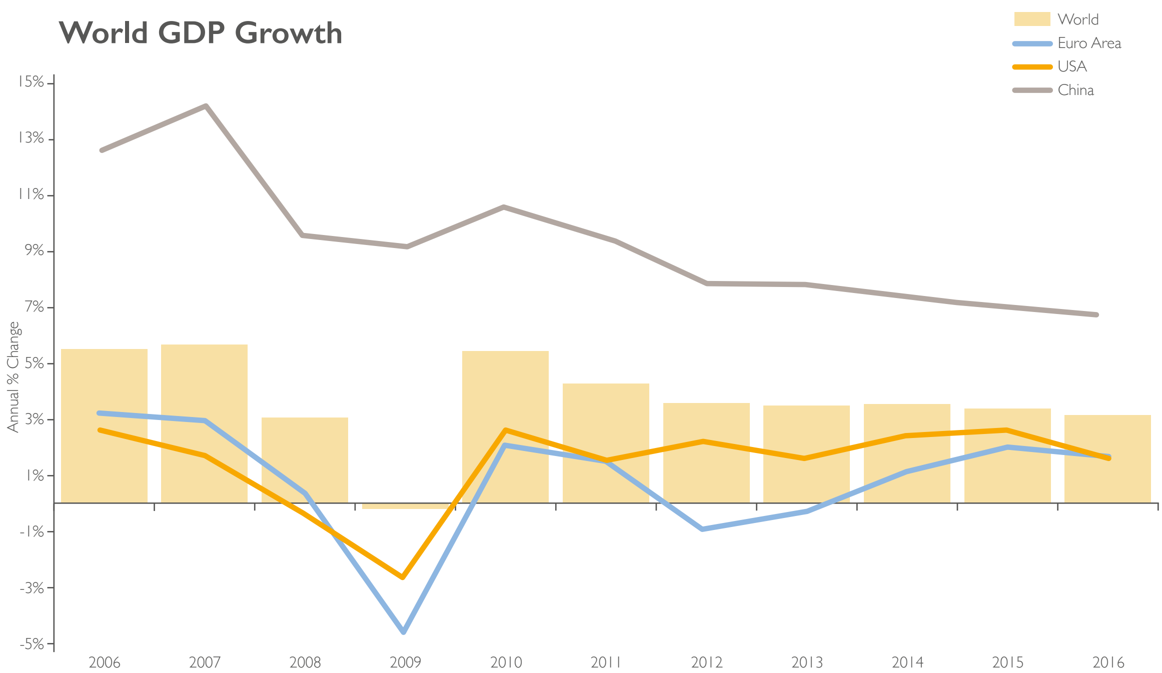
Reserve but it is only the fourth increase since the financial crisis, when the rate fell to zero. The increases highlight confidence in US growth and an expectation that monetary policy instruments need to return to a place where there is manoeuvre should it be necessary to stimulate growth in the future. GDP growth of 2.1% is forecast for the US in 2017 and further growth of 2.2% is expected in 2018.

After a recovery in **Euro Area** GDP in 2015 of 2.0% and 1.8% in 2016, economic activity in the Euro Area is forecast to grow by 1.7% in 2017 and a further 1.5% in 2018. Growth was robust in 2016 and continued at a sustained pace during the first half of 2017. Manufacturing activity and exports of goods and services in 2016 and the first half of 2017 have improved due to a strengthening of global trade and investment. The unemployment rate fell throughout 2016 and the first half of 2017 to reach 9.3% in May 2017, almost 3.0 percentage points below its 2013 post-crisis peak. However, the unemployment rate remains a concern as it is still considerably higher than long-term structural rates. CPI inflation rates slowed to only 1.3% in June 2017. Core inflation rates and inflation rate expectations continue to remain below the European Central Bank (ECB) target rates and, as a consequence, further monetary policy stimuli from the Bank may be used.

ECB monetary policy, including unconventional measures such as Quantitative Easing, have boosted credit growth, increased spending and investment, raised inflation expectations and helped to ensure a recovery in the Euro Area since 2014. In the absence of a substantial change in fiscal policy, which is expected to remain broadly neutral, monetary measures are expected to continue to support a recovery in private investment, exports and economic activity overall despite a slowdown in consumer spending in 2017 and 2018. However, long-term concerns regarding bailouts in Greece, in addition to the banking and financial system in Italy, persist.

In Asia, the outlook for economic activity in **Japan** is bright, due to a recovery in exports, particularly in I.T. and capital goods. Business investment has accelerated in line with improved exports prospects and capital investment has been supported by rising corporate profitability, in addition to capital projects in advance of

World GDP Growth



Source: IMF

the 2020 Tokyo Olympics. However, domestic consumption continues to be subdued despite a marginal improvement and wage inflation has been poor despite low unemployment rates. The Bank of Japan has continued monetary stimulus, targeting long-term interest rates at around zero, and government fiscal stimulus, equivalent to 1.2% of GDP, has also supported growth recently. It is also expected to continue to support growth, which is forecast to accelerate to 1.5% in 2017. However, without further monetary and fiscal stimulus, it is likely that growth in economic activity will slow to 1.0% in 2018.

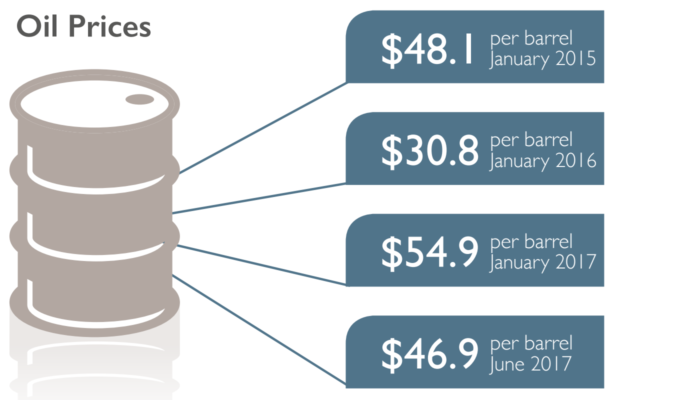
In **India**, GDP growth rose by only 6.8% during 2016 in part due to temporary disruptions associated with the withdrawal and replacement of large-denomination currency notes at short notice. Recent data indicate a rebound in 2017 as cash shortages have eased and exports growth is accelerating. In addition, an increase in government spending in India, including on capital formation, has partially offset soft private investment. While manufacturing purchasing managers' indexes have generally picked up, industrial production has been mixed. India's growth is forecast to increase to 7.2% in 2017 and accelerate to 7.5% in 2018 as domestic demand is expected to remain strong, supported by ongoing policy reforms that are conducive to increasing private investment.

In **China**, GDP expanded 6.7% in 2016, as expected. Domestic rebalancing from investment to consumption slowed towards the end of 2016, as infrastructure spending by state-owned companies and the public sector accelerated, more than offsetting a sharp slowdown in private sector investment. However, rebalancing from industry to services and from exports to domestic sources of demand continued. The current account surplus narrowed to 1.8% of GDP in 2016, reflecting stronger import demand and declining exports.

Steady growth continued in early 2017. Easing state-driven investment growth was offset by strengthening exports against the backdrop of robust consumption growth and continuing weak private sector investment. Despite monetary tightening, credit growth still outpaces nominal GDP growth. A housing market correction in the largest cities appears to be unfolding alongside stable growth of both sales and prices in smaller cities. While consumer price inflation remains below target, producer price inflation has increased sharply, reflecting higher commodity prices and reduced overcapacity in heavy industry. Exchange rate pressures have eased from late 2016, partly as a result of a tightening of capital controls and measures to encourage inward foreign direct investment, which are also helping maintain reserves at around US$3.0 trillion.

Growth is projected to slow to 6.5% in 2017. This envisages strengthening trade this year, with a moderate recovery of imports, amid robust domestic demand, and a gradual acceleration of exports, reflecting firming external demand. Intermittent fiscal support will continue to be used to calibrate growth as monetary policy tightens further. Growth is expected to moderate to 6.3% on average in 2018-19, as simulative policies are slowly withdrawn. Key downside risks to the outlook stem from financial sector vulnerabilities and increased protectionist policies in advanced economies.

The price of Brent crude oil has fallen by 60.6% in the past five years and averaged $44.05 per barrel in 2016, reaching a nadir of only $30.80 in January 2016. However, oil prices increased by around 20.0% between August 2016 and February 2017, to $55.49. This was partly due to stronger economic activity and future prospects of further rises in global demand but primarily as a result of an agreement by OPEC and other producers to cut oil production. The IMF forecast that oil prices will remain at around the $55.00 mark over the next 18 months. However, given varying issues of countries within OPEC, its declining influence on global oil supply and the continual increase of unconventional oil production from shale, it is questionable whether the agreement will be sustained into 2018 and even, if so, whether it will be extended into 2019. As a consequence, it is likely that the Brent crude oil price will dip below $50.00 once again.



Source: World Bank

UK Economy

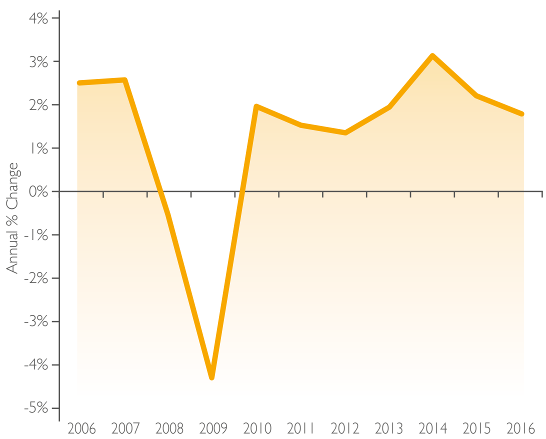
Over a year on from the EU referendum and five months after triggering Article 50, giving the UK two years to leave the EU, there is still no clarity on what UK government would like to achieve in its negotiations with the EU.

Furthermore, following the snap General Election in June, the UK government only has a small majority in parliament and this will increase uncertainty regarding government polices domestically and the EU negotiations. In turn, these additional increased uncertainties are likely to have an adverse impact on business investment, particularly in areas that require high investment up front for a long-term rate of return such as a major new UK manufacturing investment.

GDP

The UK economy reported an expansion of 1.8% in 2016, 0.4 percentage points lower than the 2.2% growth in 2015. Economic activity surpassed its pre-crisis levels in 2014 and the UK was reported to have had the fastest growth rate in the G7 during the final quarter of the year with GDP rising by 0.7% during the quarter. However, more recently, GDP growth in the first quarter of 2017 slowed to only 0.2%, the slowest rate of growth in the G7 largest economies, as consumer facing industries such as retail and accommodation fell whilst household spending slowed. In addition, the ONS's first estimate of UK GDP in Q2 indicated that quarter-on-quarter growth was only 0.3%, driven by retail spending. The CPA's GDP forecast for 2017 remains at 1.4%, the same as in its Winter and Spring forecasts as rising inflation and falling real wages progress as initially forecast six months ago. In 2018, GDP growth is only anticipated to reach 1.2% as economic activity suffers from a further slowdown in consumer spending and uncertainty regarding political and economic prospects negatively impacts on business investment.

UK GDP Growth



Source: ONS

Economic Indicators

	2015	2016	2017	2018	2019
	Actual	Actual	Estimate	Forecast	Projection
GDP	2.2%	1.8%	1.4%	1.2%	1.5%
Fixed Investment	3.4%	0.5%	-0.5%	1.4%	2.0%
Household Consumption	2.5%	2.8%	1.0%	0.5%	1.0%
Real Household Disposable Income	3.6%	1.5%	0.0%	0.5%	1.2%
Government Consumption	1.3%	0.8%	0.5%	0.4%	0.3%
CPI Inflation	0.0%	0.7%	3.0%	2.5%	2.1%
RPI Inflation	1.0%	1.8%	3.5%	3.0%	2.7%
Bank Base Rates - June	0.50%	0.50%	0.25%	0.25%	0.25%
Bank Base Rates - December	0.50%	0.25%	0.25%	0.25%	0.25%

Source: ONS, Construction Products Association

Expenditure, Income and Savings

Household spending continued to hold up in the second half of 2016 despite the referendum adversely impacting on consumer sentiment. However, rising inflation and sharply slowing real wage growth meant that household spending rose by only 0.4% in the first quarter of 2017. Furthermore, real wages fell in April by 0.9% and by 0.7% in the three months to May. In addition, real household incomes have fallen for the last three quarters, the first time this has occurred in over 40 years. With subdued nominal wage growth and inflation set to peak in the final quarter of the year, a sustained period of real wage falls is expected and this is likely to weigh upon spending during 2017 and, particularly, 2018 as households take time to adjust spending plans. As a consequence, we anticipate that household consumption will rise by only 1.0% this year and 0.5% in 2018 compared with the 2.8% growth in 2016.

The variation in household savings since the financial crisis has been startling. Post-crisis, the household savings ratio reached a peak of 11.5 in 2010 Q1. The savings ratio steadily declined to 6.1% in the first quarter of 2016 but has sharply fallen since then to only 1.7% in 2017 Q1. Clearly, there is little room for manoeuvre on reducing household savings going forward, even if households felt confident enough to utilise savings to spend.

Savings Ratio

6.7% (2012 Q4)

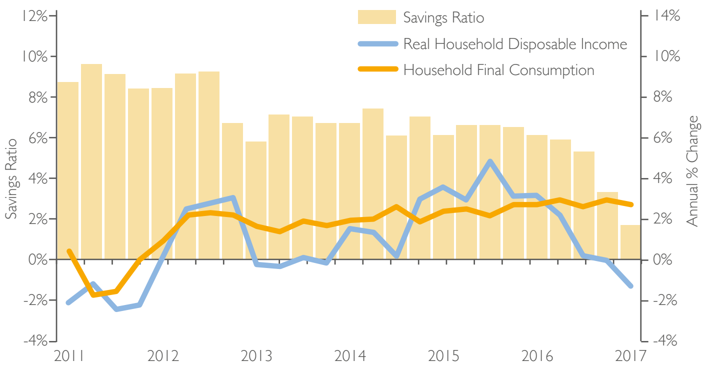
1.7% (2017 Q1)

Source: ONS

UK Labour Market

The UK labour market has performed strongly in recent years in terms of employment and unemployment but the lack of real wage growth hints at greater issues at play. The employment rate between March and May was 74.9%, the highest since comparable records began in 1971. Conversely, the unemployment rate was 4.5%, down from 4.9% a year earlier and the joint lowest since 1975. Prospects for the labour market are broadly similar to the CPA's forecasts

Income, Savings & Expenditure

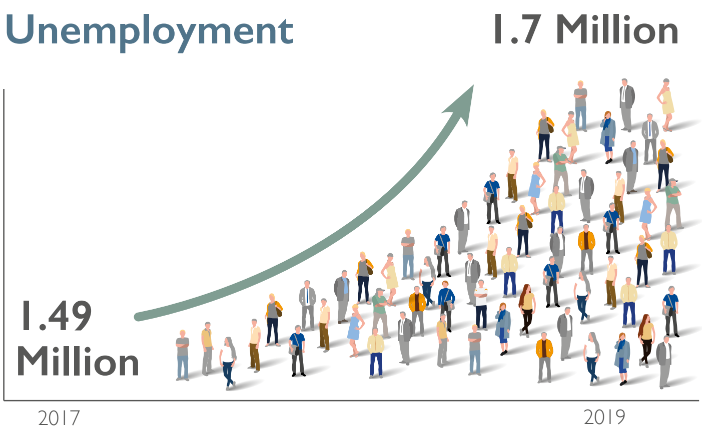


Source: ONS

from three and six months ago and a slight rise in unemployment, from historic lows, is expected as UK economic activity slows. The Association forecasts unemployment to rise from 1.49 million between March to May 2017 to 1.6 million at the end of 2018 and 1.7 million at the end of 2019.

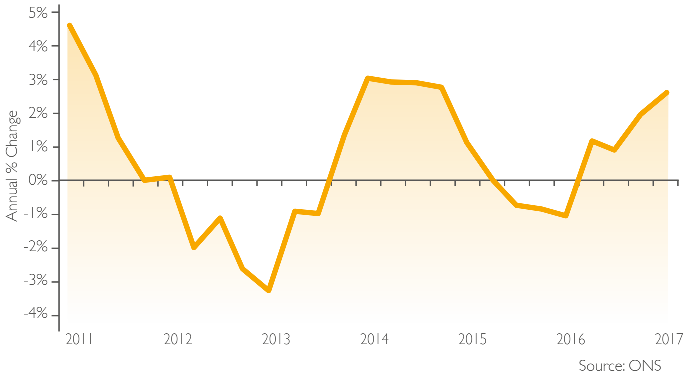
Wages across the UK economy have yet to benefit from the current strong employment rates. Average weekly earnings for regular pay (excluding bonuses) in May rose at an annual rate of only 2.3% and in the three months to May rose by only 2.0%. Given strong and rising inflation rates in 2017, this meant a fall in real regular pay (excluding bonuses) of 0.4% in May and 0.5% in the three months to May. Average weekly earnings for total pay (including bonuses) in May rose at an annual rate of only 1.8% and in the three months to May rose by only 1.8%. Given strong and rising inflation rates in 2017, this meant a fall in real total pay (including bonuses) of 0.9% in May and 0.7% in the three months to May.

Unemployment



Source: Construction Products Association

Manufacturing Output



Manufacturing

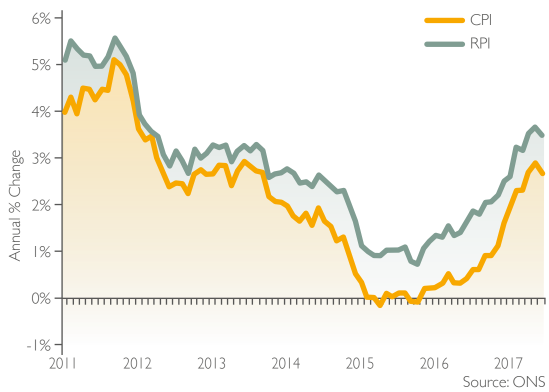
Despite growth each year in industrial production and manufacturing since the 2012 nadir, output in the first quarter of 2017 remained below the pre-crisis peak of 2008 Q1. Industrial production output in 2017 Q1 was 7.5% below pre-crisis peak and manufacturing output in 2017 Q1 was 3.8% lower than pre-crisis peak. More recently, in the 3 months to May 2017, industrial production decreased by 1.2% compared with the 3 months to February 2017, primarily due to a fall of 1.1% in manufacturing and 3.5% in energy supply. In turn, the largest contribution to the fall in manufacturing came from the pharmaceuticals sector and the fall in energy supply was due largely to warmer temperatures. Despite improving prospects in the Euro Area and Sterling depreciations vs the Euro during the second half of 2016, there is yet to be any significant improvement in prospects for manufacturers, who are facing the impacts of rising import costs following the aforementioned depreciations in Sterling. The contribution of net trade to GDP growth turned negative in 2017 Q1 but this was distorted by one-offs and external factors. It is expected that the lower exchange rate will provide a slight boost to UK economic growth but it is more likely that this will occur in 2018 rather than this year.

***CPI inflation set to rise** above*
3.0% *in the second half of 2017*

Inflation

As recently as the Bank of England's Inflation Report in May, the Bank highlighted that it expected CPI inflation to peak at 2.8% in 2017 Q4. In addition, the CBI's June forecast expected inflation to peak at around 3.0%. May's inflation rate was already 2.9%, suggesting that many of the macroeconomic forecasters have underestimated inflation following the depreciations in Sterling and, consequently, have overestimated GDP growth. Conversely, June's CPI inflation slowed to 2.6%, illustrating the volatility in the data currently. The CPA continues with its forecasts for CPI in line with its Winter and Spring forecasts of an average of 3.0% over 2017, peaking at around 3.5% in the second half of the year. The direct impacts of the fall in the value of Sterling have been felt through higher imported product costs and the lagged impacts of higher imported materials costs used in UK manufacturing are currently being felt with the addition of lagged rises in energy and fuel costs that are often hedged against by UK manufacturers.

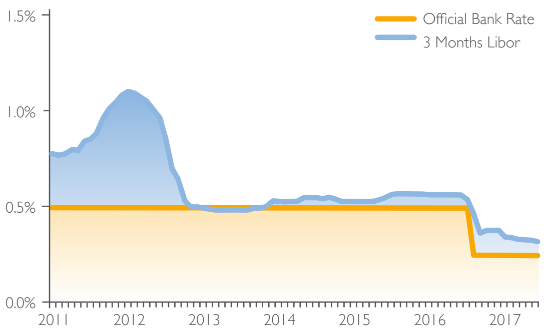
Inflation Rates



Monetary Policy

July 2017 marked the 10 year anniversary since the Bank of England last raised interest rates. Given concerns regarding UK economic activity, falling real wages and house prices and uncertainty politically, it would be expected that there would be little chance of interest rate rises in the near-term and, until recently, this was the case. However, more recently, the members of the Bank of England's Monetary Policy Committee have been sending mixed signals regarding the possibility of a rise in the Bank's base rate. Indeed at their June meeting, three members of the Committee voted for a rise in interest rates. Markets still anticipate the Bank's base rate remaining at 0.25% over the next two years but many macroeconomic forecasters anticipate a 0.25 percentage point rise during both 2018 and 2019. However, given an anticipated slowdown in UK economic activity, the priority is likely to be on ensuring UK economic growth rather than constraining inflation.

Base Rate & Interbank Lending Rate



Source: Bank of England

Public Finances

Public sector net borrowing (excluding public sector banks) decreased by £0.1 billion to £16.1 billion in the current financial year-to-date (April 2017 to May 2017), compared with the same period in 2016; this is the lowest year-to-date net borrowing since 2008. The Office for Budget Responsibility (OBR) forecast that public sector net borrowing (excluding public sector banks) will be £58.3 billion during the financial year ending March 2018. Public sector net debt (excluding public sector banks) was £1,737.3 billion at the end of May 2017, equivalent to 86.5% of gross domestic product (GDP); an increase of £121.6 billion (or 2.9 percentage points as a ratio of GDP) on May 2016.

The squeeze on welfare spending, along with other cuts to current spending and tax rises, means that fiscal policy will exert a sizeable drag on growth over the next few years. Forecasts from the Office for Budget Responsibility imply that fiscal tightening will exert a drag of about 0.6% a year on GDP growth between 2017/18 and 2019/20. However, given that 'austerity fatigue' is thought to have been one of the key causes of the Conservative party's disappointing general election performance, the government may decide to loosen the purse strings a little in the upcoming Autumn Budget.

Downside Risks:

- Economic activity slows considerably in the second half of 2017
- Unemployment rises due to the fall in economic activity
- Real wages fall due to rising inflation combined with constrained nominal wage growth due to rising unemployment
- The Bank of England raises the base rate in an attempt to constrain inflation
- Lending to businesses is weak despite Bank measures to increase liquidity and lending due to lack of demand

If UK economic activity slows more than expected during the second half of 2017, this will impact upon consumer and business confidence. This may lead to falls in consumer spending and business investment and, in turn, would slow economic activity further leading to a rise in unemployment. The Bank of England's rise in the interest rate may have a significant adverse impact on consumer spending and UK economic activity. Further falls in Sterling may impact on import prices prior to any lagged benefit from export growth and therefore increase CPI inflation further at a time when wage growth is likely to be constrained by the rise in unemployment.

Upside Risks:

- UK economic activity rises significantly in the second half of 2017
- Unemployment continues to be subdued
- The depreciation in Sterling leads to a persistent increase in UK net trade and global inflows of finance into the UK
- Growth in nominal wages and CPI inflation peaking at around 3.0% leads to a return to real wage growth
- Measures by the Bank of England to boost lending and liquidity help to ensure that businesses and consumers have finance available
- Consumer spending growth in 2017 despite rising inflation

If UK economic activity returns to growth at rates of 0.5% per quarter or above, the unemployment rate would be anticipated to remain at historic lows. The UK economy would be likely to benefit from exports and global inflows of investment in prime residential and commercial properties, especially in Central London. UK economic growth would be expected to ensure real wage growth despite the rise in inflation. In addition, growth in the wider UK economy and real wage growth would be expected to lead to rises in consumer expenditure. Further increases in capital investment could boost construction, manufacturing and professional services activity.

Private Housing

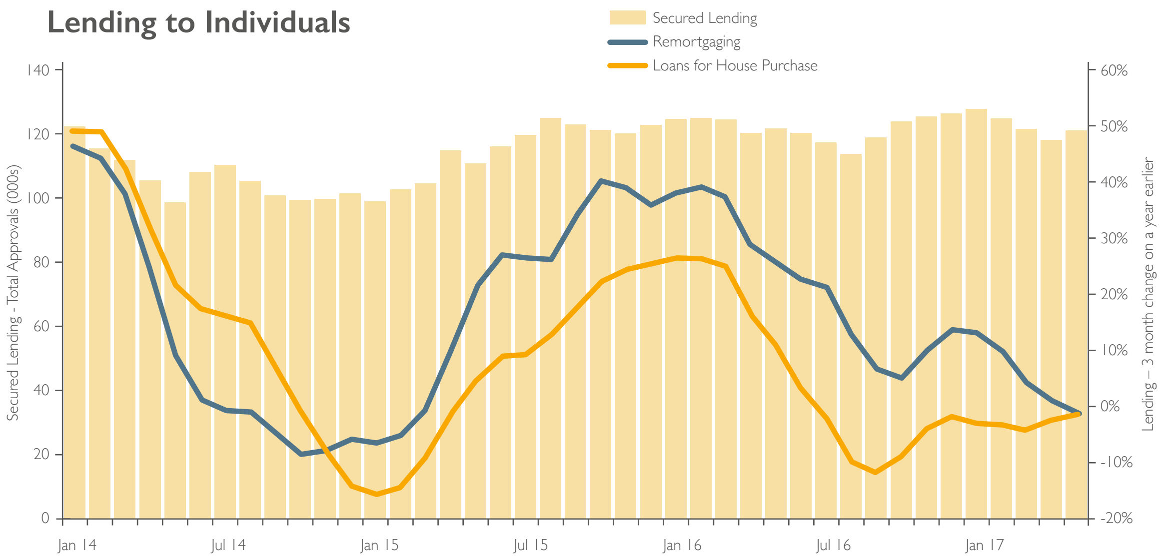
The outlook for private house building is dependent on how demand for house purchases is affected by the fall in real incomes as inflation accelerates and peaks towards the end of 2017.

Key indicators of housing market performance, such as mortgage approvals and property transactions have already weakened over the last 6-12 months, in spite of record-low mortgage interest rates. First-time buyer demand remains supported, however, and housing demand in general may be skewed towards new build properties due to the Help to Buy equity loan, which is planned to be in operation until at least 2020/21, or until the £9.7 billion funding pot runs out. Private housing starts are anticipated to rise 3.0% in 2017 and a further 2.0% in 2018 and 2019, supporting growth in output of 3.0% per year over the forecast period.

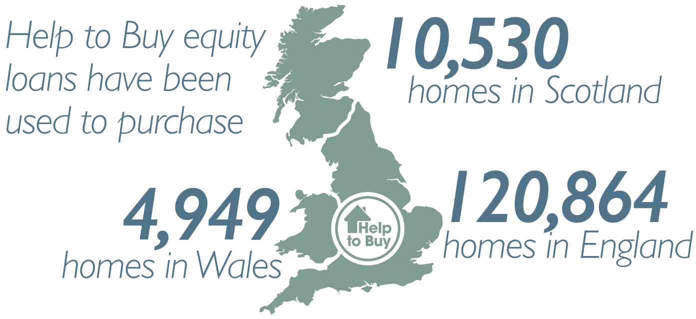
Drivers

The Help to Buy equity loan scheme, implemented in April 2013 allows a potential homeowner to purchase a new build property with only a 5% deposit, and a government loan of up to 20% of the property's value, reducing the required mortgage to 75% loan-to-value.

Lending to Individuals



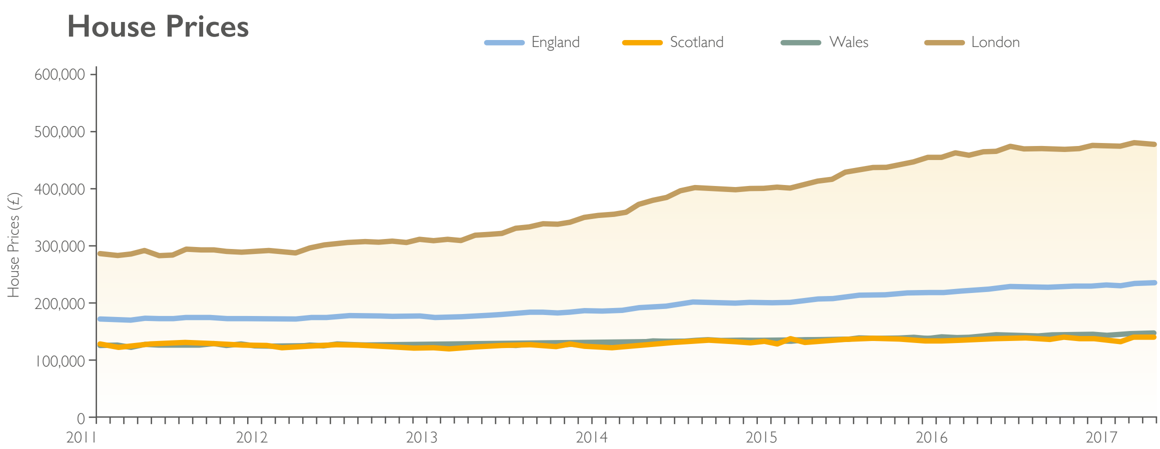
Source: Bank of England



Between its introduction and March 2017, Help to Buy equity loans have been used to purchase 120,864 homes in England. This equates to only 2.9% of total property transactions over the same period, but 28.9% of new build completions. In the most recent four-quarter period (2016 Q2 to 2017 Q1), this proportion has risen to 32.9% and is reported even higher for individual house builders. 81% of sales have been to first-time buyers, and greatest uptake has been in regions outside of London. Wiltshire, Central Bedfordshire, Leeds, Wakefield and County Durham are the top five local authorities for Help to Buy transactions. The counterpart schemes in Scotland and Wales have accounted for a similar proportion of transactions and new build completions. Despite the strong uptake nationwide, it is difficult to ascertain the substitution impact of how many of these purchases would still have occurred had the policy not been in place, however. The scheme is set to continue until the end of financial year 2020/21, but given that this is the period currently entering house builders' strategic plans, the industry is looking to government for confirmation of whether it will be continued under the same conditions, tapered or restricted to first-time buyers, or ended completely.

According to the Royal Institution of Chartered Surveyors (RICS), estate agents and mainstream lenders there are low levels of pre-owned properties for sale. This may have implications for new build activity, given that on average, new build completions account for 12% of total property transactions. In the first half of 2017, UK property transactions were 6.1% lower than the same period of 2016. The CML forecasts that after two years of remaining flat in 2015 and 2016, property transactions will fall in 2017 and 2018, to 1.17 million and 1.16 million, respectively. However, the Help to Buy equity loan may be skewing demand towards new build housing and weakening this relationship.

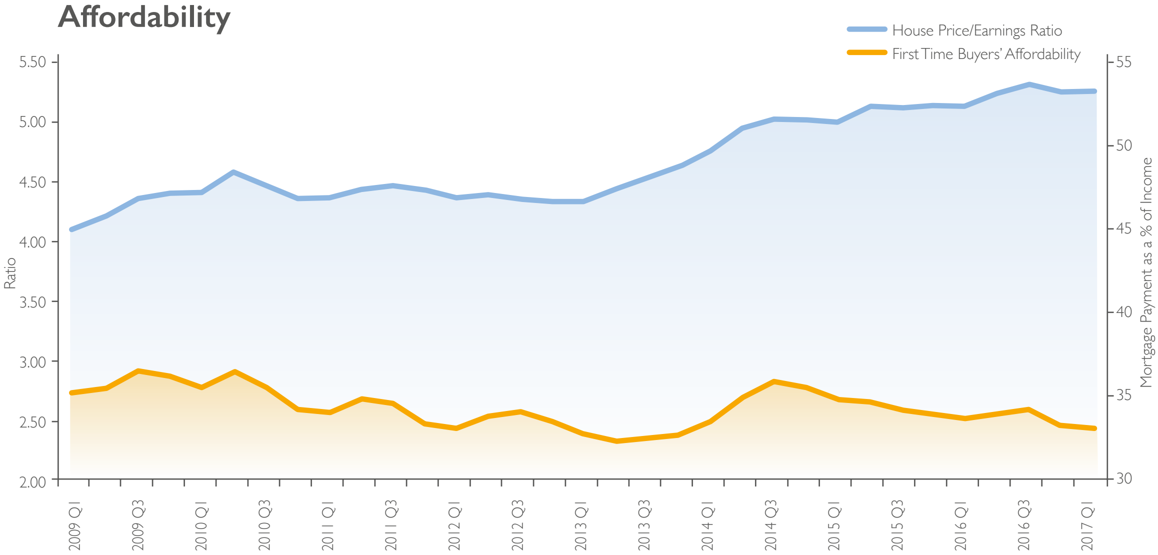
Along with Help to Buy underpinning homebuyer demand for new build properties, house builder confidence has been maintained by growth in house prices. In May 2017, the average UK house price was £221,000, 16.1% above the pre-recession peak in 2007. Price rises have been regionally skewed, however, with the average house price in Scotland (£143,000) 1.7% below pre-recession peak and house prices in Wales (£150,000) also still below highs recorded in 2007, by 0.3%.



Source: Land Registry/ONS

Average house prices are highest in London and the South East, which has a clear impact on affordability, especially for first-time buyers' deposits and monthly mortgage repayments. According to Nationwide, house prices in the capital in 2017 Q2 were 10.2 times average gross earnings, compared to a ratio of 5.3 for the whole of the UK. In addition to government schemes to support buyer demand, improved access to higher loan-to-value mortgages, longer mortgage terms and family assistance with deposits are all factors that have pushed up the number of first-time

Affordability

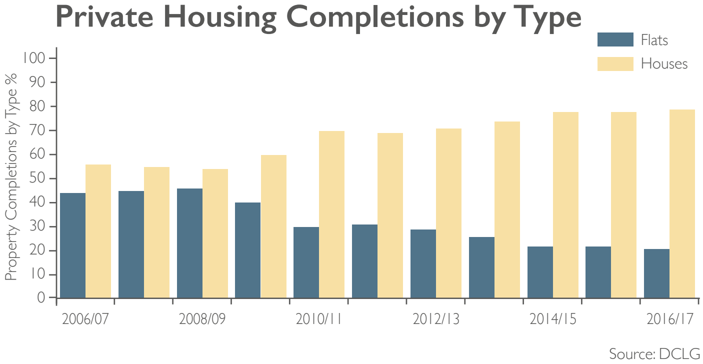


Source: Nationwide

buyers to a record high, in spite of rising price pressures. According to the Council of Mortgage Lenders (CML), 57% of first-time buyers took out a mortgage with a repayment term of more than 25 years in 2016, increasing from 36% in 2006. In addition, the English Housing Survey from the ONS showed that in 2015/16, a gift or loan from family was used to fund deposits for 29.3% of first-time buyers, rising from 27.0% in 2014/15, 22.4% in 2004/05 and 20.5% in 1994/95. 6.8% of first-time buyer deposits were also funded by inheritance in 2015/16, compared to 5.5% two decades earlier.

In April 2016, the government introduced a 3.0% stamp duty surcharge on purchases of additional properties, which led to a spike in mortgage lending and property transactions in 2016 Q1. Mortgage lending volumes have remained muted since, and in January to May 2017, the number of mortgage approvals was 4.0% lower than the same period of 2016. Furthermore, over the last six months, approvals volumes have averaged 67,000 per month, which is lower than the 71,000 per month forecast by the Bank of England in its Inflation Report in May. UK property transactions in the first six months of 2017 were 6.1% lower year-on-year and at an average of 101,000 per month, are similar to the levels of 2014, 2015 and 2016. CML data on mortgage advances confirms that first-time buyer house purchases remain the key driver of housing market activity, with subdued volumes in the buy-to-let segment of the market. As well as the higher rate of stamp duty, which adds £6,600 to the cost of purchasing at the average UK house price, changes to mortgage interest tax relief from April and tighter lending

Private Housing Completions by Type



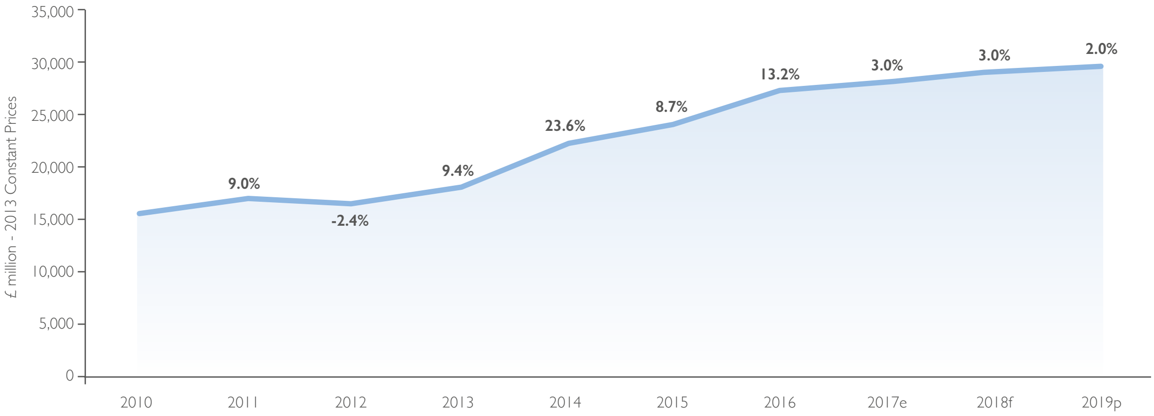
conditions on buy-to-let mortgages are viewed as keeping demand subdued and the CML now forecasts a fall in buy-to-let lending in 2017 and 2018.

Annual house price growth has slowed more recently in 2017, according to indices from the ONS, Nationwide and Halifax, most likely due to this drop in buy-to-let demand. In the first five months of 2017, UK house prices according to the ONS have risen by an average of 4.8%, slowing from an average of 7.9% in the same period of 2016. Whilst affordability issues and a fall in real wages would be expected to exert further downward pressure on house prices, a reported shortage of properties on the secondary market and starts and completions still below pre-recession levels, will keep some upward pressure on prices. The Office for Budget Responsibility (OBR) forecasts from March anticipated house price growth of 6.5% in 2017, 4.0% in 2018 and 4.4% in 2019. In HM Treasury's survey of independent economic forecasters from July, the average forecast was for growth of 2.3% in 2017 Q4 and 1.5% in 2018 Q4.

With criticism that government measures have focused on stimulating demand, in an attempt to address the concerns regarding housing supply, the government published its 106-page Housing White Paper in February 2017, which outlined its long-term proposals for supply-side reform. Proposals included local authorities assigning a five-year land supply for housing development, based upon local needs assessments, encouraging faster build rates by shortening the timescales for developers to implement a planning permission from the default period of three years to two years, increases in planning fees, encouraging institutional investors into the Build to Rent market and a consultation over reform of Section 106 and the Community Infrastructure Levy. However, whilst these changes are broadly seen as positive, they are long-term in nature and largely subject to consultation before being finalised and implemented, they have not been factored in to the forecast.

Previously-announced government measures such as 17 new garden settlements totalling 48,000 homes and the Starter Homes initiative first announced in 2015 have seen little progress.

Private Housing Output



Source: ONS, Construction Products Association

For the former, in January, the government committed £6 million to support the delivery of 14 of the garden villages and £1.4 million for 3 garden towns, which suggests they will provide little growth near-term. With regards to the latter, after approval in the Housing and Planning Bill in May 2016, the original target of 200,000 Starter Homes (new build homes sold to buyers aged between 23 and 40 at a 20% market discount) appears to have been dropped. 30 local authorities were awarded a share of the £1.2 billion Starter Homes Land Fund in January 2017, which supports development on brownfield land. In July, bidding was opened for local authorities to bid for a share of the £2.3 billion Housing Infrastructure Fund, forming part of the £23 billion National Productivity Investment Fund announced in the 2016 Autumn Statement. The funding is to be used for physical infrastructure projects such as the building of roads, bridges, energy networks and other utilities on underused brownfield land. Whilst both of these schemes may help unlock brownfield development on sites that would not otherwise be used for housing, house builders and mortgage lenders have expressed concerns over the Starter Homes scheme, particularly regarding market valuations for mortgages and competition with other schemes such as the Help to Buy equity loan.

Starts

Private housing starts in Great Britain have increased each year since 2013, and in 2016, reached 146,835 units. DCLG's latest data for housing starts in 2017 Q1 cover England only and show that starts were 3.5% higher compared to 2016 Q4 and 22.2% higher than a year ago.

Private Housing Starts and Completions Great Britain

		2015	2016	2017	2018	2019
		Actual	Actual	Estimate	Forecast	Projection
Starts		138,278	146,835	151,240	154,265	157,350
		6.0%	6.2%	3.0%	2.0%	2.0%
Completions		128,893	132,809	143,434	147,737	149,214
		16.7%	3.0%	8.0%	3.0%	1.0%
Output (£m)		24,053	27,218	28,035	28,876	29,453
		8.7%	13.2%	3.0%	3.0%	2.0%

Source: ONS, Construction Products Association

At 36,470 units, this was the highest quarterly level since 2007 Q4, but was still 15.4% lower than the peak of 43,110 in 2007 Q1. The NHBC reported that in May 2017, registrations for private house building were 3.6% higher for the year to date. Private completions in England rose 12.0% quarter-on-quarter in Q1 and rose 22.4% from a year earlier to a post-recession high of 33,070 units. Private housing output in Great Britain, reflecting building activity on the ground, reached a record high in 2017 Q1, but fell 1.4% year-on-year in April.

Orders

Private new housing new orders in the four quarters to 2017 Q1 were 16.1% higher than one year earlier. This would be expected to feed through into starts and output during the second half of 2017 and the first half of 2018, implying that a pipeline of house building activity exists for the next 12 months.

Forecast

With house price growth expected to continue, albeit slower than in previous years, and Help to Buy continuing to enable demand for purchase of new build properties, private housing starts would be expected to increase. The biggest moderating impact on demand will come from a fall in real wages, reducing willingness and ability to spend on high-value purchases. Since September 2016, CPI inflation has accelerated sharply from 18 months of near-zero rates, reflecting the immediate pass-through from the post-referendum depreciation in the Sterling. In the labour market, despite continued economic growth and the unemployment rate falling as low as 4.5% in the three months to May, wage growth has averaged 2.4% over the last 18 months. Inflation began outpacing wage growth in February and with consumers feeling like they have less money to spend, are likely to restrict large purchases such as houses, cars and home improvements. Inflation is expected to peak at the end of 2017 (see Economy), which suggests the largest risks to demand lie in 2018. Demand for new build remains more supported, however, due to the Help to Buy equity loan scheme in place throughout the forecast period. Based on this sustaining demand, particularly from first-time buyers, starts are forecast to rise 3.0% in 2017, followed by a 2.0% increase in both 2018 and 2019.

Downside Risks:

- Sustained falls in real wages deter Help to Buy house purchases
- Full-year contraction in mortgage lending and property transactions in 2017
- The Bank of England raises interest rates
- House prices fall in 2017

Real wages have declined since February and a large deterioration in consumer confidence would reduce appetite for borrowing and big-ticket purchases. Consumer confidence would be worsened if the Bank of England raises interest rates, given that recent Monetary Policy Committee meetings have signalled a more hawkish approach to monetary policy as inflationary pressures increase. Furthermore, in light of changes to stamp duty rates and tax relief changes, an extended decline in demand from buy-to-let investors may materialise. This weakness in overall mortgage lending and property transactions is likely to be accompanied by a significant slowdown or fall in house price growth in late 2017, particularly if interest rates are raised in the Autumn. A decrease in house building starts would then be expected in 2018. Private housing starts may fall away relatively quickly in response to any deterioration in the general housing market but output and completions would be expected to hold up initially as house builders destock, but fall from late-2018. In the case of all downside risks materialising, the performance of private house building will vary considerably from the central forecast. Under these conditions, starts would be expected to rise 1.0% in 2017, followed by falls of 5.0% in 2018 and 4.0% in 2019.

Upside Risks:

- UK economic activity avoids marked slowdown
- Consumer confidence maintained in line with economic growth and a rise in real wages
- Mortgage lending and property transactions rise in 2017 and 2018
- House price growth continues at current rates in 2017

If economic growth and demand for home ownership remain strong, despite a backdrop of uncertainty and rising inflation, then mortgage lending, property transactions and house prices would be expected to increase during 2017. This is especially the case given reported reductions in the supply of properties on the market, Bank of England policy easing that took place in 2016 and the potential for the early phases of construction on the starter homes and garden cities schemes beginning in 2017. This would result in growth in starts of 5.0% in each year from 2017 to 2019.

Private Housing RM&I

Private housing repair, maintenance and improvement (rm&i) covers a wide variety of construction work on existing residential buildings; from basic repairs on boilers to energy-efficient retrofitting (under both homeowner-funded work and government schemes on private homes) in addition to building an extension or a loft conversion.

Private Housing RM&I

	Output	
Year	£m 2013 constant prices	Change on previous year
2009	14,402	-12.6%
2010	15,766	9.5%
2011	15,892	0.8%
2012	15,107	-4.9%
2013	15,456	2.3%
2014	16,724	8.2%
2015	17,065	2.0%
2016	17,972	5.3%
2017e	18,511	3.0%
2018f	18,326	-1.0%
2019p	17,960	-2.0%

Source: ONS, Construction Products Association

Activity in the sector is expected to be affected by constraints on consumer spending as inflation squeezes household incomes, a slowdown in housing market activity and a narrower focus in the government's ECO programme.

Residential Property Transactions Forecast

	Thousands	% Change
2016	1,231	0.4%
2017	1,275	3.5%
2018	1,291	1.3%
2019	1,303	0.9%
2020	1,313	0.8%
2021	1,321	0.6%

Source: OBR

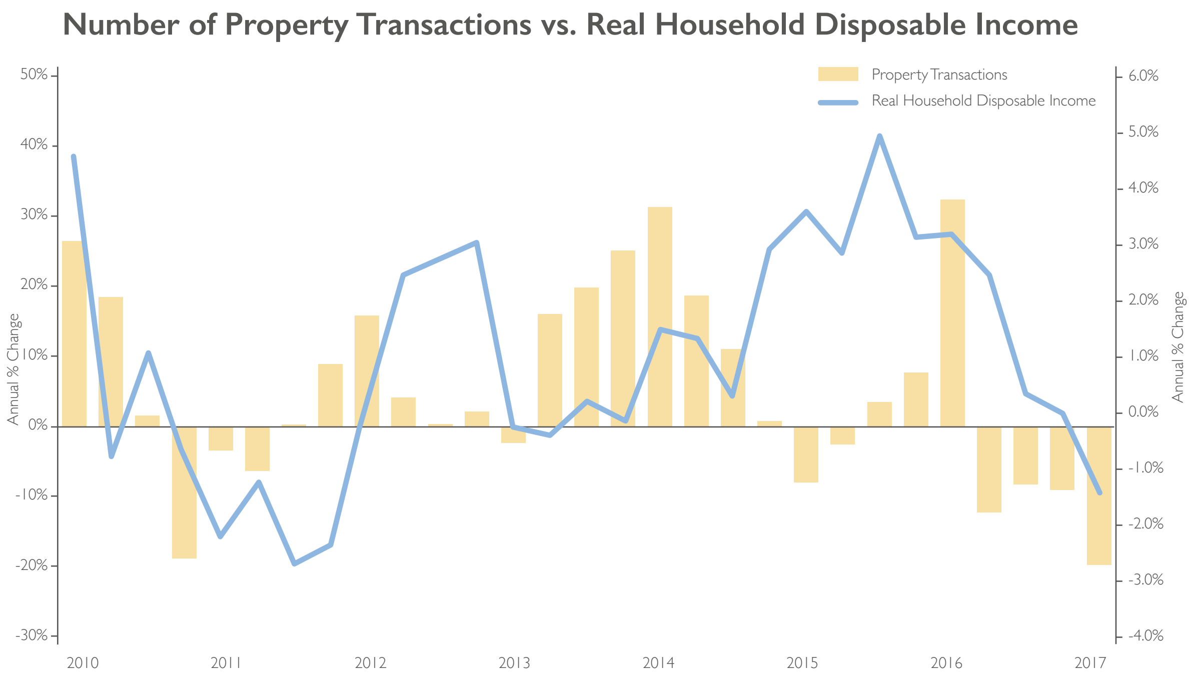
Drivers

Core activity in the private housing rm&i sector is basic repairs and maintenance, which cannot be delayed indefinitely. As a result, the variance in the sector is driven by the improvements part of private housing rm&i.

The improvements side of rm&i is the element subject to discretionary spending decisions and according to the CPA's econometric model, is primarily driven by property transactions, consumer confidence, savings, housing wealth and housing equity.

Property transactions are a key determinant of activity in the sector because improvements to an existing property, as opposed to new build, tend to be made with a typical lag of 6-9 months after purchase. Property transactions during 2016 were distorted by the introduction of a higher rate of stamp duty in April for the purchase of properties additional to a main residence. As a result, property transactions in 2016 Q1 rose 19.0% compared to the previous quarter and were 32.5% higher in annual terms as purchases were brought forward to avoid the increase in transaction costs. Consequently, the number of property transactions in 2016 Q2 decreased 30.4% over the quarter. Transaction volumes from 2016 Q3 onwards have increased, but remain subdued compared to 2014 and 2015. Reflecting the rm&i work on properties purchased in early 2016, output from the sector recorded growth of 7.8% in 2016 Q4 and 10.1% in 2017 Q1, above the 4.6% average growth rate in the previous four quarters. The recent weakness in property transactions would be expected to filter through into a slowdown in output growth throughout the second half of 2017.

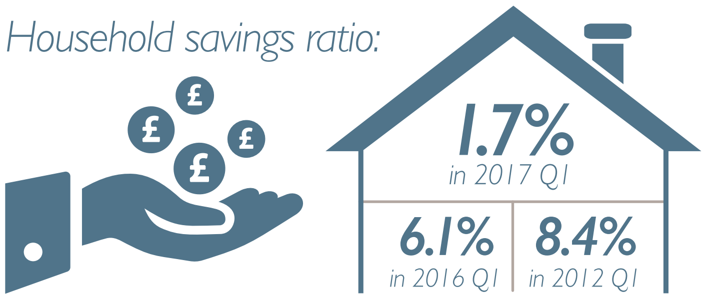
In addition to housing market activity, household spending on improvements is dependent upon consumer confidence. This, in turn, is dependent upon expectations regarding the general economic environment, in addition to employment and real wages. The unemployment



Source: HMRC, ONS

rate has been on a steady downward trend since its recent peak of 8.4% in 2011 Q4 and in 2017 Q1, was at 4.6%, the lowest rate since 1975. In addition, the Q1 employment rate of 74.8% was a record high. This improvement in the labour market has been accompanied by moderate wage growth. In addition, between January 2015 and August 2016, a backdrop of zero, or near-zero, inflation boosted confidence as consumers felt the full effects of nominal wage increases. However, the Sterling depreciation after the EU referendum led to a sharp acceleration in inflation from September 2016 and since February 2017, inflation has outpaced wage growth. This fall in real wages means that consumers are likely to cut spending, particularly on big-ticket items.

Retail sales data from the ONS showed that in May, falls in sales volumes were largest in non-food and household goods stores. The SMMT's data on new private car registrations, a key indicator of big-ticket purchases, also showed a decline for the year to date in May. The continued decline in real wages as inflation is set to peak in late 2017 (see Economy), coupled with uncertainty over the economic outlook as Brexit negotiations commence, is likely to be the largest factor determining consumer confidence over the next 12-18 months.



Savings and housing equity withdrawal are important enablers of private housing rm&i activity as key sources of finance. Post-financial crisis and recession in 2008 and 2009, the household savings ratio increased from 4.3% in 2008 Q1 to a peak of 11.5% in 2010 Q1 owing to households' increased risk aversion. Since then, the savings ratio has fallen steadily, to an average of 5.2% in 2016, as savings have been used to fund increased consumer spending. The combination of falling real wages and a savings ratio now at a post-recession low will act as a drag on households' ability to finance home improvements work.

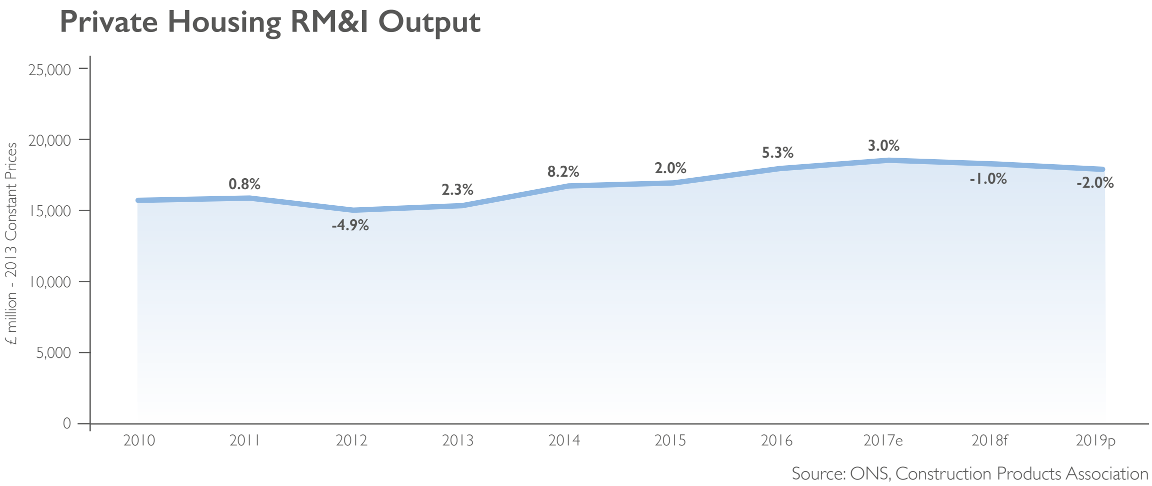
Historically, housing equity withdrawal, finance taken out of the property for discretionary spending, has also been a key funding stream for private housing rm&i expenditure. However, since 2008 Q2, homeowners have been paying equity back into their homes, reflecting both an awareness of debt after the financial crisis and record-low interest rates allowing mortgage overpayments. In 2016, housing equity injections averaged £10 billion per quarter and suggests that even with national house prices above pre-recession peak, appetite for withdrawing housing equity is now considerably more limited as a source of funding for rm&i work.

Despite weakness in property transactions and associated improvements work post-purchase, reported low volumes of second-hand properties for sale suggest that non-movers could drive activity over the forecast period. Homeowners may opt to extend or improve current properties instead of moving, particularly those who have not gained enough equity to move up the housing ladder or, conversely, homeowners who have benefited from long-term rises in housing wealth and do not wish to downsize.

Government schemes for energy-efficient retrofit work under the Energy Company Obligation (ECO) and the Green Deal (cancelled in July 2015) provided an additional stream of work for the sector. Between January 2013 and March 2017, when the ECO scheme ended, 1.7 million households had measures installed under the schemes. In 2017/18, there is a one-year transition towards a four-year programme of ECO: Help to Heat, valued at around £640 million and focusing on fuel poverty. However, this is lower than the £870 million spent under ECO previously and considerably lower than the £1.3 billion per year initially spent on ECO before expenditure was cut by one-third in December 2013. Given its smaller scope, activity under the ECO: Help to Heat scheme is likely to be lower than its predecessor and particularly during the transition period. In April, its opening month, 6,339 measures were installed. This compares to 14,430 measures in the opening month of ECO in January 2013 and an average of 41,399 per month over the entirety of the scheme.

Output

Private housing rm&i output has risen 19.0% since 2012, supported by an increase in activity in the housing market, highlighted by a 32.0% rise in property transactions over the same period. In 2016, output rose 5.3% and in 2017 Q1, was 2.2% higher than in the previous quarter and 10.1% higher than a year earlier. On a four-quarter annual basis, output increased by 6.4%, reflecting higher workloads resulting from the spike in property transactions in 2016 Q1, ahead of the change to the rate of stamp duty for additional properties. For the year-to-date in May, output was 9.1% higher than a year earlier.



Forecast

The fortunes of the sector will be determined by the extent of the slowdown in the housing market, households' confidence and homeowners' ability to fund investment in improvements work in an environment of falling real wages and a low savings ratio. After strong growth in the first half of 2017, the private housing repair, maintenance and improvement sector is expected to lose momentum in the second half of 2017, with full-year growth estimated at 3.0%. This is an upgrade from the Spring forecast, which reflects strength in past data, rather than an improving outlook. Given constraints on consumer spending and lower property transactions volumes, output is forecast to fall 1.0% in 2018, followed by a decline of 2.0% in 2019.

Downside Risks:

- Consumers retrench spending quickly in response to higher inflation
- A fall in property transactions and house prices in 2017
- The full implementation of ECO: Help to Heat is delayed as has happened with previous supplier obligations

An immediate deterioration in consumer confidence due to falling real incomes or a rise in economic uncertainty could have a larger impact upon big-ticket spending as households adopt a precautionary savings stance. Whilst this is unlikely to impact on basic repairs and maintenance, it could have a large impact on refurbishment work especially in the near-term. In terms of energy-efficient retrofit work, the number of measures installed during the opening month of ECO: Help to Heat was significantly lower than under the previous scheme and could remain at low levels throughout the 2017/18 transition period and first year of the full programme in 2018/19. In this case, output would be expected to remain flat in 2017 and decline 3.0% each year in 2018 and 2019.

Upside Risks:

- Rising inflation has limited impact on consumer confidence
- Mortgage lending conditions and low interest rates enable housing demand
- Property transactions increase in 2017 and 2018
- House price inflation is matched in 2017

If UK consumer spending is unaffected by rising inflation, and property transactions, and house price growth avoid a marked slowdown, the prospects for rm&i remain positive. Whilst UK economic growth is still expected to be below the long-term trend in 2017 and 2018, rm&i activity could accelerate as rises in transactions drive an increase in property refurbishment and improvements spending. This would drive growth rates of 4.0% in 2017 and 2.0% in both 2018 and 2019.

Public Housing

Public housing starts in Great Britain declined 4.8% in 2015 and a further 4.9% in 2016, as housing associations and local authorities in England paused activity to take account of a series of changes to the Affordable Homes Programme since April 2015 and adjusted business plans to factor in the 1.0% annual cut in social rents applicable between 2016/17 and 2019/20.

Greater certainty over grant funding programmes is expected to lead to a period of renewed activity in the near-term, although a larger dependence on market-linked housing sales leaves the sector vulnerable to a deterioration in the wider housing market.

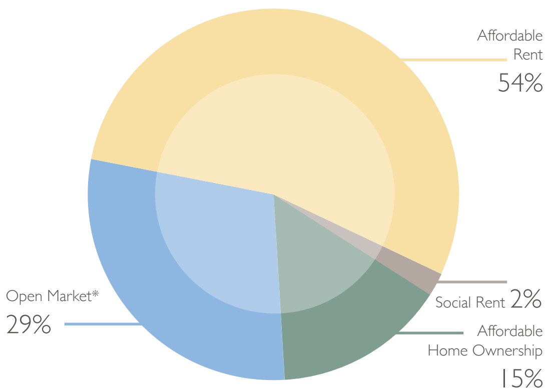
Drivers

The main driver of work in the sector is the Affordable Homes Programme (AHP). Under the £4.5 billion AHP 2011-2015, 183,538 affordable homes were completed, accounting for 86.9% of total affordable housing delivery over the period. It is important to note that this includes private sector delivery as well as housing association and local authority provision, however. Its successor, the AHP 2015-2018 focused on affordable rent and was allocated £1.0 billion in funding. However, in the July 2015 Budget, it was announced that a previous rent-setting agreement that allowed

social rent increases of 1.0% above the rate of CPI inflation over ten years, was to be replaced by an annual 1.0% rent cut for four years from April 2016. In response, housing associations and local authorities paused activity to re-plan against lower rental revenue streams, typically used as leverage for borrowing. Also in April 2016, a further £4.7 billion in funding was announced for the AHP, and the programme was extended to 2020/21 as the Shared Ownership and Affordable Homes Programme (SOAHP), with the majority of the grants (£4.1 billion) targeted at shared ownership properties. Amid concern from housing associations and credit ratings agencies that the dominance of shared ownership left the sector exposed to a potential downturn in the housing market, the Autumn Statement for 2016 allowed greater flexibility for grant funding to be used to build properties for affordable rent. During this period of funding and planning uncertainty, the number of affordable housing completions fell to a 25-year low in 2015/16. Rent-setting arrangements for beyond 2019/20 are yet to be confirmed and pose a risk to medium to long-term strategic planning for public sector house building.

So far under the SOAHP 2016-2021, £1.3 billion in grant funding has been allocated for 46,534 units and in 2016/17, there were 5,074 starts under the programme, of which 61.4% were for shared ownership. Alongside shared ownership, social housing activity has become more linked to the general housing market through a rising proportion of sales to the open market. Under the AHP 2011-2015, open market sales accounted for 26% of starts and 18% of completions on average. In 2015/16 and 2016/17, this had risen to 32% of starts and 29% of completions. A combination of lower direct subsidy per unit, a period of changes to the funding programme and strong house price growth likely encouraged housing associations to increase their means

Affordable Housing Starts by Type in England (2016/17)



*Open market units are for rent or for sale, where the rental value or market price is set mainly in the open market.

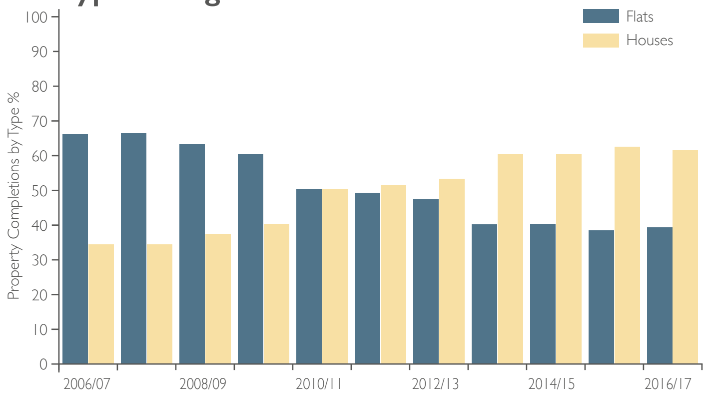
Source: Homes and Communities Agency,

of cross-subsidising affordable operations with open market sales. However, during the 2016/17 financial year, the Homes and Communities Agency reported that housing associations' revenues from open market and shared ownership sales were below forecast in every quarter, whilst the stock of unsold units was also increasing.

In addition to £4.7 billion SOAHP funding, the Autumn Statement in 2016 committed a further £1.4 billion to fund 40,000 starts by housing associations and local authorities, across a range of affordable housing tenures by 2021. The Autumn Statement also announced £3.15 billion for 90,000 affordable housing starts in London over the same period. £1.7 billion of this was allocated in July 2017, for 49,398 homes for social rent, London living rent and shared ownership. An £8.0 billion deal between housing association L&Q and the Mayor of London was also signed in April 2017, to build 20,000 new homes in the capital, 40% of which will be for market sale or rent. This gives a unit cost of £400,000, considerably above the £35,000 per unit funding under the government's London housing deal and £31,600 per unit grant funding under the current SOAHP.

The Housing White Paper was published in February 2017, but had little in the way of new measures to increase public sector house building. The document confirmed previously-announced funding for affordable housing, as well as the government's view that councils' roles in house building will be to assign land and monitor delivery against local plans, rather than build themselves. In addition, the Local Government Association warned that local authority building capacity is constrained by Right to Buy. Approximately two-thirds of receipts from Right to Buy sales are returned to the Treasury, leaving little to fund replacement building after the cost of sales and servicing of debt are also subtracted. The extension of Right to Buy to housing association tenants is currently underway on pilot schemes for five housing associations operating across England and is expected to be rolled out further in the current financial year. Proposals to compensate housing associations by selling high-value council-owned properties when they become vacant are yet to be finalised,

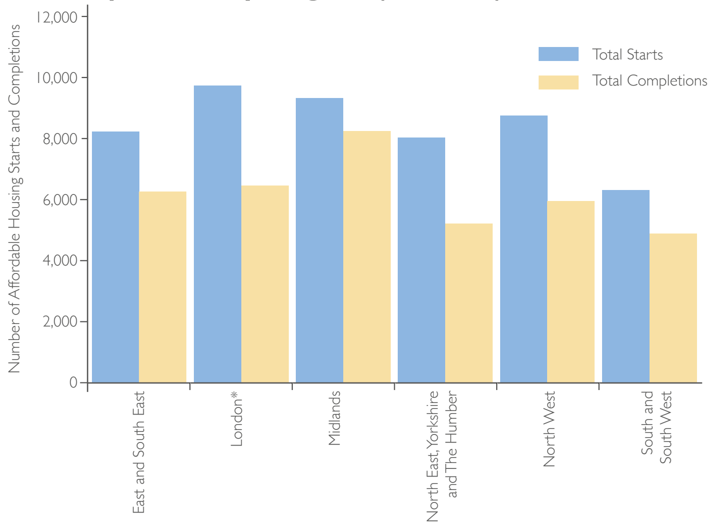
Public Housing Completions by Type in England



Source: DCLG

but local authorities have warned that this will further undermine plans to build new council homes financed through their housing revenue accounts. In addition, the targets of one-to-one replacement of properties sold under the Right to Buy policy have not been met. Between 2012 Q2 and 2017 Q1, there were 54,581 Right to Buy sales and 10,996 direct replacements in England, a ratio of one replacement for every five homes sold.

Affordable Housing Starts and Completions by Region (2016/17)



*Affordable housing in London is monitored by the Greater London Authority (GLA)

Source: Homes and Communities Agency, GLA

Output

In 2015, public housing starts in Great Britain decreased 4.8% from a year earlier and fell a further 4.9% in 2016 to 30,567 units, reflecting a pause in activity due to the transition between Affordable Homes Programmes, a change in affordable housing tenure focus and a 1.0% cut in social rents per year between 2016/17 and 2019/20. Public housing starts were 17.2% of total housing starts in 2016, the lowest proportion since 2007. Completions rose 27.0% in 2015, as housing associations completed construction before the AHP 2011-2015 deadline of March 2015. Two years of declining starts were evident in a subsequent 15.5% fall in completions in 2016.

In England in 2017 Q1, public housing starts fell 1.3% over the quarter, but increased 12.8% in annual terms. On a four-quarter basis, starts were 1.2% higher. The increase was led by housing associations. In Scotland, public housing starts increased 58.9% in annual terms in 2017 Q1, to reach an eight-year high of 3,198. The Scottish Affordable Housing Supply Programme (AHSP) runs between 2016/17 and 2020/21, with £3.0 billion in grant funding to build 50,000 home with a focus on social rent. In Wales, £1.3 billion in grant funding supports a government pledge of 20,000 affordable homes, although this includes 6,000 under the Help to Buy scheme.

Public housing output also declined in both 2015 and 2016, by 18.1% and 6.4% respectively. However, output began increasing in 2016 Q3 and in 2017 Q1, was 7.9% higher than a year earlier.

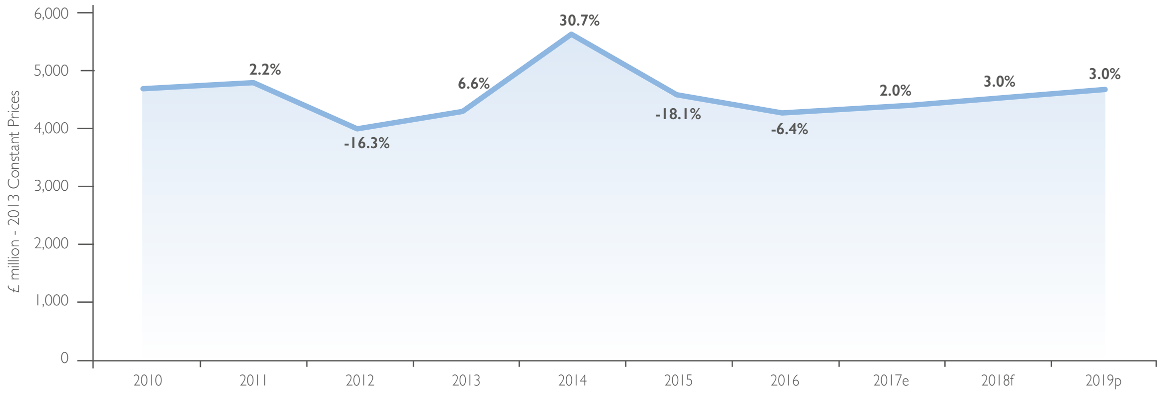
Orders

New orders for public housing decreased 24.1% in 2016, averaging £429 million per quarter. In 2017 Q1, orders were 53.4% lower compared to a year earlier. To reduce the volatility in quarterly data, on a four-quarter annual basis, new orders in the sector were 4.4% lower.

Forecast

Prospects for the sector in the near-term are encouraging, with 2017 the first year that the sector has had clarity over the current Affordable Homes Programme. Growth in starts is expected to be strongest in 2017, reflecting recovery from two years of declines in activity. In 2017, public housing starts are expected to increase 8.0%, followed by a rise of 2.0% in 2018 and no change in 2019. In 2019, starts are forecast to reach 33,672, the highest since 2014. Lags between starts and peak building work means that public housing output is forecast to rise 2.0% in 2017, before growth is expected to accelerate to 3.0% in 2018 and 2019.

Public Housing Output



Source: ONS, Construction Products Association

Public Housing Starts and Completions Great Britain

		2015	2016	2017	2018	2019
		Actual	Actual	Estimate	Forecast	Projection
Starts		32,155	30,567	33,012	33,672	33,672
		-4.8%	-4.9%	8.0%	2.0%	0.0%
Completions		36,944	31,220	32,157	33,443	33,777
		27.0%	-15.5%	3.0%	4.0%	1.0%
Output (£m)		4,604	4,310	4,396	4,528	4,664
		-18.1%	-6.4%	2.0%	3.0%	3.0%

Source: DCLG, ONS, Construction Products Association

The outlook remains constrained by longer-term issues regarding the extension of Right to Buy to housing association tenants and its implications for replacement building, in addition to the social rent-setting agreement post-2019/20 and the growing proportion of housing association activity that is directly linked to the open housing market. Recent indicators such as mortgage lending, property transactions and monthly house price indices suggest a period of weaker demand (see Private Housing), which will affect demand for properties that are for shared ownership and open market sale or rent.

Downside Risks:

- Difficulties in raising finance for housing associations
- A significant weakening in the housing market undermines focus on market-linked products

Housing associations' borrowing capacity has been reduced by the annual 1.0% cut to social rents implemented from April 2016. Ratings agencies have warned that this, alongside lower levels of grant funding and a greater reliance on market-linked housing will worsen housing association debt and, therefore, creditworthiness. In addition, reduced investor appetite may also disrupt alternative methods of finance, such as bond issuance, where uncertainty means that long-term returns on investment are unclear. Arrangements regarding future funding from the European Investment Bank are also unclear. These considerations, as well as the HCA reporting an increase in the stock of unsold market-linked units in the second half of 2016, and the possibility of a protracted slowdown, or fall, in wider housing market activity provide the downside risks to the forecast. This would see starts decline 2.0% in 2017 and 2018, before remaining flat in 2019.

Upside Risks:

- Flexibility to increase housing built for affordable rent
- Open market demand for housing remains buoyant

Housing association starts and completions for the open market have increased sharply since 2015/16 and market-linked products now account for a large proportion of housing association building activity. If underlying demand remains buoyant for market sales, rentals and shared ownership products, this could cushion the fall in social housing construction activity by housing associations. Furthermore, greater flexibility in the AHP 2016-2021 would allow for construction of affordable rent units if market conditions for planned shared ownership homes deteriorate, although it is not clear how quickly housing associations could adjust their business plans. Starts would be expected to increase 10.0% in 2017 and then 4.0% each year in 2018 and 2019 under these conditions.

Public Housing RM&I

Output in the public housing repair, maintenance and improvement (rm&i) sector typically moves in line with levels of capital investment by the Department for Communities and Local Government (DCLG) and has fallen sharply since initial cuts to funding were made in 2010/11.

Publicly-funded schemes for energy-efficiency improvements on the public housing stock have either been cancelled (the Green Deal) or narrowed in coverage (ECO: Help to Heat). A 1.0% annual cut to social rents will also reduce the revenues received by housing associations to finance rm&i work, with projections that it will be rm&i, rather than new construction that will bear the brunt of any cuts. However, these typical drivers will be replaced by a shift in the sector's focus towards fire safety, investigations and a review of the housing stock following the Grenfell Tower disaster in June. Urgent work on housing towers in the social sector is likely to displace and bring forward repairs and maintenance work planned across the forecast period, but full remedial work is likely to be dependent on the outcome of a public inquiry running beyond the scope of the forecasts.

Public Housing RM&I

	Output	
Year	£m 2013 constant prices	Change on previous year
2009	7,490	-2.7%
2010	8,136	8.6%
2011	7,476	-8.1%
2012	7,639	2.2%
2013	7,325	-4.1%
2014	7,441	1.6%
2015	7,478	0.5%
2016	6,930	-7.3%
2017e	6,930	0.0%
2018f	6,930	0.0%
2019p	6,791	-2.0%

Source: ONS, Construction Products Association

Drivers

A significant proportion of spending on public housing rm&i is determined by the need to ensure that the existing stock of 2.0 million local authority dwellings and 2.8 million housing association dwellings in Great Britain is adequately maintained, rather than decisions to upgrade or improve large proportions of the existing stock. To some extent, this 'essential' spending limits the degree to which spending can fall, but with councils' budgets heavily constrained and housing associations reviewing their spend on maintenance in light of the cut to social rents, the sector's fundamentals are weak.

Local authority data returns show that in England, councils undertook capital works on 171,916 dwellings in 2015/16, including replacing windows, boilers and insulation. This was a decrease from 200,537 dwellings in 2014/15 and local authorities planned to carry out improvement works on 143,501 properties in 2016/17. Similar reductions in rm&i have been reported in surveys of housing associations, in response to lower revenues from social rents, which will be cut by 1.0% per year between 2016/17 and 2019/20. In addition, the Homes and Communities Agency (HCA) forecasts that for social landlords, the average spend per unit for major repairs will decrease by 10% between 2016 and 2020.

The rm&i activity on social housing has also been affected by a reduction in the number of measures installed under the Energy Companies Obligation (ECO) and the cancellation of the Green Deal in July 2015. For ECO, the previous four-year programme ended in March and its successor, ECO: Help to Heat, began as a one-year transition programme in April, before it begins another full four-year run in 2018/19. In previous forecasts, the Association has acknowledged the potential for the ECO programme to provide a boost to the public housing rm&i sector. Under the Help to Heat programme, running until 2021/22, the focus will shift from improving energy efficiency to reducing fuel poverty and the annual funding for the scheme will be cut from £870 million to £640 million. In April, the first month of the transition between ECO and ECO: Help to Heat, only 6,339 measures were installed compared to an average of 41,399 per month over the four years of ECO.

Over the longer-term, the public housing stock is likely to be diminished through the nationwide rollout of Right to Buy to housing association tenants, expected from 2018. Despite a government pledge for 1:1 replacement, between the second quarter of 2012 and the fourth quarter of 2016, there were 54,581 Right to Buy sales in England, but only 10,996 direct replacements started over the same period, a ratio of one replacement for every five sold.

Following the Grenfell Tower fire in June, local authorities' response to the disaster suggests that public sector rm&i resources will be redirected to prioritise fire measures for high-rise housing towers. Pending fire investigations and a public inquiry, the full scale of the issue and, therefore, future works required is unknown and extends beyond the scope of the forecasts. However, the forecasts do take into account that emergency measures will need to be carried out as a priority on the public housing stock and are likely to displace other planned repairs and maintenance activity, as well as bringing forward work from later in the forecast period.

Output

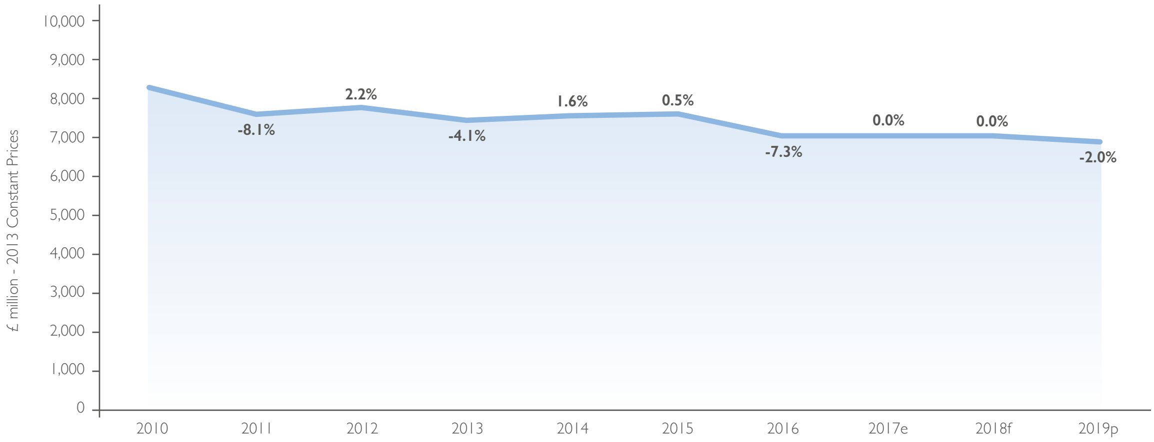
In 2016, output from the public housing rm&i sector fell 7.3% to £6.9 billion, which was the lowest level in 15 years. In 2017 Q1, output declined 12.2% from a year earlier, and a further fall in April means that for the first four months of the year, output was 12.2% lower than a year earlier. Furthermore, the sector felt the effects of government austerity and Q1 output of £1.6 billion was 23.0% below the peak registered in 2010 Q2 (£2.1 billion).

Forecast

A backdrop of financially-constrained councils and housing associations budgeting for reduced rental revenues underpins an assumption of

525,000** of the public sector housing stock does **not** meet the **Decent Homes standard

Public Housing RM&I Output



Source: ONS, Construction Products Association

Spring forecasts. Whilst this reflects an immediate response by public housing providers, it does not take into account the potential for large-scale improvement work that may result from a longer-running inquiry.

reduced near-term spending on rm&i on the public housing stock. Recent data has shown that sector output has fallen to its lowest level in 15 years. However, with the main drivers of sector activity weakened, there is little upside pressure on activity from the ECO: Help to Heat programme, which recorded a large drop in measures installed in its first month. Although this would expected to increase as the programme becomes more established from 2018, lower funding and a narrower range of energy-efficient measures covered by the programme will see a more limited impact on construction activity than its previous form. There are still 244,000 local authority homes and 281,000 housing association properties that do not meet the Decent Homes Standard, according to the English Housing Survey, but funding to cover improvements ended in 2015/16.

Beyond these regular drivers of sector activity, in the near-term, the impact of emergency rm&i work resulting from the Grenfell Tower fire has been reflected in an upgrade to forecasts for 2017 and 2018. Output from the sector is forecast to remain flat in 2017 and 2018, compared to a 2.0% fall forecast in the previous

Downside Risks:

- Full implementation of ECO: Help to Heat programme delayed
- Local authorities direct funding away from housing rm&i
- Housing association revenues reduced by a weaker than expected housing market

The proposed follow-up to the ECO will cover fewer measures and will focus on easing fuel poverty, rather than improving energy efficiency. The government plans a transitionary period in 2017/18, before the full launch of a four-year programme in 2018/19. Delays to implementation, due to discussions over the scope and cost, cannot be ruled out and would reduce activity. The risk of further reductions in funding, through local authorities adjusting local spending priorities or a weaker housing market performance affecting housing associations' open market sales revenues, also pose a downside risk to rm&i spending. Under these conditions, output is forecast to decline 5.0% each year.

Upside Risks:

- Housing associations focus on maintenance
- Housing market performs stronger than expected

If building homes for market sale or shared ownership becomes less financially viable due to a weaker housing market in 2017 and 2018, housing associations may instead focus on maintaining their existing, revenue-earning housing stock. In contrast, if the housing market remains more buoyant than expected, this would raise the revenues housing associations receive from sales of shared ownership and units sold on the open market, offering additional funding for rm&i work. This would help to offset constrained local authority rm&i spending and growth of 2.0% per year would be expected throughout the forecast period in this case.

Public Non-housing

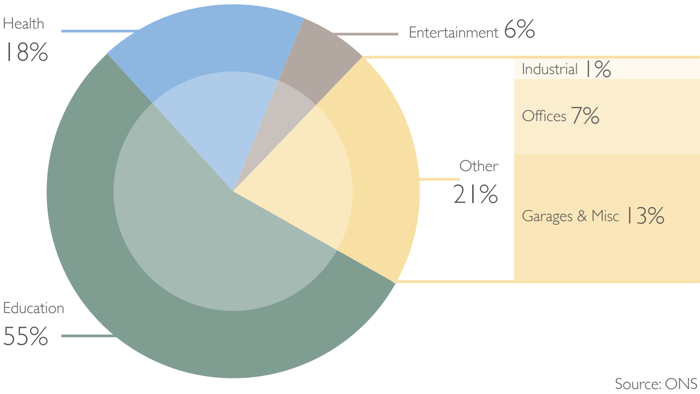
The Office for National Statistics classifies the education and health sub-sectors within two sectors; public non-housing (government funding) and commercial (privately-funded work). The CPA has combined these sub-sectors to form sections for education and health that include both funding streams (see Health inc. PFI and Education inc. PFI). As a result, the text has been excluded from the public non-housing and commercial sections to avoid repetition.

Following the spending cuts outlined in Spending Review 2010, public non-housing output fell in every year between 2011 and 2015, to a nadir of £9.5 billion and 35.9% below peak output in 2010. The sector returned to growth in 2016, marking a 2.8% expansion, led by work on major projects in the health and 'other' sub-sectors. Looking forward, new orders data suggests activity will continue to be driven by work in the 'other' sub-sector, notably in defence, helping to offset weakness in the health sub-sector as major hospital redevelopments reach completion. Total sector output is forecast to increase 1.6% by 2019.

Drivers

Public non-housing output includes publicly-financed entertainment facilities, such as sports venues, work on new prisons, law courts, police stations, offices for civil servants and non-PFI spend on defence facilities. In 2016, construction of education facilities accounted for the majority of output in the sector (54.6%), followed by 20.9% for other work on publicly-funded offices, defence and justice, 18.1% for health and medical facilities and 6.4% for construction in the entertainment and leisure sub-sector.

Public Non-housing Output by Category - 2016



Source: ONS

Since the government began its austerity drive in 2010, the National Audit Office calculates that central government funding to local authorities had fallen by 37.3% by 2015/16, reducing ability to spend on local services. For the financial year 2017/18, nine out of ten local authorities increased council tax, by up to the maximum 1.99% permissible under government rules, plus

Departmental Capital Funding - £bn

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
	Outturn	Estimate	Planned	Planned	Planned	Planned
Defence	8.4	8.8	8.5	8.7	9.0	9.6
Education	5.4	6.3	5.3	6.2	4.7	4.7
Health	4.7	4.6	6.1	6.0	6.0	5.9
Digital, Culture, Media and Sport	0.3	0.3	0.5	0.5	0.6	0.5
Justice	0.3	0.4	0.7	0.7	0.4	0.1
Other Departments	33.4	32.7	36.9	38.3	43.0	43.9
Total	52.5	53.1	58.0	60.4	63.7	64.7

Source: HM Treasury

an additional 3.0% to be ringfenced for spending on social care. However, the Local Government Association forecasts that despite this revenue increase, further cuts to funding from central government by 2020 will leave a £5.8 billion shortfall between local authorities' revenue and expenditure.

Budget 2017 saw capital expenditure limits raised across departments compared to spending plans presented a year earlier. Capital funding for the Department for Education (DfE) is estimated to have risen to £6.3 billion in 2016/17, followed by £5.3 billion in 2017/18 and £6.2 billion in 2018/19, cumulatively £3.0 billion higher than projected in Budget 2016. For the Ministry of Defence (MOD), capital expenditure in 2016/17 was an estimated £8.8 billion, compared to £7.3 billion expected in Budget 2016. Budgets for 2017/18 and 2018/19 have also been raised to £8.5 billion and £8.7 billion respectively, from £7.5 billion and £7.8 billion previously. The capital budget for the Department of Health (DH) remains around £6.0 billion per year until 2020/21, rising from an estimated £4.6 billion in 2016/17. However, it is difficult to ascertain how much will go to technology and equipment upgrades rather than construction work.

Output

Public non-housing output experienced strong growth between 2008 and 2010, reaching a peak of £14.9 billion in 2010. Following public sector spending cuts since 2010/11, output in the sector subsequently declined in each year and after a cumulative 35.9% fall by 2015, output reached its nadir of £9.5 billion. Output rose 2.8% in 2016, driven by growth in the health and other sub-sectors, largely underpinned by large hospital and prison redevelopment. Total sector output rose 4.4% in 2017 Q1 and sub-sector performance was split, with falls in education and health offset by rises in entertainment and other. On a four-quarter basis, public non-housing output was 3.5% higher in Q1.

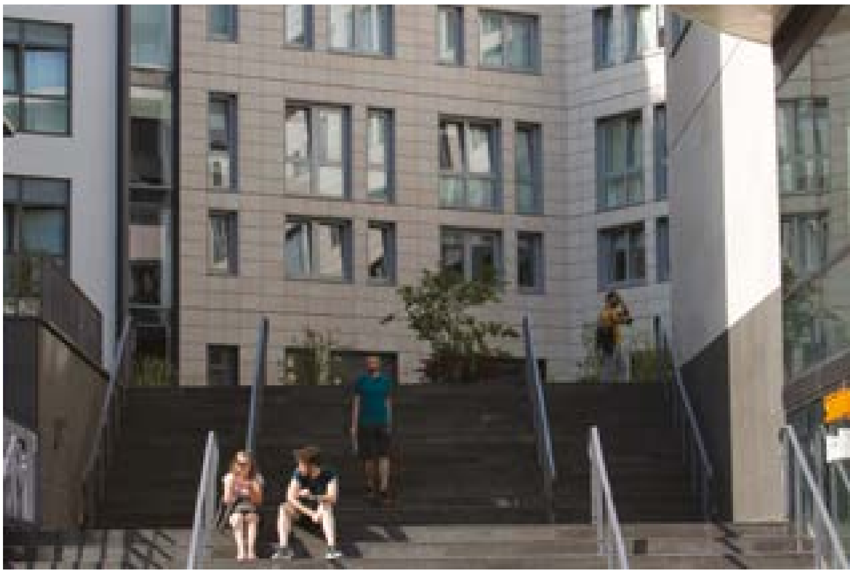
Orders

Overall, in 2016, public non-housing new orders rose 6.0%, as declines in new orders in the health and education sub-sectors were offset by increases in the entertainment and other sub-sectors. In 2017 Q1, new orders declined 5.9%. Rises in entertainment and other were outweighed by falls in orders for health and education. On a four-quarter basis, however, total public non-housing orders increased by 11.3%.

Public Non-housing

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	13,822	8.7%	11,289	21.0%
2010	12,485	-9.7%	14,886	31.9%
2011	8,440	-32.4%	13,761	-7.6%
2012	7,211	-14.6%	10,873	-21.0%
2013	7,826	8.5%	9,830	-9.6%
2014	8,256	5.5%	9,722	-1.1%
2015	6,384	-22.7%	9,535	-1.9%
2016	6,767	6.0%	9,800	2.8%
2017e			9,769	-0.3%
2018f			9,730	-0.4%
2019p			9,960	2.4%

Source: ONS, Construction Products Association



Forecast

Over the near-term, prospects are mixed. Large hospital redevelopments are scheduled to complete by 2018, with few large projects to replace them. Education construction continues to benefit from the Priority School Building Programme and programme for new free schools, whilst two large defence and prison projects will drive growth in the sub-sector for other work. Overall, output is expected to fall 0.3% in 2017. The expected slowdown in health output underpins a forecast of a 0.4% fall in 2018, followed by new projects supporting growth of 2.4% in 2019.

Downside Risks:

- Cost increases and a lack of contractor interest delays start dates further
- Uncertainty delays projects

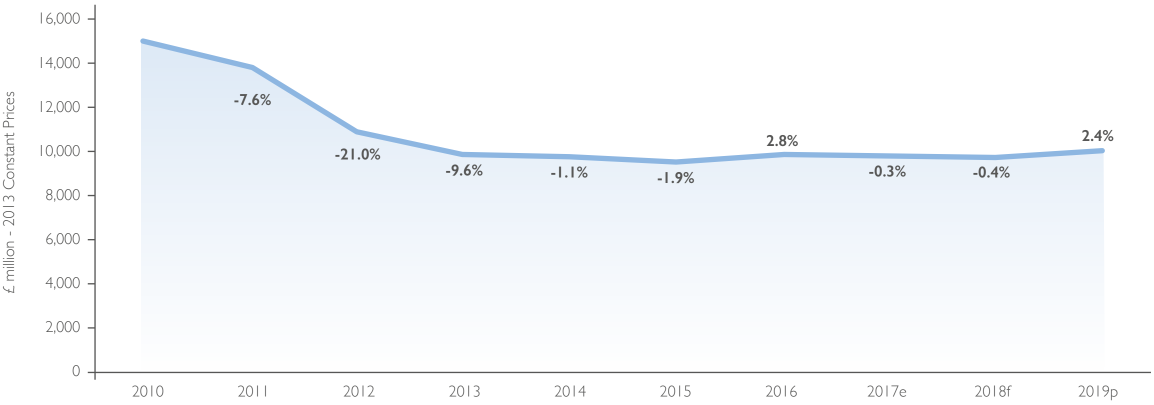
If contractors are reluctant to sign contracts for work due to cost inflation or rising economic uncertainty, the start and end dates for hospital and PSBP work could be pushed further beyond the forecast horizon. In addition, it is unlikely that the government will assign additional funding to cover these higher costs across each year of the programme, leading to a delay in contract awards and the start of construction. In this case, output is expected to decline 3.4% in 2017, 3.9% in 2018 and 2.5% in 2019.

Upside Risks:

- Capital funding is brought forward
- Further detail and contracts for new prisons

With capital funding for education, health and defence already raised in the latest Budget, additional financial support for building is only likely to arise if government brings forward funding from later years of departmental budgets to 2017/18 and 2018/19, as a means of covering higher cost pressures in the near-term. If planning applications for the four new planned prisons progresses faster than expected through to contract awards and start of work within the forecast period, this would provide a further boost to activity in 2018 and 2019. Growth of around 3.0% per year over the forecast period would be expected in this case.

Public Non-housing Output



Source: ONS, Construction Products Association

Entertainment

In the run up to the 2012 London Olympics, construction work on venues and surrounding infrastructure was the key driver of growth in the sub-sector. More recently, the transformation of the Olympics stadium post-games and the 2014 Commonwealth Games in Scotland provided a pipeline of construction activity, albeit on a significantly smaller scale. In consequence, activity has fallen sharply since the peak in 2010. Output within the sub-sector is expected to contract in 2017 and 2018, continuing the fall back to pre-Olympics levels of output.

Drivers

Capital funding for the Department for Culture, Media and Sport peaked at £1.3 billion in 2011/12 ahead of the Olympics in London in 2012. In 2016/17, the department's capital spending was an estimated £0.3 billion and in Budget 2017, was allocated at £0.5 billion in 2017/18 and 2018/19 and £0.6 billion in 2019/20. Over the three years 2017/18 to 2019/20, £0.5 billion was added to the department's capital spending limit compared with the Spending Review 2015 and Budget 2016.

The Olympics in 2012, transformation of the Olympic Stadium to become West Ham's home football stadium and the Commonwealth Games in Glasgow in 2014 were significant drivers of past activity in the sub-sector. Current levels of government capital funding and constrained local authority budgets mean the prospective pipeline remains limited. Contract awards in 2017 show activity will be led by museum extensions, such as the £14 million Northampton Museum and Art Gallery extension and £12.6 million for new galleries at the National Maritime Museum. Despite cuts to funding at local government level, new build leisure centres are set to start in local authorities in the south east, including Egham (£11.8 million), Dunstable (£16.0 million), New Barnet (£13.0 million) and Horsham (£9.0 million).

Output

Output in the entertainment sub-sector peaked between 2009 and 2011, averaging £1.2 billion each year primarily due to the Olympic Games. Subsequent declines in activity have brought output down to pre-Olympics levels of £600-£700 million per year. Output fell 8.3% in 2016, but on a more volatile, quarterly basis rose 43.4% year-on-year in 2017 Q1. In four-quarter annual terms, output in Q1 was 8.1% higher than a year earlier.

Orders

New orders in the sub-sector increased 47.3% in 2016. However, this follows a 49.0% fall in 2015. New orders in the smaller sub-sectors can be volatile on a quarterly basis, but in the last four quarters covering 2016 Q2 to 2017 Q1, orders increased 127.7% compared to a year earlier.

Forecast

There is limited new work in the pipeline and activity will mainly be supported by extensions to museums and new local leisure centres, predominantly in the south east according to contracts awarded in early-2017. These projects are considerably smaller than work on new stadia and venues for major sporting events that have taken place over the last decade. Therefore, the Association estimates that output will fall 1.0% in 2017, followed by another fall of 1.0% in 2018, before output remains flat at £619 million in 2019.

Entertainment

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	1,049	-48.5%	1,198	32.3%
2010	1,009	-3.8%	1,203	0.5%
2011	638	-36.8%	1,142	-5.1%
2012	525	-17.6%	843	-26.2%
2013	548	4.4%	689	-18.2%
2014	692	26.2%	815	18.3%
2015	353	-49.0%	688	-15.5%
2016	520	47.3%	631	-8.3%
2017e			625	-1.0%
2018f			619	-1.0%
2019p			619	0.0%

Source: ONS, Construction Products Association

Downside Risks:

• Cost increases delay start dates

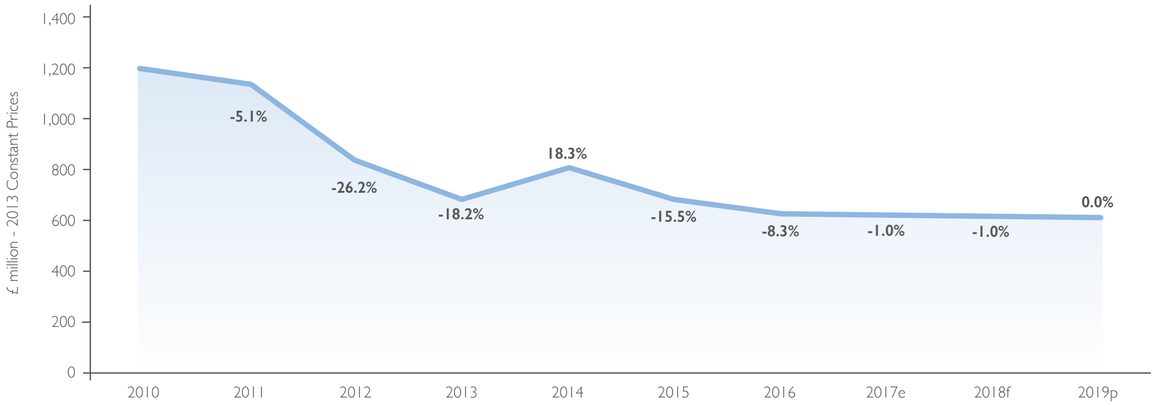
Rising costs for raw materials increasing pressure on contractors' margins for contracts awarded but yet to start, risk delaying start dates if contractors wish to renegotiate terms. In this case, output is expected to fall 7.0% in 2017, followed by falls of 3.0% in 2018 and 2019.

Upside Risks:

• Circuit of Wales goes ahead

The £425 million Circuit of Wales motorsports venue planned in Blaenau Gwent has never been factored into the forecasts due to a series of planning and funding hold-ups. In June, the Welsh government rejected a funding request, citing project riskiness. Whilst it remains unlikely that risk aversion will improve given the backdrop of economic uncertainty, final government approval and funding presents an upside risk to the later years of the sub-sector forecast.

Entertainment Output



Source: ONS, Construction Products Association

Other work

The 'other' sub-sector within public non-housing is a broad grouping of projects, including the construction of new prisons, law courts and police stations, offices for civil servants and non-PFI spend on new build and upgrade of defence facilities.

Capital investment by the Ministry of Defence (MOD) is expected to rise over the forecast period whereas capital funding from the Ministry of Justice (MOJ) is projected to decrease. Overall, the outlook for the sub-sector appears positive, with a rise in new orders in 2016 and contracts awarded for projects across prisons, defence and public sector offices.

Drivers

Public sector other accounted for 20.9% of total public non-housing output in 2016, mainly driven by the construction of military facilities and prisons. MOD capital investment was an estimated £8.8 billion in 2016/17, the highest in five years. Its capital budget for 2017/18 is slightly lower at £8.5 billion and £8.7 billion in 2018/19, but both increased from Budget 2016. It is planned to rise to £9.0 billion in 2019/20 and £9.6 billion in 2020/21.

The Defence Infrastructure Organisation manages the MOD's property infrastructure, in terms of both large projects and longer-term framework contracts such as the four-year £650 million capital works programme covering the south of England, which began in 2016. Alongside the Army Rebasing Programme, building accommodation for returning troops in 2020, the improvements programme at RAF Marham in Norfolk will provide support to sub-sector activity. A £135 million contract for an aircraft hangar and runway and taxiway resurfacing works at the base was awarded in Q2, with work required to be completed before new aircraft come into service in mid-2018. In addition, the £500 million, ten-year upgrade to the Faslane naval base in Scotland began in 2017.

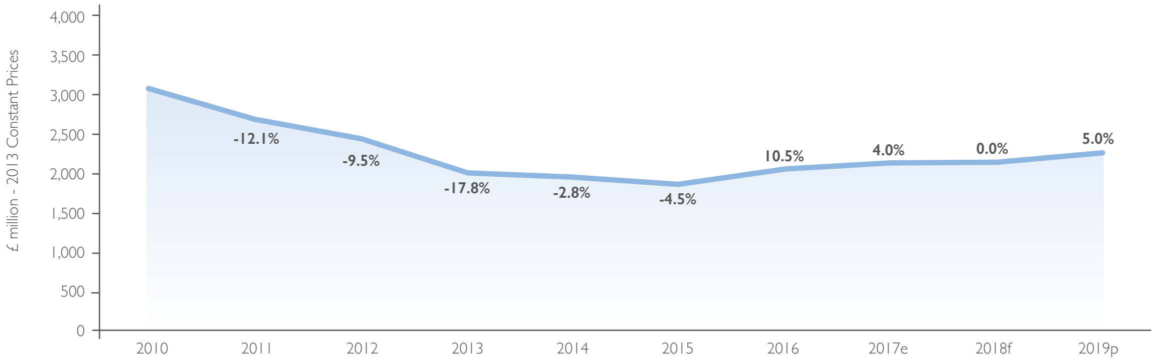
Despite a relatively small capital expenditure budget for the MOJ, at an estimated £0.4 billion in 2016/17 and £0.7 billion in both 2017/18 and 2018/19, several large announcements of prison developments in the UK have occurred in recent years. The expansion of Rye Hill prison in Rugby received planning approval in February 2016 and the £30.0 million contract for a new accommodation block was awarded in February 2017, with completion scheduled for mid-2019. The government announced a £1.3 billion capital investment to modernise the prison estate in the Autumn Statement 2015, including nine new prisons. Further detail has been announced for four of these: in Full Sutton (Yorkshire), Hindley (Wigan), Rochester (Kent) and Port Talbot (South

Other

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	3,226	44.1%	2,230	20.2%
2010	2,189	-32.1%	3,063	37.4%
2011	1,911	-12.7%	2,691	-12.1%
2012	1,717	-10.2%	2,434	-9.5%
2013	1,403	-18.3%	2,000	-17.8%
2014	1,746	24.4%	1,943	-2.8%
2015	1,106	-36.6%	1,856	-4.5%
2016	2,011	81.7%	2,050	10.5%
2017e			2,132	4.0%
2018f			2,132	0.0%
2019p			2,239	5.0%

Source: ONS, Construction Products Association

Other Output



Source: ONS, Construction Products Association

Wales), providing total capacity for 5,000 inmates. However, these projects have reached outline planning applications only and are not expected to begin construction until beyond the forecast period. Bidding for the £75.0 million women's prison to be built in Stirling opened in Q1. The prison is scheduled to be operational by 2020, which suggests that work will peak during 2018 and 2019.

A reduction in the size of the public sector workforce, as well as an aim to reduce running costs on the government estate has seen the government dispose of 17.0% of its property between January 2012 and March 2016, according to the NAO. The £1.0 billion Government Hubs programme seeks to reorganise the remaining public buildings into regional hubs, mainly through fit-out work, financed from the sale of property and efficiency savings, with completion by 2023. The first £500 million tranches of work under this programme were awarded in June.

Output

Output from the sub-sector reached a peak of £3.1 billion in 2010, followed by five years of contraction as government spending was cut. 2016 marked the first year of growth since 2010, with output rising 10.5%, likely supported by work on £212 million 'super' prison in Wrexham, which opened in February 2017. Output growth continued in 2017 Q1, increasing 52.2% on an annual basis. Over four quarters, growth was 25.1% higher than a year earlier.

Orders

New orders reached a six-year high of £2.0 billion in 2016 and rose 81.7% from a low of £1.1 billion recorded in 2015. Orders increased 16.7% in 2017 Q1 and on a four-quarter basis, rose 83.5%. Given past weakness, new orders remain 37.7% below the peak of £3.2 billion in 2009.

Forecast

The start of construction work on the newly-awarded contracts at RAF Marham and Rye Hill prison will drive growth of 4.0% in 2017, but is expected to lose momentum in 2018. Growth is then expected to pick up to 5.0% in 2019 as work on public sector offices accelerates under the Government Hubs programme.

Downside Risks:

- Delays to projects

Questions over contractor appetite may arise if prolonged uncertainty acts a stronger drag on economic growth over the next 12 to 24 months. In addition, contractors may pause to renegotiate contracts to take account of rising costs, forming the main downside risks to sub-sector activity, which would see output decline by 2.0% in 2017 and 3.0% each year in 2018 and 2019.

Upside Risks:

- Further detail and contracts for new prisons

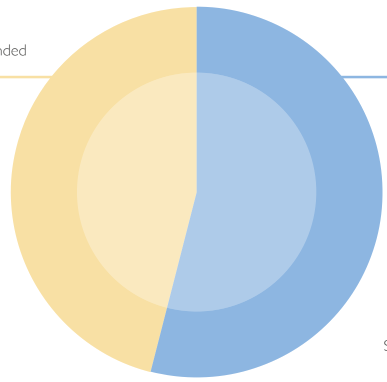
Planning approval for the four new prison sites announced in March and further detail on the remaining additions to the prison estate announced in 2015 would increase certainty for the sub-sector. However, construction activity would not be expected to begin until 2018 at the earliest, to allow for design and tendering. Early starts on work at RAF Marham and Rye Hill prison will drive activity in the second half of 2017, resulting in full-year growth of 6.0%. This would then be followed by growth of 2.0% in 2018 and 5.0% in 2019.

Education inc. PFI

This education sector includes construction output that is directly publicly-funded (public non-housing) and output from privately-financed education (private commercial).

Education including both publicly-financed and privately-financed construction work has recorded three years of growth since 2014, largely driven by work on education projects in the commercial sector, particularly universities. In 2016, output rose 5.0% to £9.9 billion, underpinned by a 12.3% increase in privately-funded education output, but moderated by a 0.5% decrease in publicly-funded work. New orders data suggests that the contrasting performance of the publicly and privately-financed sub-sectors will continue in the near-term, despite £2.0 billion in capital funding supporting a pipeline of work under the second phase of the Priority School Building Programme (PSBP) to 2021. Capital investment in accommodation and facilities by universities provides near-term impetus, but recent falls in the number of student applications and concerns over future funding post-Brexit present a risk over the medium-term.

Output 2016



Drivers

The Department for Education's (DfE) capital budget contracted sharply between 2010/11 and 2013/14, reducing from £7.4 billion to £3.6 billion, reflecting government austerity post-recession. Capital investment in education had risen to an estimated £6.3 billion in 2016/17 and according to the Budget 2017, is planned at £5.3 billion in 2017/18, £6.2 billion in 2018/19 and £4.7 billion in each of 2019/20 and 2020/21, funding building activity under the Priority School Building Programme and the construction of new free schools. This marks a slight increase in capital funding committed compared to announcements at the Budget in 2016.

Education inc PFI

	Orders		**Output**	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	8,741	3.7%	8,553	4.6%
2010	8,179	-6.4%	10,364	21.2%
2011	6,052	-26.0%	10,163	-1.9%
2012	5,049	-16.6%	8,385	-17.5%
2013	6,293	24.6%	8,095	-3.5%
2014	6,909	9.8%	9,087	12.3%
2015	6,057	-12.3%	9,402	3.5%
2016	5,677	-6.3%	9,869	5.0%
2017e			9,952	0.8%
2018f			10,098	1.5%
2019p			10,252	1.5%

Source: ONS, Construction Products Association

Publicly-funded education construction has been driven by the PSBP. Under the first phase, 260 schools were selected for rebuild work, 214 of which are capital funded. At the end of February 2017, work on 178 schools had been completed and although this phase was scheduled to end in December, the Department for Education estimates that 23 will run over into 2018, due to site difficulties or planning issues. A £2.0 billion second phase between 2017 and 2021 will rebuild or refurbish a further 277 school buildings. This second phase will be entirely capital funded. The National Audit Office calculated that under the PSBP, school building work is being delivered at two-thirds of the cost per square metre of the Building Schools for the Future programme, which ran from 2004 until its cancellation in 2010. Nevertheless, the same report also found that the two phases of the PSBP are forecast to cost £286 million more than expected. Half of the cost increase is due to rising inflation, the other half due to unforeseen asbestos removal and an extended scope to cover nurseries.

The PSBP provides capital funding for work on ***491 schools***

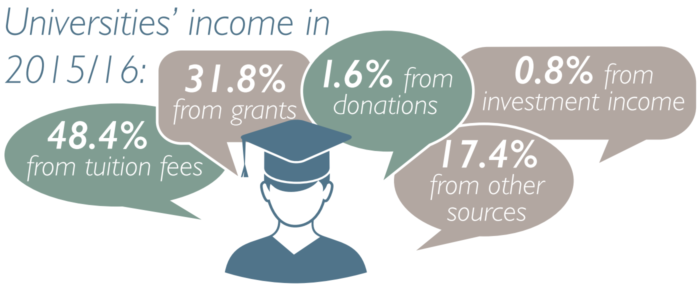
For the 46 schools in the PF2 phase, public sector provides 2.0% equity, the main contractor provides 8.0% equity and the remaining 90.0% of the funding requirement is provided by a private consortium of financiers, at a total cost of £700 million. Work was split into five regional batches of between £100 million and £150 million. Seven schools in the Hertfordshire, Luton and Reading batch have been completed, whilst work is underway on the four batches in the Midlands, North East, North West and Yorkshire and is expected to complete in 2018.

New free schools, which are publicly-funded but operate outside of local authority control, have been favoured by government since 2010. The Conservatives' manifesto in early 2015 pledged 500 new free schools by 2020, providing an additional 270,000 school places. Since then, 124 free schools have opened, with a further 376 approved, and a budget of £1.4 billion per year between 2016/17 and 2020/21. Whilst some of the premises for free schools are conversions or refurbishments of existing buildings, in February 2017, the National Audit Office highlighted that the low availability of sites is a key constraint on new build. The Department for Education will need to spend £2.5 billion to purchase land for the free schools in the current pipeline, but bidding has exceeded official valuations by 60% on 20 sites so far. The Public Accounts Committee has also cited concerns over value for money with the free schools programme.

In Scotland, work continues on the £1.8 billion Schools for the Future programme, which aims to build or refurbish over 112 schools by March 2020. The 21st Century Schools programme in Wales has assigned £1.4 billion to schools building projects from 2014 to 2019. To date, 59 schools have been completed, with a further 53 underway.

Privately-funded education has been the largest driver of growth in total education construction activity since 2014 as higher education institutions have increased investment in infrastructure, facilities and accommodation as a means of maintaining competitiveness and attracting students paying increased student fees. Large, multi-million pound capital investment plans have been announced across universities in the UK, including ten-year plans worth £1 billion each by the University of Cambridge, the University of Manchester, University College London, the University of Glasgow and a joint programme between the University of Warwick and Coventry University. In addition, the largest-value contracts awarded in the opening months of 2017 include a combined £227 million investment by Cardiff University for its Innovation Campus and Translational Research Facility, and £70 million for a high-tech research building at the University of Sussex. Whilst university tuition fee increases since 2004 and the removal of the cap on student numbers in 2015/16 have driven capital investment in higher education, a drop in student applications for the 2017/18 academic year signals early risk for financing of projects going forward. In 2015/16, 48.4% of UK universities' income was from tuition fees, but the Universities and Colleges Admissions Service (UCAS) registered a 4.0% fall in university applications in 2017, including a 5.0% drop in applications from EU-based students.

Many of the improvements to facilities and accommodation across the universities sector have been partly financed by investment loans from the European Investment Bank (EIB). The EIB has lent more than £2.1 billion to 30 UK universities since 2010, including a £280 million 30-year loan to part-finance UCL's £1.25 billion expansion plan. The loan terms will exist after the UK has left the EU, but it does raise questions



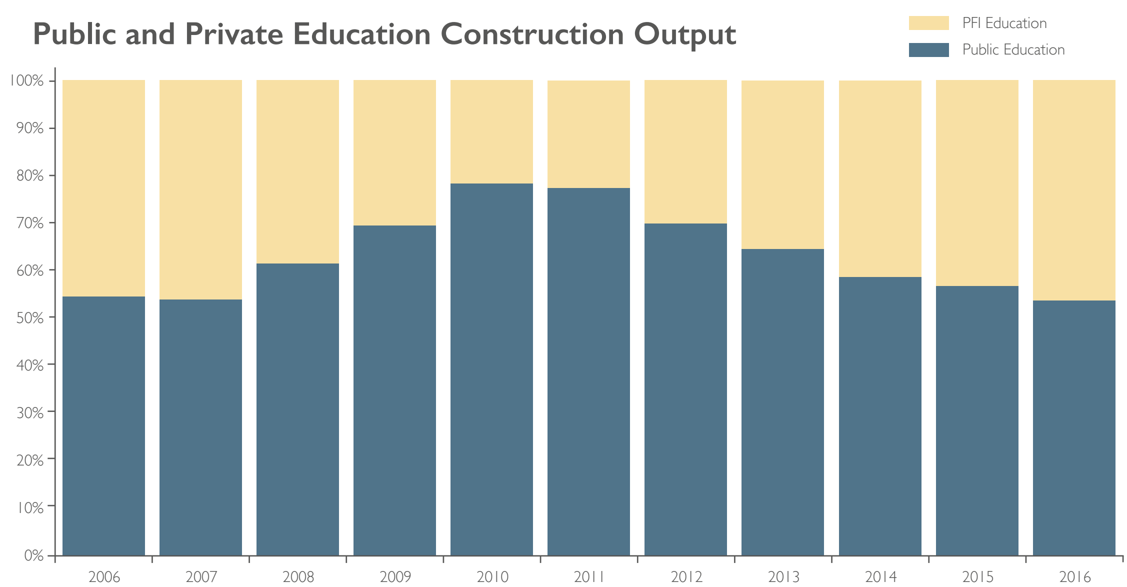
Source: Higher Education Statistics Agency

regarding whether this source of finance will be an option for universities once the UK is outside the EU28. However, the EIB does offer loans to non-EU countries if it is in the interest of member states and this will be an issue for the sector beyond the forecast period.

Output

Total education construction output has recorded three years of growth since 2014, primarily driven by privately-funded activity. Output totalled £9.9 billion in 2016, increasing 5.0%. This follows from rises of 3.5% in 2015 and 12.3% in 2014. In 2016, the publicly-funded education sector accounted for 54.2% of total education construction, but output fell 0.5% after two years of modest growth in 2014 and 2015. In addition, output remains 33.8% lower than in 2010. By contrast, education construction in the commercial sector has recorded six consecutive years of growth and

Public and Private Education Construction Output



Source: ONS

output rose 12.3% to £4.5 billion in 2016. This is the highest level on record and 18.5% higher than the previous peak in 2006. Work on the PF2 phase of the PSBP has provided an additional impetus alongside the development of facilities at universities.

Orders

New orders in education posted a second consecutive year of decline in 2016, decreasing 6.3% from a year earlier. New orders for publicly-funded work fell 11.1% in 2016, which offset a 0.8% increase in new orders for commercial education projects. Commercial new orders have been falling since 2016 Q3, however, and on a four-quarter basis in 2017 Q1, were 4.4% lower.

Forecast

In total, publicly-funded and privately-funded education output is estimated to increase 0.8% in 2017. Given weakness in new orders on both the public and commercial sides of education in recent quarters, output is anticipated to remain supported by long-running projects already underway, underpinning growth of 1.5% per year in 2018 and 2019. Work on the PSBP and free schools programme provides a pipeline of publicly-funded work, whilst commercial education activity remains supported in the near-term by large-scale and large-value construction work by universities across the UK.

Downside Risks:

- Cost increases and a lack of contractor interest delays start dates further
- Protracted fall in university applications reduces universities' income from tuition fees

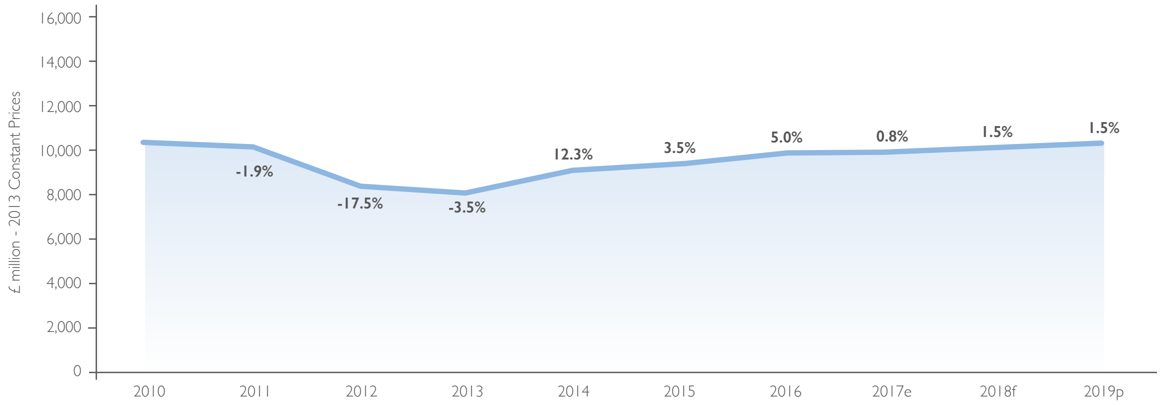
Rising construction costs on both the labour and materials side may delay the start and end dates for PSBP work as contractors re-assess contracts signed in 2014 and 2015. It is unlikely that the government will assign additional funding to cover these higher costs across each year of the programme. A protracted decline in university student numbers beyond the next academic year risks a fall in tuition fee income, which may have implications on future borrowing capacity and ability to finance construction work on university estates. Under these conditions, output would be expected to fall 2.5% in each year of the forecast.

Upside Risks:

- Capital funding is brought forward

With capital funding for education already raised marginally in the latest Budget, additional financial support for school building is only likely to arise if government brings forward funding from later years of the departmental budget to 2017/18 and 2018/19, as a means of covering higher cost pressures in the near-term. Growth of 3.5% per year over the forecast period would be expected in this case.

Education incl PFI Output



Source: ONS, Construction Products Association

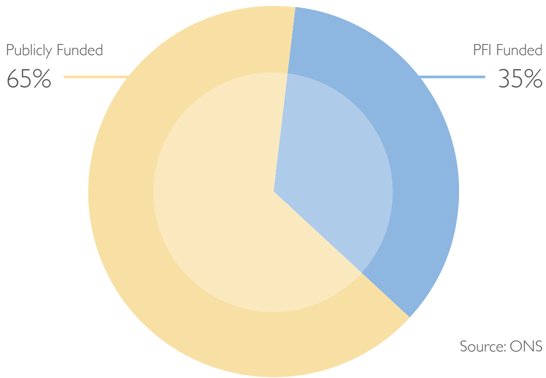

Berkeley
Designed for life

Health inc. PFI

The health sector includes construction output that is directly publicly funded (public non-housing) and output from PFI health and private sector healthcare (private commercial).

Output in the health sector has increased since 2015, following six years of decline. However, weakness in output growth and new orders has been evident since 2016 Q4 in both the publicly-funded and privately-funded sub-sectors of activity. A diminishing pipeline of large hospital redevelopment or new build projects, as work on existing projects peaks or nears completion, underpins a weak near-term outlook and forecasts of a contraction in output in 2017 and 2018.

Output 2016



Source: ONS

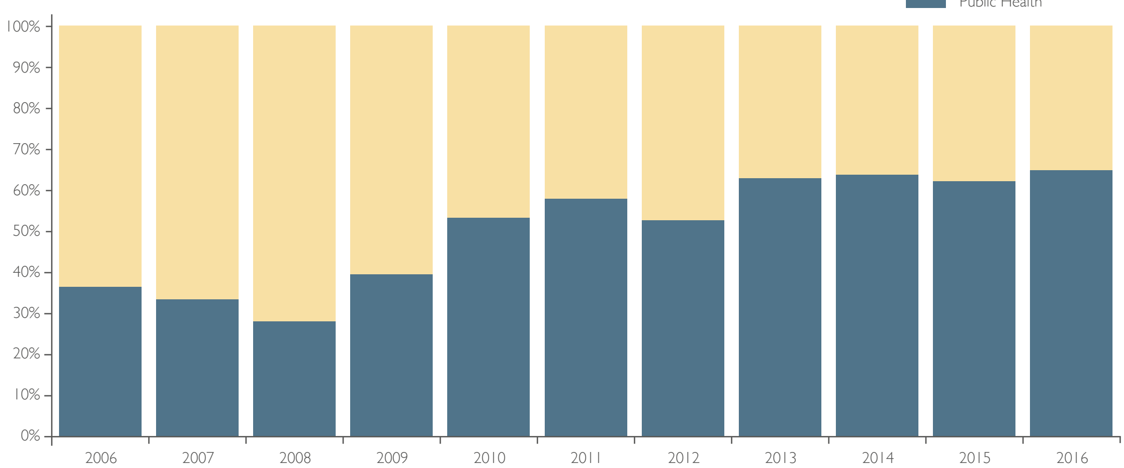
Drivers

The Department of Health (DH) invested an estimated £4.6 billion in capital for health services in 2016/17. The department's capital budget for 2017/18 is higher at £6.1 billion and is set to be maintained around the £6.0 billion mark each year until 2020/21. However, actual expenditure consistently falls below projections due to a degree of contingency funding, whilst capital funding may also be used for technology upgrades and equipment as well as building improvements.

Output growth over 2015 and 2016 has been driven by publicly-funded projects. Among the projects underway are the £298 million Broadmoor redevelopment (expected to complete in mid-2017), two £136 million proton beam treatment centres in London and Manchester (expected to complete in 2018) and the £480 million Royal Sussex County Hospital, where work is expected to continue to 2019. The £90 million redevelopment of the Royal National Orthopaedic Hospital in London started in early 2017 after the originally privately-funded project was assigned capital funding from the Department of Health in August 2016.

Growth in health construction has also been supported by large hospital redevelopments funded through public-private partnerships, including the £165 million Papworth Hospital in Cambridge, with a completion date in 2018, and the £450 million Royal Liverpool and Broadgreen Hospital. Construction on the latter began in 2014, but the original completion date of Summer 2017 has been pushed back by a year due to asbestos

Public and Private Health Construction Output



Source: ONS

on site. The completion date for the £353 million Midland Metropolitan Hospital, the first to be financed under PF2 (the successor to PFI), has also been delayed by six months to Spring 2019.

As these projects complete over the forecast period, there is little entering the pipeline, aside from the £150 million redevelopment of Springfield Hospital, on two sites in South London, which is scheduled to start in Summer 2017 and last until 2023. The Scottish Budget for 2017/18 also confirmed £200 million for the expansion of the Golden Jubilee Hospital in Glasgow. In addition, the NHS smaller works framework, ProCure21+, ended in September 2016 and was replaced by its successor, the £4.0 billion ProCure22 in October. There are still 341 active projects, of which 290 are valued at £1.0 million or more, in the ProCure21+ pipeline. Since it started in October 2016, 23 major works schemes and 13 small works packages have started under ProCure22.

On the private side, contracts were awarded for two smaller private hospitals in Spring 2017 – the £75.0 million Nuffield Health facility in Manchester and the £21.0 million Circle Health centre in Birmingham. A four-year £500 million privately-funded construction framework was also awarded, covering work on NHS and private health care facilities in Wales and South and Central England.

36 projects *are in the ProCure22 pipeline, at a capital value of* **£843 million**

Publicly-funded work accounted for a record 64.9% of total health output in 2016, but the emergence of privately-funded smaller works frameworks suggests commercial health investment may be a larger driver of activity over the medium to long-term.

Output

Total output from the health sector was £2.7 billion in 2016, increasing 4.8% from a year earlier. This marked a second year of expansion, following a 2.8% rise in 2015. Publicly-financed construction output, which accounts for around 65% of the total, drove the growth in 2016. Output from the sub-sector rose 9.7%, compared to a 3.2% fall in output from the commercial health sub-sector. In quarterly terms, commercial health activity has been falling since 2015 Q4 and on a four-quarter total basis output declined 3.5% in 2017 Q1. Weakness has also been evident more recently in publicly-financed output, which has recorded falls since 2016 Q4. Output declined 13.3% compared to a year earlier in 2017 Q1, but on a four-quarter total basis, output was 0.6% higher.

Health inc PFI

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	3,593	-23.1%	4,768	-14.2%
2010	3,131	-12.9%	4,762	-0.1%
2011	2,030	-35.2%	3,562	-25.2%
2012	1,925	-5.2%	3,198	-10.2%
2013	2,143	11.3%	2,998	-6.2%
2014	1,786	-16.7%	2,531	-15.6%
2015	1,844	3.2%	2,603	2.8%
2016	1,551	-15.9%	2,727	4.8%
2017e			2,655	-2.6%
2018f			2,569	-3.2%
2019p			2,585	0.6%

Source: ONS, Construction Products Association

Orders

In 2016, total orders for health construction declined 15.9% to £1.6 billion and the lowest level on record. The fall was led by a 21.9% decrease in orders in the publicly-financed sub-sector, followed by a 53.7% fall in new orders in 2017 Q1. Orders can be volatile on a quarterly basis, but were still 13.3% on a four-quarter basis in Q1.

New orders for privately-financed work decreased 0.9% in 2016, following a 10.0% fall in 2015. A sharper contraction has also been evident since 2016 Q4. Overall, on a four-quarter basis, orders were 13.1% lower in 2017 Q1.

Forecast

Falling output and declines in new orders since the end of 2016 suggest that new work volumes are waning. Work on large projects such as the £480 million publicly-financed Royal Sussex County Hospital and the £450 million Royal Liverpool and Broadgreen redevelopment, financed through a public-private partnership, will peak in 2017 and early 2018, but the pipeline of upcoming projects is not being replenished at the same rate. The £150 million Springfield Hospital and the £500 million private investment construction framework, split into smaller schemes worth around £10 million each, will provide some activity in 2018 and 2019, along with lower-value works under ProCure21+ and ProCure 22 for the NHS, but is unlikely to offset the impact of other major projects coming to an end.

Overall, output in health is forecast to decrease 2.6% in 2017, followed by a 3.2% fall in 2018 as major projects complete.

Downside Risks:

- Cost increases delay projects further

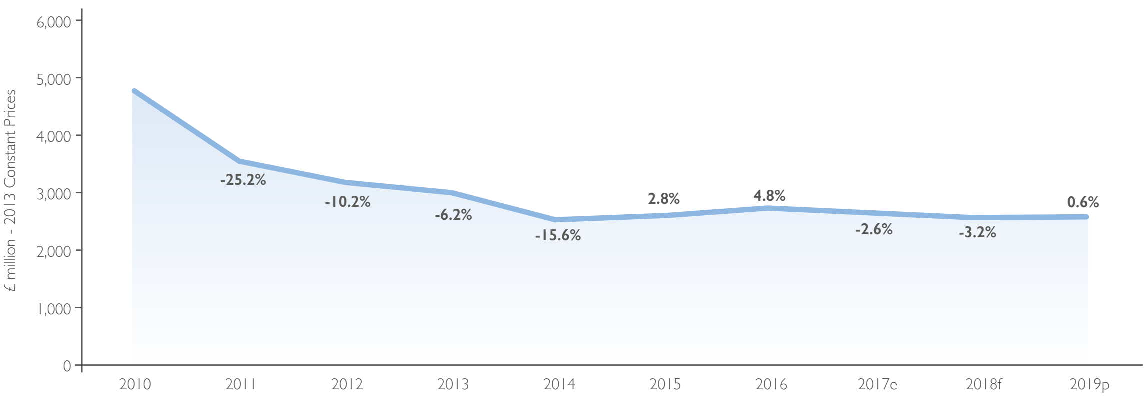
Rising costs for raw materials and on-site labour may lead to delays as projects are paused to allow for attempts at contract renegotiation. Given that site difficulties have already delayed the completion dates for the Midland Metropolitan Hospital by six months and the Royal Liverpool and Broadgreen Hospital by one year, any further hold-ups risk projects being pushed beyond the forecast horizon. This would lead to output falling in each year: by 4.3% in 2017, 5.5% in 2018 and 0.4% in 2019, and in both the public and commercial health sub-sectors.

Upside Risks:

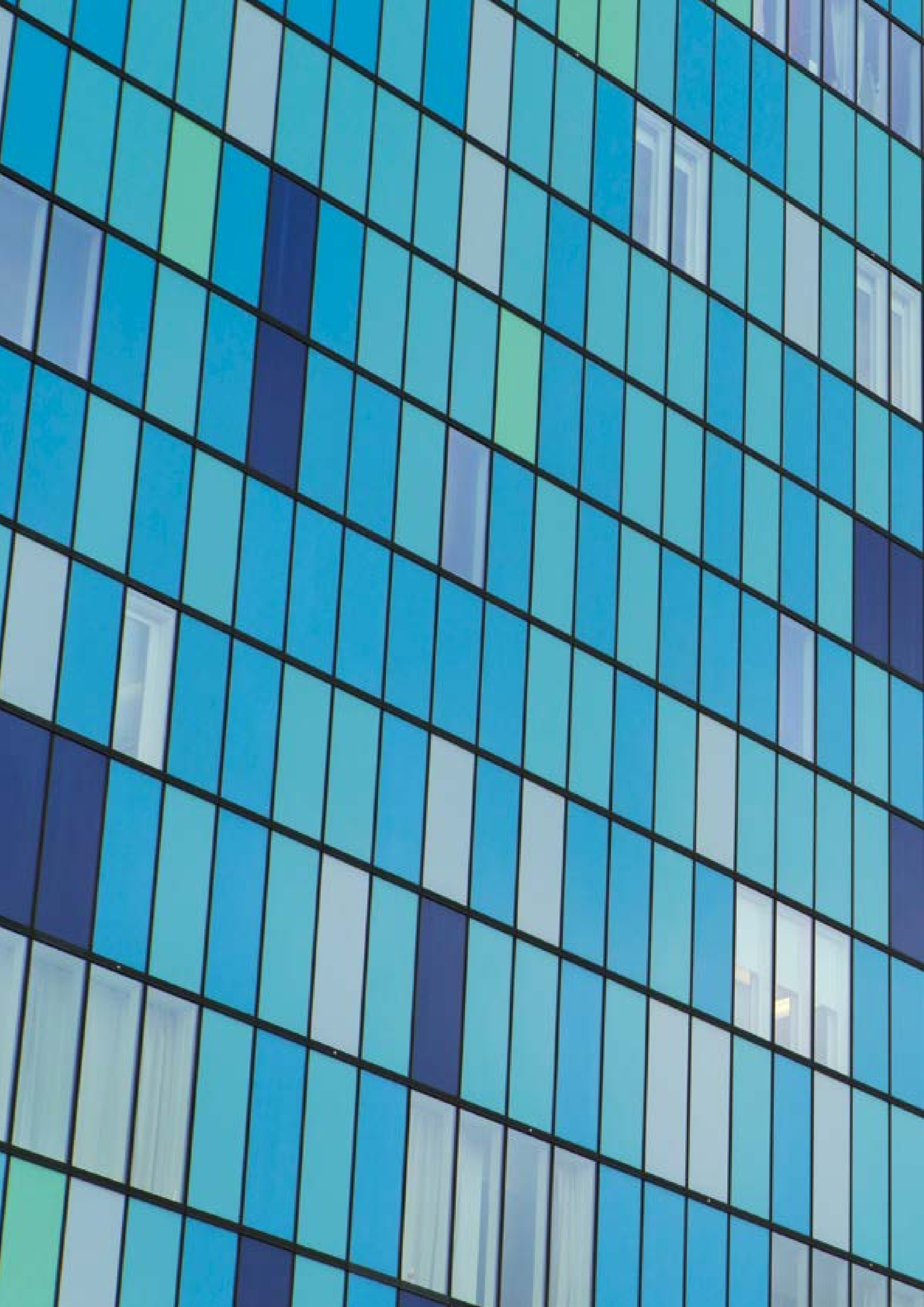
- Capital funding is brought forward
- Work under the private investment construction framework starts in late 2017

With capital funding for health already raised by £1.0 billion per year in the latest Budget, additional financial support for publicly-funded hospital building is only likely to arise if government brings forward funding from later years of the departmental budget to 2017/18 and 2018/19, as a means of covering higher cost pressures in the near-term. In addition, if work on the £500 million private investment construction framework filters through quicker than expected, then growth will receive an additional boost on the privately-financed side. Total health sector growth of 2.4% per year over the forecast period would be expected in this case.

Health incl PFI Output



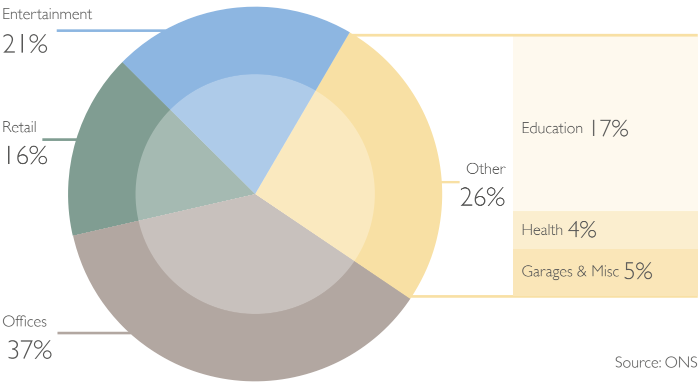
Source: ONS, Construction Products Association



Commercial

The Office for National Statistics classifies the education and health sub-sectors within two sectors; public non-housing (direct government funding) and commercial (privately-funded work). The Association has combined these sub-sectors for education and health that include both funding streams. As a result, the text has been excluded from the public non-housing and commercial sectors to avoid repetition.

Commercial Output by Category (2016)



Source: ONS

The commercial sector is the second largest construction sector, worth £26.4 billion in 2016. Activity is heavily dominated by the offices and retail sub-sectors as well as geographically, by activity within London, which accounted for 35.0% of commercial construction in 2015 and 2016. Commercial activity within London is currently at peak levels and output in major cities such as Manchester and Birmingham is also currently buoyant. However, the key question is how long this can continue given the sector's reliance on high-profile tower projects, which are high upfront investment for a long-term rate of return, that are also dependent on international investors. Any falls in the sectors are likely to be constrained by activity on some major projects such as the £1.4 billion Croydon Partnership and £1.4 billion Brent Cross extension. In addition to these projects, regeneration programmes in many cities may also help to alleviate any sharp falls in activity.

Commercial

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	12,890	-42.8%	25,011	-25.1%
2010	13,441	4.3%	24,486	-2.1%
2011	12,897	-4.0%	25,082	2.4%
2012	11,488	-10.9%	22,614	-9.8%
2013	12,463	8.5%	22,621	0.0%
2014	14,916	19.7%	23,995	6.1%
2015	14,365	-3.7%	24,305	1.3%
2016	14,861	3.5%	26,376	8.5%
2017e			26,339	-0.1%
2018f			25,460	-3.3%
2019p			25,453	0.0%

Source: ONS, Construction Products Association

Drivers

Whilst commercial activity was on its way to post-crisis peaks at the beginning of 2016, there were already investor concerns that prices being quoted for new major projects were too high. Despite this, new orders continued to rise as projects were still financially viable and the return on investment on new high profile floor space was still significantly positive. However, following the EU Referendum, there was a considerable increase in risk on long-term investments, particularly those involving new long-term demand from the banking and financial services sectors. The increase in risk appears to have exacerbated fears given concerns already regarding costs. Although international investors to the UK have benefitted from a 15% depreciation in the value of Sterling, this appears to have been offset by the increase in risk and cost concerns, particularly given that the fall in the value of Sterling is also likely to have a significant impact on construction costs in the medium-term.

Output

Output in the commercial sector was worth £26.4 billion in 2016, 8.5% higher than in 2015. In addition, output in 2016 was 16.6% higher than the post-crisis nadir of 2012 although, interestingly, given expected falls in the sector, output last year was still 21.0% lower than the pre-crisis peak of £33.4 billion. In addition, output during the first quarter of 2017 was 7.4% higher than a year earlier.

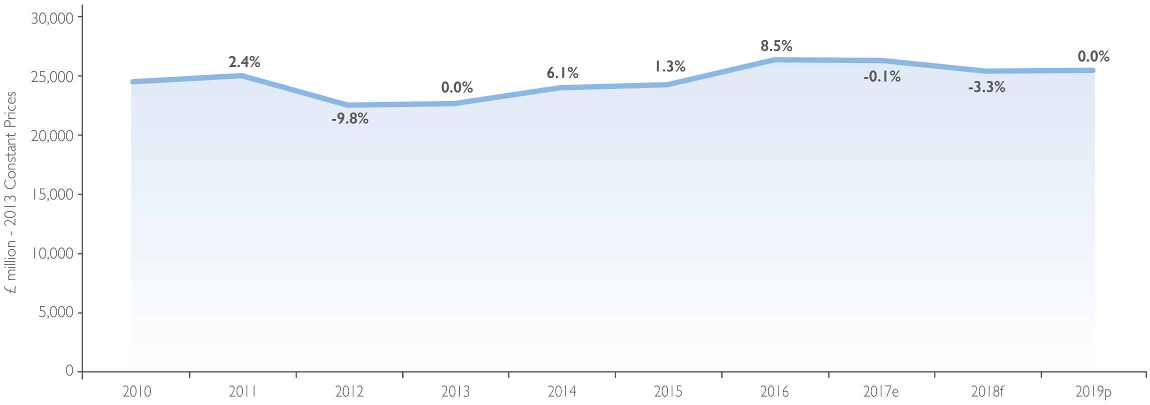
Orders

New orders in the commercial sector suggest that prospects going forward are less optimistic. In 2016, commercial new orders were 3.5% higher than a year earlier but this masks a stark change in new orders following the EU Referendum. During the first half of 2016, new orders were 19.0% higher than a year earlier. However, new orders during the third quarter of 2016, following the EU Referendum were 10.8% lower than in the second quarter. In addition, new orders during the final quarter fell a further 8.9% compared with the third quarter and were 23.5% lower than a year earlier. New orders surprisingly rose in the first quarter of the 2017 but remain 3.3% lower than a year earlier.

Forecast

Overall, commercial output is forecast to broadly remain flat, falling by only 0.1%, during 2017 as momentum from contracts signed in 2015 and the first half of 2016 continues to provide activity on the ground and offset falls expected in the sector from the second half of 2017 as the impacts of falls in contract awards last year begin to feed through. However, the largest impacts of the fall in contract awards are expected to be felt during 2018 as work on existing major projects finishes and is not replaced at the same rate. Output is expected to fall by 3.3% during 2018.

Commercial Output



Source: ONS, Construction Products Association

Downside Risks:

- Continued Brexit uncertainty on key issues such as passporting, EU citizens' rights and a transition agreement/implementation period
- Falling real wages lead to reduced consumer spending
- Business investment is constrained by an economic downturn, which reduces pre-letting activity and investor confidence
- Further depreciations in Sterling lead to further rises in construction costs

Potentially, we could see uncertainty throughout the Brexit negotiations continuing without a reciprocal agreement on EU citizens' rights in the UK and UK citizen's rights in the EU as well as a transition agreement or implementation period agreed, which are two of the easier issues to deal with in the Brexit negotiations. These could see business investment and consumer spending falling further than anticipated, particularly in the light of falling real wages. These would adversely affect investment in offices, retail and entertainment. Uncertainty regarding financial passporting would also impact upon the financial sector and lead to further falls in new investment, particularly in London. In this case, commercial output would be expected to fall 4.4% in 2017 and 9.6% in 2018 with a further decline of 7.2% in 2019.

Upside Risks:

- Economic growth accelerating despite rising inflation
- Return to real wage growth
- Progress on Brexit negotiations

The strong labour market (See Economy) may ensure that the UK sees strong nominal wage growth so that, despite rising inflation, real wages also rise. If so, then this may sustain consumer spending and boost UK economic growth, which slowed to only 0.2% in 2017 Q1, ensuring it returns to rates of growth above 0.5% per quarter in the second half of the year. Commercial activity in this scenario would be expected to increase by 2.2% in 2017 and 2.0% in 2018 with a further rise of 2.3% in 2019.

Offices

The offices sub-sector is the dominant driving force of commercial construction and is very volatile, tending to work historically on a 10-year business cycle. It has enjoyed double-digit growth since the post-crisis nadir in 2012 and general workloads are likely to be sustained by small and medium size projects across the country as well as large projects outside of the capital.

However, this is unlikely to be able to prevent falls in output within the offices sub-sector given that it is highly dependent on major projects, which are expected to be adversely affected by the economic slowdown and the unprecedented uncertainty in both domestic and EU politics. As a result, offices construction is expected to fall by 17.2% by 2019.

Drivers

Investment in new high-profile offices space has tended to be determined by business investment, the availability of corporate credit and market sentiment. It also follows the business cycle given that many of the key drivers are macroeconomic variables.

Activity in commercial offices is dominated by activity in Central London, which accounts for around one-third of UK commercial offices activity. Commercial activity in Central London was at peak levels during 2016, with Deloitte reporting that the vacancy rate had fallen to 3.9%, the lowest since the pre-crisis peak of 2007. Activity remains at high levels but as early as 2016 Q1 large investors in high-profile office space in particular were openly expressing concerns that the prices they were being quoted for new projects was already too high.

The EU Referendum result has exacerbated concerns regarding costs both directly and indirectly. Directly, the value of Sterling has fallen 15%, which is in the process of leading to considerable rises in cost inflation through increases in the cost of imported construction products and the increase in the cost of imported materials used in UK manufactured products, which is lagged as it is often hedged against. Construction materials inflation in the year to May was 5.1% and clearly this will impact pricing going forward. Indirectly, the post-referendum period has been characterised by the considerable increase in uncertainty regarding long-term UK economic prospects and demand

Offices

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	3,316	-55.4%	7,635	-36.3%
2010	3,591	8.3%	6,437	-15.7%
2011	3,366	-6.3%	6,559	1.9%
2012	3,073	-8.7%	5,987	-8.7%
2013	3,889	26.6%	6,613	10.5%
2014	5,182	33.2%	7,799	17.9%
2015	5,384	3.9%	8,728	11.9%
2016	5,411	0.5%	9,913	13.6%
2017e			9,814	-1.0%
2018f			8,637	-12.0%
2019p			8,205	-5.0%

Source: ONS, Construction Products Association

for sectors such as banking and financial services in particular.

Prior to the EU referendum, banking and financial services in addition to the technology, media and telecommunications (TMT) were the key drivers of offices construction with over 67% of the Central London volume of construction occurring in these sectors.

However, since the start of this year, we have begun to see moves from the banking and financial services sector, to establish stronger bases outside of London. Goldman Sachs announced in March 2017 that it would be moving staff from London to Frankfurt and Paris as part of its Brexit contingency plan. Lloyds of London announced it would be opening a subsidiary office in Brussels. In May, JP Morgan Chase & Co. agreed to pay €125 million for an office building under construction in Dublin to accommodate more than 1,000 workers and work on the property is expected to be finished in the third quarter of 2018. At this point, these moves remain small but they are expected to be the first of many announcements from banking and financial services firms that are currently based in London as the process. In addition, Lloyds Banking Group is looking for new office space to consolidate its operations as a part of its plans to cut its office portfolio by around 30%. This is as a result of its 9,000-job reduction program from 2014 but also includes a more recent announcement of a further 3,000 reduction in jobs after Brexit. It also includes plans to encourage staff to work from home.

A relatively new trend reported in the commercial offices sector is the growing demand for flexibility post-referendum that has resulted in a sharp rise in demand for short-term leases within both new and existing office space as firms wait to see before making a long-term commitment to new space. This has also encouraged commercial investors such as The Carlyle Group LP and Blackstone to purchase short-leases as they seek to cater to startup companies that need additional space for specific projects.

Deloitte reported that high-profile leasing agreements by firms such as Apple and Deutsche Bank AG have helped to ease concerns since the referendum but the vacancy rate had risen from 3.9% in 2016 Q1 to 5.8% in 2017 Q1, the largest increase since 2009. The amount of office space available to rent also rose by 36% in 2016 and by a further 19% during the first quarter of 2017.

Central London Office Market

	Availability	Take-up	Under construction
2013 Q1	17.88	2.57	9.20
2013 Q2	16.92	3.58	9.84
2013 Q3	16.45	3.79	8.93
2013 Q4	16.13	3.73	9.06
2014 Q1	16.60	3.21	7.84
2014 Q2	15.60	3.96	6.83
2014 Q3	15.16	4.59	6.70
2014 Q4	13.72	4.12	7.83
2015 Q1	12.45	2.85	7.58
2015 Q2	11.10	3.80	9.30
2015 Q3	10.30	3.50	11.40
2015 Q4	10.10	3.70	12.20
2016 Q1	11.00	3.10	12.30
2016 Q2	13.61	2.38	12.37
2016 Q3	15.05	2.73	13.57
2016 Q4	15.55	3.65	13.94
2017 Q1	15.96	3.12	12.31

Source: Knight Frank, Central London Quarterly

Output

Offices output in 2016 was £9.9 billion, the highest level seen since pre-crisis 2008, enjoying double-digit growth in eight out of the last 10 quarters and double-digit growth in every year since 2012. Overall, output in 2016 was 13.6% higher than in 2015. However, the annual growth rate has been slowing for three quarters and output during the first quarter of 2017 was only 1.8% higher than in 2016 Q1.

Orders

New orders for offices projects in 2016 were 0.5% higher than a year ago, half the rate of growth seen in 2015, 3.9%. This still represents significant growth but the annual figure masks the change in profile as the year progressed. In both the first two quarters of 2016, new offices orders were 24.3% higher than a year ago. However, post-referendum, new orders for offices were 5.1% lower than a year earlier in the third quarter of 2016 and 29.1% lower than a year earlier in the fourth quarter of 2016. Offices new orders during the first quarter of 2017 rose marginally compared with the previous quarter but were still 22.4% lower than a year earlier.

Forecast

The fall in new orders for offices projects is likely to feed through to activity on the ground, or a lack of activity on the ground, as previous projects finish and as cost rises feed through on new contracts. The general lag on offices projects of 12-18 months suggests that this will impact from the second half of 2017 but mainly impact upon 2018. As a result, momentum from projects in 2016 and early 2017 is likely to ensure that falls in output are limited to 1.0% this year before a fall of 12.0% in 2018 and 5.0% in 2019.

Downside Risks:

- Prolonged Brexit negotiation uncertainty
- Business investment is constrained by a longer economic downturn, which reduces pre-letting activity and investor confidence
- Further depreciations in Sterling lead to further rises in construction costs

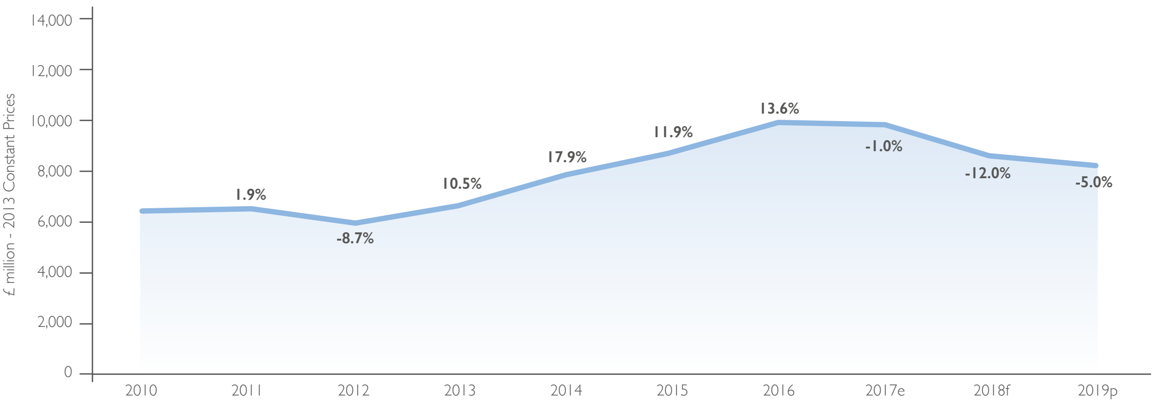
Uncertainty throughout the Brexit negotiations would be expected to lead to sharper falls in the investment and take-up of new high-profile office space in London. Uncertainty regarding financial passporting would particularly impact upon the financial sector and lead to further falls in new investment in London. In addition, any further depreciations in Sterling due to speculation would lead to a rise in construction costs, due to the impact on imported materials, hindering the financial viability of projects given uncertain returns. In this case, commercial offices would be expected to fall 5.0% in 2017 and 20.0% in 2018 with a further decline of 15.0% in 2019.

Upside Risks:

- Stronger economic growth despite rising inflation
- Exchange rate weakness supports foreign investment

If the economy continues to grow strongly and real wage growth is maintained, despite rising inflation, then upward revisions to business confidence and business investment may incentivise new investment in commercial offices. This, combined with a weaker value of Sterling, may lead to further international investment as concerns regarding long-term returns on investment abate. These potential new projects could help to offset the impacts of falls in new contract awards last year. A rise in activity of 2.0% is expected in 2017 but activity would remain flat in 2018 and 2019.

Offices Output



Source: ONS, Construction Products Association

Retail

The prospects for the majority of retail construction remain poor, as they have for the past two years. Recent growth in isolated niche retail markets such as trade and retail parks investment in addition to growth in low value supermarket chains has been unable to offset falls due to a lack of new investment on the high streets, falling shopping centre investment and a general trend towards online shopping. In addition, these long-term falls in retail activity are likely to be exacerbated by short-term concerns regarding falls in consumer spending as a result of falling real wages. As a consequence, falls in activity during 2017 and 2018 are expected and retail construction output at the end of 2018 is anticipated to be 5.9% lower than in 2016 and also 48.9% lower than at the pre-crisis peak.

Drivers

The retail market is a very different market to just three years ago, in 2014, when shopping centre sales and investment hit a post-crisis peak and the supermarket chains all had expansion plans.

UK investment in retail and trade parks so far in 2017 was £1.3 billion, surpassing the £847 million invested in shopping centres for the first time. This partly reflects the decline in shopping centre investment since 2014 but also reflects a return to new retail and trade park investment as major commercial property developer investors such as Land Securities sell retail park holdings and renewals take place. Furthermore, non-traditional retail park chains such as Greggs, who have opened 41 new stores since January 2017, are entering the retail park market as a new growth area.

Retail

Year	Orders		Output	
	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	2,968	-34.7%	5,390	-23.1%
2010	2,843	-4.2%	5,406	0.3%
2011	2,629	-7.5%	5,590	3.4%
2012	2,397	-8.8%	4,720	-15.6%
2013	2,560	6.8%	4,653	-1.4%
2014	3,091	20.7%	5,015	7.8%
2015	2,290	-25.9%	4,466	-10.9%
2016	2,331	1.8%	4,151	-7.1%
2017e			3,985	-4.0%
2018f			3,905	-2.0%
2019p			3,983	2.0%

Source: ONS, Construction Products Association

Supermarket expansion plans did not just include the largest supermarkets such as Tesco, Sainsbury's and Morrisons but also other supermarket chains such as Waitrose, Co-op and Marks and Spencer in addition to the low price supermarket chains Aldi and Lidl. Initially, the major supermarkets were focusing on both medium size outlets and small urban retail units focusing on the high margin convenience market. However, scaled back plans now focusing on the latter mean that the majority of growth has occurred and whilst sustaining activity are unlikely to provide substantial growth. Despite this, a key hive of activity within the sector continues to be the low value chains. Aldi overtook Waitrose to become the 5th largest supermarket retailer in the UK during 2015 and, on the back of rapidly rising sales, both Aldi and Lidl continue apace with aggressive expansion plans. Aldi and Lidl were the fastest-growing grocery chains in the UK in the 12 weeks to 23 April, according to Kantar with annual sales rising at 18.3% and 17.8% respectively. Aldi is expecting to open more than 1,000 new stores in the UK by 2022 and Lidl is expecting to invest £1.5 billion in opening 50-60 new stores each year between 2017 and 2019 compared with 30 new stores in 2016.

Retail sales volumes rose by 4.3% in 2015 and 4.9% in 2016 with consumers buoyed by historically low inflation rates and consequent rising real wages despite subdued nominal wage growth. More recently, retail sales values declined by 0.1% in 2017 Q1 compared with 2016 Q4 and by 4.1% in Q1 compared with a year ago. However, volumes in Q1 only rose by 2.9%. The first quarter was boosted by Easter, which also helped April's figures but even without this spike, retail sales still would have increased. Retail sales values rising considerably faster than volumes clearly suggests that the fall in the value of Sterling during the second half of 2016 is feeding through into retail sales inflation.

Product price inflation is expected to be one of the key elements that adversely affects retailers over the course of the next 12-18 months but they are also likely to be hit by the impacts of business rates revaluations and increases to the National Living Wage. Product price inflation has only started to have an impact so far but the impacts will only accelerate over the course of this year whilst business rates revaluations and the National Living Wage rise occurred in April, following the 2016/17 financial year.

2017 Q1 saw casualties for some retailers, the first key casualties since the EU Referendum vote in June 2016. Blue Inc, Jones Bootmaker, Brantano and Jaeger all fell into administration during the first quarter of 2017. During the second quarter of 2017, Store Twenty One and Joy also went into administration.

The consumer confidence indices appear to be measuring sentiment more than anything else and it is unsurprising to see, given the unprecedented economic and political uncertainty, that the consumer confidence indices are currently extremely volatile and, as a consequence, it is difficult to derive any significant trends.

Main works on two **£1.4 billion** ***projects in London*** *are expected during 2018;*

GfK's UK Consumer Confidence Measure in June 2017 was at -10 with all five constituent measures falling in June and the largest fall occurring in the Major Purchase Index, which is in line with the cause being the high degree of uncertainty impacting on larger purchases. The GfK Personal Financial Situation index measures changes in personal finances in the last 12 months and, in June 2017, registered -1, which is three points lower than in May and seven points lower than in June last year. The GfK forecast for personal finances over the next 12 months has also decreased, by four points in June, to 0. This is eight points lower than in June 2016. The GfK General Economic Situation index during the last 12 months has decreased by five points to -25, which is 12 points lower than June 2016 and expectations for the GfK General Economic Situation index over the next 12 months have decreased two points in June to -23, which is nine points lower than June 2016. The GfK Major Purchase Index has decreased eight points in June to +1, which is eight points lower than June 2016.

In addition to these concerns, the long-term trend towards online spending continues to be an issue. In May 2017, average weekly spending online was £1.1 billion, which is an increase of 14.4% compared with May 2016. The amount spent online accounted for 15.9% as a proportion of all retail spending compared with 14.3% in May 2016. Rising product price inflation and the rising National Living Wage, which has a greater impact on labour intensive high street retailing, is only likely to accelerate this trend.

Despite these negative drivers, there are two large projects in Greater London, highlighted in previous CPA forecasts, which are likely to ensure that activity does not fall sharply in the near-term albeit only in one part of the country. Westfield and Hammerson created the Croydon Partnership to redevelop the Whitgift Centre at a cost of £1.4 billion with over 300 shops, restaurants and cafes. In addition, Hammerson has submitted detailed plans for a £1.2 billion renewal of the Brent Cross shopping centre, which will double its size to 1.9 million sq. ft. as part of a wider £4.5 billion regeneration of Cricklewood including offices, parks and nearly 7,000 new homes. The regeneration is expected to be completed by 2022.

Output

Despite rising consumer sales, declining long-term trends in the retail market have meant that retail construction output fell by 10.9% in 2015 and 7.1% in 2016. Output fell marginally in 2017 Q1 by 0.6% compared with a year earlier and output has now fallen for nine consecutive quarters on an annual basis. If output continues at the level seen in Q1 for the rest of the year then this would suggest a 2.0% fall in output overall for 2017.

Orders

Due to the presence of large one-off projects, the new orders in the retail sub-sector have been very volatile on a quarterly basis. Retail new orders fell by 25.9% in 2015 but rose by 1.8% in 2016. On a quarterly basis, new orders have fallen sharply since the EU Referendum in June 2016. Retail new orders in 2016 Q3 were 17.1% lower than in Q2. Furthermore, new orders in the retail sub-sector in Q4 were 18.6% lower than in Q3 and 22.2% lower than a year earlier. In 2017 Q1, retail new orders in 2017 Q1 were 34.5% lower than in 2016 Q4 and 39.9% lower than a year earlier.

Forecast

The retail sub-sector forecast remains pessimistic with a 4.0% fall in output expected this year, which highlights that the CPA expects output to decline over the course of the year in response to aforementioned drivers. Declines in output are expected to be constrained to only 2.0% in 2018 and then growth of 2.0% is expected despite the negativity of the drivers due to two key projects, worth almost £3.0 billion together in addition to work from low value supermarket chains.

Downside Risks:

- Sustained declines in real wages lead to more retailers falling into administration
- Rising construction costs impact on projects in the pipeline

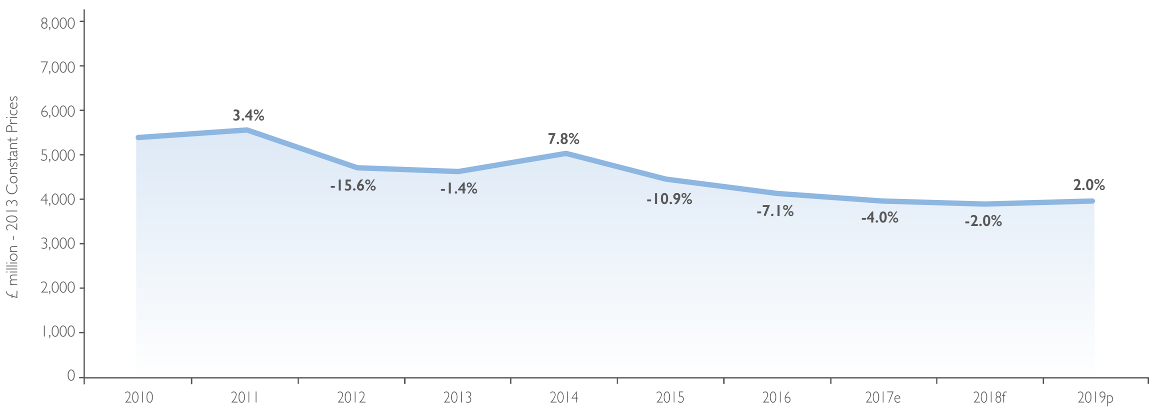
More retailers falling into administrations during 2017 would impact significantly on any new investment in high street retail as existing retailers focus on preventing sales margins falling and sustaining or increasing market share in a declining market. Rising construction costs on both the labour and materials side could impact upon the financial viability of the two major projects in the pipeline and lead to delays and scaling back work. In this case, retail output would be expected to fall by 10.0% in 2017 before falls of 5.0% in both 2018 and 2019.

Upside Risks:

- Consumers utilise savings in the short-term to still spend despite rising costs
- Real wages return to growth as nominal wages respond to rising inflation rises

In the short-term, consumers could maintain spending by utilising savings if they assume that real wage falls will be temporary and we have already seen the savings ratio fall to 1.7% in 2017 Q1. In the medium-term, high employment rates and rising inflation rates may place pressure on employers, outside the public sector, to raise nominal wage growth and ensure that the real wages falls are temporary and retails continue to rise. In this case, retail output would be expected to fall by 2.0% in 2017 before remaining flat in 2018 and rising by 2.0% in 2019 to an output of £4.1 billion, a similar level to that seen in 2016.

Retail Output



Source: ONS, Construction Products Association

Leisure and Entertainment

The leisure and entertainment sub-sector is expected to enjoy small but significant rates of growth over the forecast period. Whilst the depreciation in Sterling adversely affects many construction sectors and sub-sectors, it appears to be having a positive impact. In addition, in the medium-term, the Tottenham Hotspur Stadium and Peak Resort projects should ensure sustained growth.

Drivers

This sub-sector includes gyms, casinos, hotels, sports stadia and leisure facilities. In general, it would be expected that the sub-sector is dependent on UK macroeconomic variables; household income and spending, international investor appetites. Prospects for all of these factors are currently pessimistic.

The largest proportion of sub-sector work is provided by hotel construction. As with retail, the primary driver of activity is at the budget end of hotel construction. Despite considerable growth in the last few years budget hotel chains still see potential for further expansions. Only one in five UK hotel rooms are in budget hotels chains and only one in seven within London. However, within the USA, one in three hotel rooms are within budget chains and highlights the potential for further budget hotels. The fall in the value of Sterling has provided an additional stimulus for tourism to the UK. The ONS International Passenger Survey highlights that the number of visits to the UK by overseas residents in May 2017 was 3.5 million, a decrease of 2.0% compared with May 2016 but overseas residents spent £2.0 billion in the UK in May 2017, an increase of 5% when compared with May 2016. Between March and May there were 10.2 million visits to the UK, which was 10% higher than a year earlier and overseas residents spent £5.6 billion, a 14.0% increase compared with a year earlier.

Leisure & Entertainment

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	2,659	-24.1%	4,367	-14.4%
2010	2,597	-2.3%	4,920	12.6%
2011	2,399	-7.6%	4,786	-2.7%
2012	2,108	-12.1%	4,117	-14.0%
2013	2,668	26.6%	4,436	7.8%
2014	3,076	15.3%	5,256	18.5%
2015	3,048	-0.9%	4,951	-5.8%
2016	3,312	8.7%	5,587	12.9%
2017e			5,699	2.0%
2018f			5,983	5.0%
2019p			6,283	5.0%

Source: ONS, Construction Products Association

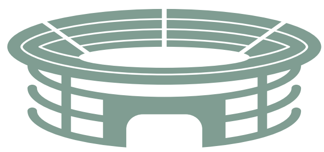
Whitbread, owner of the Premier Inn chain, is expecting to increase its number of rooms to 85,000 across 900 hotels by 2020. Travelodge completed a £100m upgrade of its hotel rooms in December 2015 but further expansions in 2016 and 2017 will take the number of Travelodge sites up to 558 in total across the UK, Spain and Ireland.

By far the largest project potentially within the pipeline was the London Paramount project, a theme park based in North Kent, valued at £3.5 billion. Although London Resort Company Holdings (LRCH) insist that the project is still on course and planning is approaching its final stages, there is increasing speculation that the project is under threat as Paramount Film Studios, a key international investor in the project, has pulled out. As a consequence, it is not included in the forecasts.

Work continues on the £800 million Northumberland Development Project, which includes a redevelopment of Tottenham Hotspur's White Hart Lane stadium ready for Summer 2018. Over £340 million has already been spent on land acquisition, planning, demolition and construction work so far. It is also expected to include a combination of 579 new homes, a 180 room hotel, a local community health centre and a wider regeneration of the area will see 2,000 homes built as part of the High Road West masterplan including a further 3,000 homes in the north Tottenham area.

Work started in 2017 Q1 on the Peak Resort Scheme, a £400 million tourist attraction similar to CentreParcs in Derbyshire that will also include a university campus. The project will include the creation of 250 woodland lodges and 600 holiday apartments, as well as hotel and hostel units on a 300 acre site at Unstone. Phase one of the development which will be complete in spring 2019.

The new ***Tottenham Hotspur stadium*** *is part of an*



£800 million

redevelopment

Output

Sub-sector output has been extremely volatile since 2008, skewed by a few major projects and programmes such as preparation works for the 2012 London Olympics and hotel expansion plans. Output rose 18.5% in 2014 but fell 5.8% in 2015 before rising by 12.9% in 2016. Output in the first quarter of 2017 Q1 was 26.3% higher than a year earlier.

Orders

New orders in leisure and entertainment in 2015 fell by 0.9% but rose by 8.7% in 2016. On a quarterly basis, the new orders in leisure and entertainment are also very volatile. In the final quarter of 2016, new orders were 26.3% were lower than a year ago but in the first quarter of 2017 new orders were 75.1% higher than a year earlier.

Forecast

Despite general macroeconomic factors pointing towards declines, expansions in the key hotels area and a few major projects are likely to ensure growth over the next few years. Leisure and entertainment output is expected to rise 2.0% in 2017 before growth of 5.0% in both 2018 and 2019.

Downside Risks:

- Rises in costs hinder construction volumes
- Slowdown in UK economic activity and sustained fall in real wages

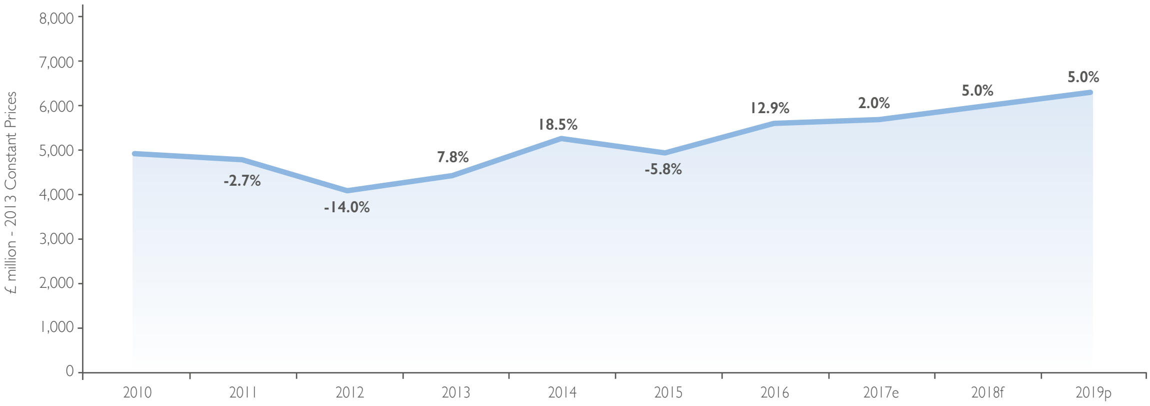
If construction labour and materials costs continue to rise then it could hinder growth prospects for volumes in the sub-sector even if the value of projects remains the same as projects get scaled back. This would particularly be the case if demand is uncertain as the UK faces an economic slowdown. In this case, output would be expected to fall by 2.0% in 2017 before falls of 4.0% in both 2018 and 2019.

Upside Risks:

- UK GDP returns to rates of growth above 0.5%
- Return to real wage growth in the medium-term continues despite inflation rises

Although the first quarter saw a slowdown in UK economic growth and falling real wages, raising uncertainty regarding UK economic prospects at a time when the UK is also facing unprecedented political uncertainty. However, if UK economic growth returns to strong rates of growth with rising real wages then rising consumer spending would also boost other leisure and entertainment spending outside of the hotels sub-sector. In this case, output would be expected to rise by 4.0% in 2017 before growth of 5.0% in both 2018 and 2019.

Leisure & Entertainment Output



Source: ONS, Construction Products Association

Industrial

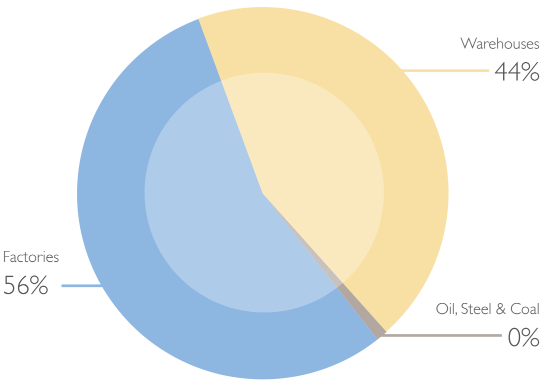
The industrial sector is primarily driven by work in the factories and warehouses sub-sectors.

In 2016, output declined 9.5%, reflecting a fall in activity in both warehouses and factories, which is expected to persist in the near-term on the back of slower economic conditions. Overall, industrial output is forecast to fall 8.4% in 2017 and 3.1% in 2018.

After reporting a double-digit fall in 2016, new warehouses construction is set to contact 9.0% in 2017 and 2.0% in 2018. By the end of the forecast period, warehouses output will be 10.8% lower than in 2016, as a falling supply of warehouse floor space fails to keep up with the pace of retailer demand.

Factories construction is forecast to decline 8.0% in 2017 and 4.0% in 2018, reflecting a weaker economic environment compounded by slower consumer spending and lower business investment. Furthermore, as the fall in new orders between 2016 Q2 and 2017 Q1 passes through to activity on the ground, output in 2019 is projected to be 13.4% lower than in 2016.

Industrial Output by Category (2016)



Source: ONS

Drivers

Demand for warehouses and factories is driven by manufacturing investment and consumption. As a consequence, it is determined by consumer and business confidence, which, in turn, is highly dependent upon wages, inflation, unemployment and the ability to finance spending through credit. In addition, it is also influenced by demand in key export markets for domestic manufacturers.

Output in the sector has, historically, tended to be aligned with the business cycle. While consumer spending performed stronger-than-

Industrial

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	2,540	-36.2%	3,450	-29.8%
2010	2,150	-15.4%	3,825	10.9%
2011	2,069	-3.8%	3,464	-9.4%
2012	2,480	19.9%	3,794	9.5%
2013	3,257	31.3%	3,445	-9.2%
2014	3,476	6.7%	3,931	14.1%
2015	4,333	24.7%	4,310	9.6%
2016	3,868	-10.7%	3,901	-9.5%
2017e			3,573	-8.4%
2018f			3,462	-3.1%
2019p			3,423	-1.1%

Source: ONS, Construction Products Association

expected in 2016 in line with GDP growth, business investment faltered due to referendum-related uncertainties, constraining activity in warehouses. Despite healthy demand at home and abroad, output in the factories sub-sector contracted for the first time since 2013.

Over the last 18 months, manufacturing output growth has been volatile, reflecting the impact of uncertainty on business confidence however, looking ahead, factories construction will be driven by large-scale expansions by automotive manufacturers. Demand for warehouse floor space has largely been driven by online retailers looking to meet the growing needs of e-commerce and will undoubtedly continue to play an important role in supporting activity throughout the forecast horizon.

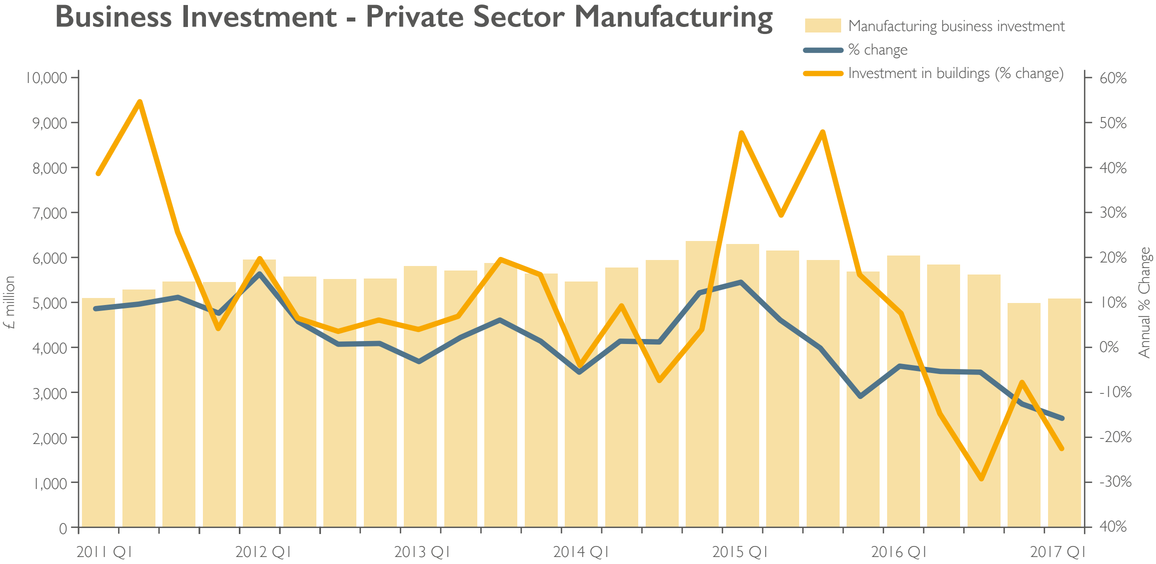
Output

After two years of robust growth, output in the industrial sector totalled £3.9 billion in 2016, a decrease of 9.5% compared to 2015 and 40.1% lower than its pre-recession peak in 2006. Although the UK economy proved more resilient than initially expected in the face of uncertainty created by the EU Referendum result, business investment declined in 2016, reflecting the hit to confidence that led firms to adopt a wait-and-see approach. This, as well as a fall in contract awards over the year largely explains the dip in industrial activity. In 2017 Q1, industrial output fell 16.2% in annual terms, marking a fifth consecutive quarter of decline and contracted 10.9% on a four-quarter basis compared to a year ago.

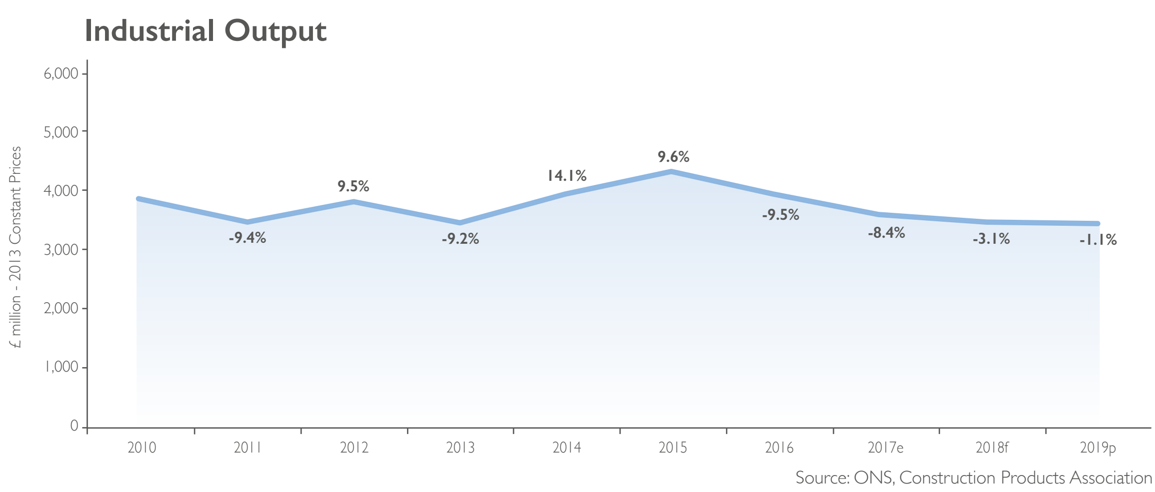
Orders

Following four years of growth between 2012 and 2015, orders declined 10.7% in 2016, owing to the factories and warehouses sub-sectors. In 2017 Q1, new orders increased 0.4% year-on-year to £1.0 billion, after five consecutive quarters of decline since 2015 Q4. On a four-quarter total basis, new orders decreased 8.7% in Q1.

Business Investment - Private Sector Manufacturing



Source: ONS



Forecast

The outlook for the industrial sector appears relatively weak in line with an expected slowdown in UK economy. In 2017, output in the sector is forecast to decline 8.4%, followed by 3.1% in 2018 and a further 1.1% in 2019. This reflects a fall in factories construction amid weaker domestic demand, as well as a decline in warehouses output from an historically high level, in part owing to limited speculative development activity. At the end of the forecast period, output is projected to total £3.4 billion, 47.4% lower than its peak in 2006.

Downside risks:

- Weaker-than-expected UK economic conditions
- Speculative development activity and investment falls amid heightened uncertainty

A marked slowdown in the UK economy, reflecting weaker than expected domestic demand and consumer spending amid rising inflation, presents a downside risk to the sector. Against this backdrop factories construction is likely to experience sharper falls in activity, whilst warehouses output will report double-digit declines throughout the forecast period. Furthermore, heightened economic and political uncertainty may result to falls in speculative development activity in warehouses and investment in factories. In this case, industrial output is expected to contract 15.0% in 2017, before falls of 7.2 % and 7.1% in 2018 and 2019 respectively.

Upside risks:

- UK export growth strengthens, supported by a weaker Sterling and stronger global economic growth
- Consumer spending strengthens

Further falls in the Sterling, together with stronger global economic growth, are likely to boost exports of goods further in the near-term. However, this would not be enough to offset the slowdown in domestic demand and, as a result, factories output is still expected to decrease this year. Moreover, assuming consumer spending picks-up as inflation slows in response to the recent fall in oil prices, this will support higher growth rates for warehouses in the near-term. Overall, in this case, industrial output is expected to fall 2.9% in 2017, before remaining flat in both 2018 and 2019.

Factories

After two years of growth, factories output contracted 4.3% in 2016 due to a decline in business investment as manufacturers paused or delayed decision making in the face of uncertainty created by the EU Referendum. Looking ahead, the climate is expected to remain broadly unchanged, with recent political events adding another layer of uncertainty ahead of Brexit negotiations that will continue to weigh down on investment plans. This, despite a pipeline of a few large projects within the automotive sector, will provide little ground for growth. By the end of the forecast period, sub-sector output will be worth £1.9 billion, 13.4% lower than in 2016.

Drivers

Output in the factories sub-sector is primarily driven by industrial production and manufacturing output, which in turn, are reliant on domestic demand and exports. In 2016, despite referendum-related uncertainties at home and political uncertainties abroad, industrial production and manufacturing output held up better than expected in line with UK economic growth. For the whole year, industrial production increased 1.2%, unchanged from 2015, whilst manufacturing output rebounded (0.7%) after a fall in the previous year. Recent data however, showed that manufacturing activity increased 0.3% on a quarterly basis in 2017 Q1, a marked slowdown from 1.2% in 2016 Q4, reflecting weaker domestic demand as higher inflation weighs down on consumer spending. Meanwhile, UK exports of goods increased 19.5% year-on-year in 2017 Q1 following a 15.7% increase in Q4, marking the highest annual growth since 2011 Q4, due to the ongoing support from the past Sterling depreciation and robust global demand in key export markets.

Survey data from Markit/CIPS and the EEF reported that manufacturing activity continued to increase in the second quarter of 2017, albeit at a slower pace. Nevertheless, output and orders expanded above their historic averages, whilst job creation reached a 35-month high.

Looking at the project pipeline, construction is currently underway at Aston Martin's £200 million car plant in South Wales. Furthermore, construction work on Jaguar Land Rover's £500 million expansion of its global headquarters in Coventry, the largest automotive project in the sub-sector, and McLaren's £50.0 million factory in South Yorkshire are expected to start this year. Other commitments in the UK automotive industry include Nissan's expansion plans at its Sunderland factory, Honda's £200 million investment at its manufacturing centre in Swindon and £240 million from Toyota to upgrade its car plant in Derbyshire, which includes £21.3 million funding from government for training, research and development. Despite these commitments, anecdotal evidence suggests that carmakers are still keeping their investment options open given the uncertainty over Brexit negotiations. Besides this, in February, Boeing announced £20.0 million

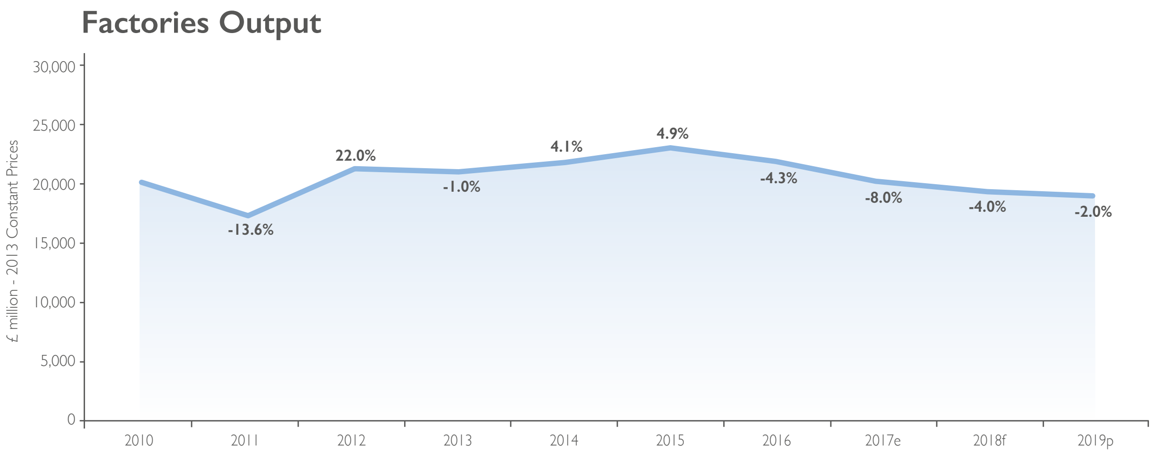
Factories

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	1,494	-32.3%	1,912	-28.9%
2010	1,040	-30.4%	2,009	5.1%
2011	1,078	3.7%	1,737	-13.6%
2012	1,462	35.6%	2,119	22.0%
2013	1,584	8.3%	2,097	-1.0%
2014	2,090	31.9%	2,184	4.1%
2015	2,400	14.8%	2,291	4.9%
2016	2,178	-9.2%	2,192	-4.3%
2017e			2,017	-8.0%
2018f			1,936	-4.0%
2019p			1,897	-2.0%

Source: ONS, Construction Products Association

The largest project in the pipeline is Jaguar Land Rover's

£500 million
expansion plan



Source: ONS, Construction Products Association

to build its first European factory in Sheffield. If approved, the 2,300 m^2 plant is expected to be in operation by 2018.

Output

Following a period of volatile activity between 2009 and 2013, factories output increased 4.1% and 4.9% in 2014 and 2015 respectively. However, in 2016, output declined 4.3%, reflecting a fall in contract awards amid uncertainties created by the EU referendum. Moreover, recent quarterly data indicates that activity in the sub-sector has been declining since 2016 Q3 and in 2017 Q1, was 15.9% lower than a year earlier.

Orders

After five years of growth between 2011 and 2015, factories new orders fell 9.2% in 2016. In 2017 Q1, orders fell 9.4% on a four-quarter basis compared to a year ago, which reflects the impact of uncertainty on investment intentions.

Forecast

Although a weaker Sterling exchange rate and an improving global economic outlook should continue to underpin export growth in the near-term, domestic demand linked to household consumption is expected to weaken. This, alongside lower activity on the ground, reflecting the fall in new orders since 2016 Q2 underpins a weak outlook for the sub-sector. Factories output is forecast to fall 8.0% in 2017, 4.0% in 2018 and a further 2.0% in 2019.

Downside risks:

- Subdued domestic demand tied to weaker household spending
- Manufacturers delay or cancel investment plans

Further rises in inflation and falling real wage growth that constrains consumer spending, are likely to weigh on domestic demand, presenting a major downside risk to the sub-sector. Moreover, in the event of heightened uncertainty relating to domestic politics and Brexit negotiations, manufacturers, particularly those in the automotive industry, are likely to delay or revise their investment plans. In this case, factories output is expected to contract 15.0% in 2017, before falls of 5.0% in both 2018 and 2019.

Upside risks:

- A lower level of Sterling boosts exports
- Stronger global economic growth

A weaker Sterling exchange rate coupled with stronger global economic growth and trade are likely to support UK exports of goods further in the near-term. However, such benefits to export competiveness are unlikely to fully mitigate the prospective weakening in domestic demand and, as a result, output is still expected to decline this year (-2.0%), with no growth anticipated in the subsequent two years.

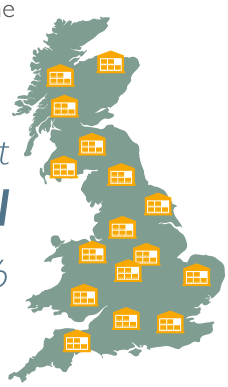
Warehouses

Although warehouses orders increased in the first quarter of 2017, this is unlikely to counteract the impact of falling orders between 2015 Q4 and 2016 Q4, which is expected to feed through into lower output. Furthermore, a weaker outlook for retail spending, as higher inflation erodes real wages, is likely to dampen demand for distribution and storage space, despite robust growth in e-commerce. As a result, output is forecast to fall 9.0% in 2017, followed by a further decline of 2.0% in 2018. In 2019, warehouses output is projected to be 10.8% lower than in 2016.

Drivers

Warehouses output is strongly linked to economic conditions, particularly consumer spending. Since a surge in 2014, consumer spending has continued to deliver strong growth rates and, in 2016, reached the highest since pre-recession peak driven by low unemployment, inflation and interest rates. These benign conditions created a solid backdrop for retail that year, with sales registering the strongest growth in 15 years despite post-referendum uncertainty. However, in 2017 Q1, for the first time since 2013 Q4, retail sales declined 1.5% quarter-on-quarter as the Sterling-induced inflation dampened consumer spending (see Economy). The retail sub-sector is undergoing a structural shift towards internet shopping, which boosts the extent to which warehouses space is needed for storage and distribution at the expense of general retail space. In June, the average weekly spend online was £1.1 billion, an increase of 15.9% from a year earlier. Although this reflects a slowdown, the proportion of online retail sales reached 16.1% in June, the highest on record.

*The UK warehouse market recorded the **highest level of take-up** in 2016*

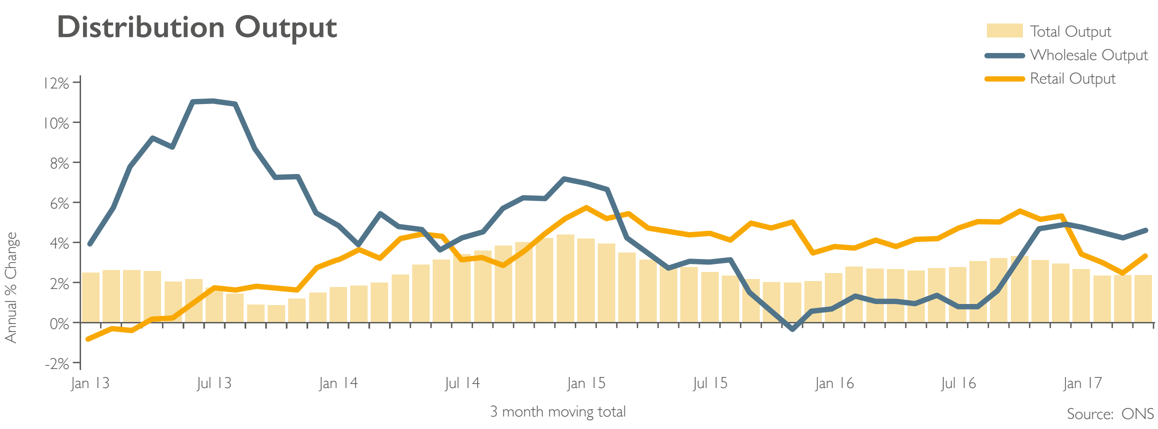


Reflecting the ongoing expansion in e-commerce, demand for warehouse and distribution space has remained robust and, according to Savills, record high take-up levels were reported in 2016, dominated by online retailers (29%). Furthermore, in June, online fashion retailer, Boohoo signalled a 600,000 sq. ft. warehouse expansion plan worth £150 million,

Warehouses

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	947	-39.4%	1,367	-31.7%
2010	894	-5.5%	1,504	10.1%
2011	774	-13.5%	1,395	-7.2%
2012	784	1.4%	1,330	-4.7%
2013	1,419	80.9%	1,085	-18.4%
2014	1,385	-2.4%	1,577	45.3%
2015	1,916	38.4%	2,003	27.1%
2016	1,648	-14.0%	1,693	-15.5%
2017e			1,541	-9.0%
2018f			1,510	-2.0%
2019p			1,510	0.0%

Source: ONS, Construction Products Association



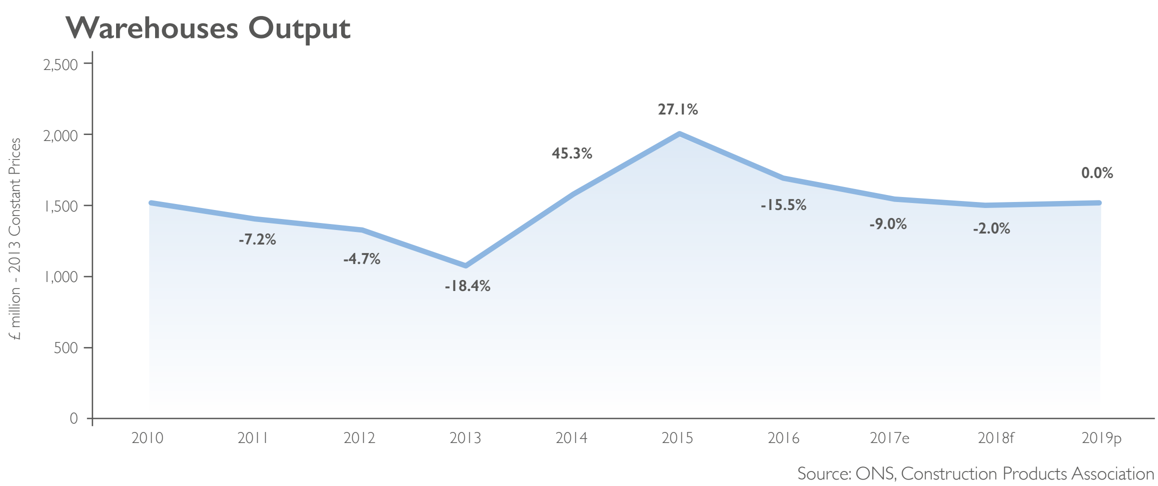
with further details yet to emerge. Despite this, Savills reported a slowdown in retailer demand for warehouse units over the last quarter amid weakening expectations for consumer spending. Moreover, according to [JLL's Supply Chain Activity Index](), warehouse take-up over the nine months to September 2017 is expected to be lower than the previous year. Nevertheless, take-up is still estimated to remain above the five-year average.

Output

Following three years of falls between 2011 and 2013, the warehouses sub-sector experienced double-digit increases in 2014 and 2015, benefitting from the strength in retail spending. However, in 2016, warehouses output declined 15.5% to £1.7 billion, reflecting the drop off in contract awards against a background of uncertainty and it is one trend that has continued into this year. In 2017 Q1, output fell 18.3% in annual terms, marking a fifth consecutive quarter of decline. On a four-quarter total basis, output decreased 16.3% in Q1.

Orders

After growth in 2015, new orders declined 14.0% to £1.6 billion in 2016. However, in 2017 Q1, orders rose 2.2% in annual terms. Orders tend to be volatile on quarterly basis, and in the four quarters to 2017 Q1, were 9.6% lower than the corresponding period a year earlier.



Forecast

In the near-term, limited speculative development and softer retailer demand, on the back of an expected moderation in economic growth and retail sentiment, suggests a continued retrenchment in warehouses activity. In 2017, sub-sector output is forecast to contract 9.0%, followed by a further 2.0% in 2018, which also reflects the fall in new orders between 2015 Q4 and 2016 Q4, which is expected to filter through to activity on the ground.

Downside risks:

- A sharp slowdown in consumer spending
- Lower speculative development amid heightened economic uncertainty

If consumers retrench more than expected in response to rising inflation and falling real wage growth, this poses a major risk to the sub-sector. Consequently, in the event of falling retail sales, retailers may delay expansion plans, denting overall demand for warehousing floor space. This, together with limited speculative development activity would result in lower growth rates over the next three years. In 2017, warehouses output is expected to fall 15.0%, followed by a further 10.0% in both 2018 and 2019.

Upside risks:

- Consumer spending picks up as real wage growth recovers

If employers raise nominal wages in response to higher inflation, real wage growth is expected to recover over the near-term. However, the higher cost of living could see consumer spending habits shift more towards online retail in search for bargains. Combined with growing appetite from overseas investors fuelled by a weaker Sterling exchange rate, this should underpin demand for warehousing and distribution space. However, in this case, we still anticipate growth to decline 4.0% in 2017, before no growth in 2018 and 2019.


250 yds ahead
4.0m
13'0"
E
Prohibited
vehicles
follow


wish it lasted longer?

Infrastructure

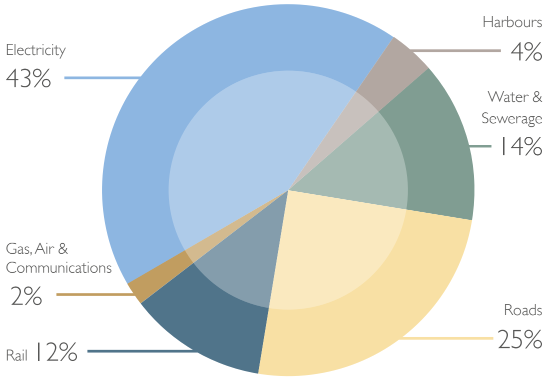
Over the next three years, activity is expected to increase, with work on electricity, rail and water & sewerage set to boost growth towards the end of the forecast period.

Note that the ONS has issues with its measurement of the sub-sectors in infrastructure for two reasons.

Firstly, the ONS's methodology means that although the level and growth of total infrastructure overall may be fine, sub-sector output is determined by the relationship between new orders and output in the medium-term, often determined by projects within 5 year spending plans in regulated sectors. However, if a new order for a major project in the sub-sector is placed, this may underestimate the time taken for it to provide activity on the ground and overestimate the amount of activity in one quarter or year. An example of this may potentially be the extent of recent growth in water & sewerage due to the Thames Tideway project.

Secondly, the ONS only surveys firms that are officially classified as contractors so if the activity is done by an engineering firm then it will not be covered. This applies to all construction sectors

Infrastructure Output by Category (2016)



Source: ONS

and firms that do construction work but are not technically contractors. However, this issue impacts most upon infrastructure.

Within roads, capital expenditure is set to rise from 2017/18, before peaking in the final year of Highways England's Road Period 1 that will

Infrastructure

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	10,690	41.2%	11,673	14.6%
2010	8,720	-18.4%	14,865	27.3%
2011	7,239	-17.0%	16,107	8.4%
2012	10,133	40.0%	14,403	-10.6%
2013	8,432	-16.8%	14,728	2.3%
2014	7,229	-14.3%	14,196	-3.6%
2015	10,865	50.3%	19,580	37.9%
2016	11,210	3.2%	17,777	-9.2%
2017e			19,092	7.4%
2018f			20,304	6.4%
2019p			22,285	9.8%

Source: ONS, Construction Products Association

contribute to the stronger growth rate projected for 2019. As a result, infrastructure output is predicted to reach an historic high of £22.3 billion in 2019, 25.4% higher than in 2016. Delays and difficulties in getting capital investment on the ground, particularly in the rail, road, energy and water and sewerage sub-sectors, however, mean that double-digit growth rates in previous Forecasts have been pushed outside of the forecast horizon.

Drivers

Infrastructure construction can be divided into publicly-funded (roads and rail) or regulated sub-sectors (water & sewerage, electricity and gas, air & communications).

The Department for Transport's (DfT) capital budget (in nominal terms) increased in every year between 2010/11 and 2014/15, from £7.3 billion to £9.4 billion, before decreasing to £5.5 billion in 2016/17. Budget 2017 confirmed that the DfT's capital budget will rise to £6.4 billion in 2017/18, before increasing each year between 2018/19 and 2020/21. Growth will be supported by Highways England's £15.2 billion first Road Investment Strategy (RIS), which expects to deliver over 100 road schemes between 2015 and 2020. However, lower capital spending has so far been seen in the first year of Road Period 1 than anticipated, resulting in reduced workloads in roads during 2016. Furthermore, in Autumn Statement 2016, the government announced a new National Productivity Investment Fund (NPIF) worth £23 billion over a five year period from 2017/18 to 2021/22, of which £2.6 billion is allocated for improving the UK's transport network.

In December 2016, the government published a new National Infrastructure and Construction Delivery Pipeline, setting out over £500 billion worth of planned private and public investment over this Parliament, with over £300 billion worth of projects from 2016/17 to 2020/21. This however, reflects updates of the previous separate National Infrastructure Plans and Government Construction Pipelines. 41.1% of projects in the infrastructure pipeline are in the energy sector, with a total value of £206.3 billion, including Hinkley Point C. However, the efficient delivery of the infrastructure projects outlined in the pipeline will be key to growth.

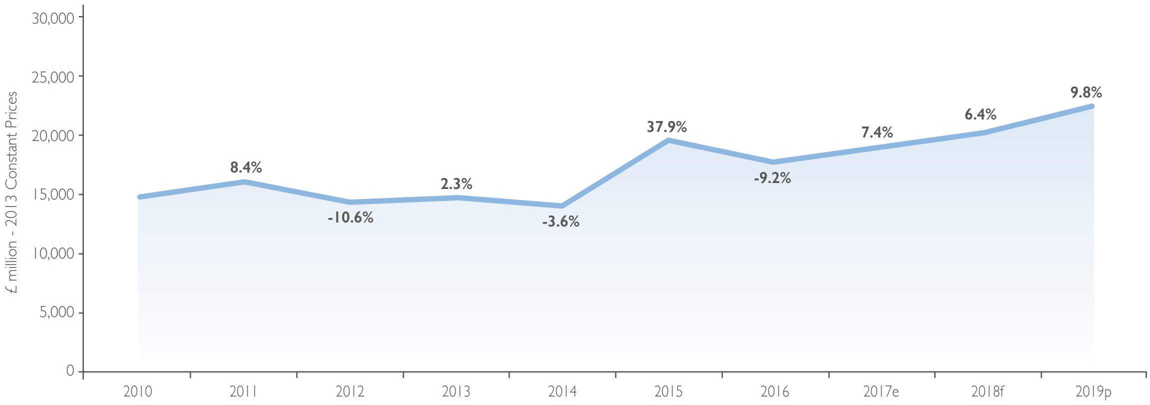
Within electricity, investment is required by 2020 to make up for closing capacity. 21 GW out of around 90 GW of existing electricity generating capacity is forecast to close by 2030. Although recent focus has increasingly been on the new nuclear power station, Hinkley Point C, to address this issue, main works on the high-profile project are now not expected to occur within the forecast period due to constant delays and cost overruns, increasing the risk of power cuts. Nevertheless, these concerns are likely to be partially addressed by ongoing renewable energy in the near-term. Progress has been made on projects under the Round 3 Offshore wind programme, including the world's largest offshore wind farm, Hornsea One, which will support growth throughout the medium-term.

Despite a healthy pipeline of investment and projects in the infrastructure sector, delays cannot be ruled out, especially in the roads, rail and energy sub-sectors. In both the Spring and Winter forecasts, the Association projected double-digit growth rates in 2018 and 2019 on the back of main works occurring on high-profile projects, such as Hinkley Point C, which are now not expected to take place within the forecast period. As a result, the large spike in activity that was previously anticipated has now been pushed back further, owing to constant delays and cost overruns. A stark example includes the Sheffield to Rotherham tram-train project, which is running two and half years behind schedule on a three-year project and the total cost of the project has increased 401.0% from an initial budget of £15.0 billion to £75.1 billion.

Output

Following historically low levels of output recorded in 2007, when the sector was worth £9.2 billion, output increased in the subsequent four years, reaching £16.1 billion in 2011. Since then, the infrastructure sector has experienced volatile growth from year to year and, in 2016, output totalled £17.8 billion, a decrease of 9.2% compared to 2015, reflecting lower activity in all sub-sectors except water & sewerage. Quarterly data indicate that the sector output in Q1 decreased 1.7% on an annual basis but was 2.3% higher compared to 2016 Q4, primarily due to the rail sub-sector.

Infrastructure Output



Source: ONS, Construction Products Association

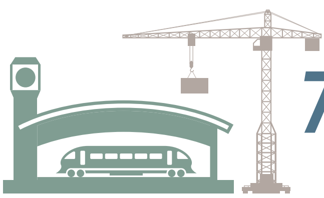
Orders

New orders in the infrastructure sector can be volatile due to the nature of work in the sector. It is typically dictated by large one-off projects and frameworks. After two years of double-digit falls, new orders increased 50.3% to £10.9 billion in 2015 and, a further 3.2% to £11.2 billion in 2016, the highest level on record. However, in 2017 Q1, orders fell 1.3% year-on-year and were 0.9% lower on a four-quarter basis. The largest contribution to this fall came from the water & sewerage and roads sub-sectors.

Forecasts

The outlook for the infrastructure sector remains positive and is expected to be a key driver of overall construction activity over the next three years. In 2017, output is forecast to return to growth and expand by 7.4%, driven by ongoing works on station upgrades in the rail sub-sector, as well as construction on several offshore wind projects in the electricity sub-sector. In 2018, output in the sector is expected to increase 6.4%, followed by a further 9.8% in 2019, which reflects main works commencing on high-profile infrastructure projects, namely, HS2. Growth rates in 2018 and 2019 have been revised down from previous Forecasts, with the previously-forecast spike in growth now expected to occur beyond the forecast period.

Infrastructure construction is forecast to rise



7.4%

in 2017

Downside risks:

- Main works on large-scale infrastructure projects delayed further
- Further cuts to local authorities' funding

If main construction works on high-profile projects such as HS2 and the Thames Tideway Tunnel are pushed back further, this poses a major risk to the infrastructure sector. Moreover, further cuts to local authorities' funding are likely to weigh on activity in roads. As a result, solid growth rates are not anticipated during the forecast period. Output will rise 1.8% in 2017, 4.1% in 2018, followed by 4.4% in 2019.

Upside risks:

- The Swansea Tidal Lagoon project receives final go-ahead
- Network Rail and Highways England bring forward finance

If plans to build the £1.3 billion Swansea Bay Tidal Lagoon project in South Wales receive final go-ahead, this poses an upside risk to infrastructure growth. This, alongside higher capital spending under the roads and rail current settlement periods (RIS and CP5) that will ensure delivery of key projects, is likely to support double-digit growth rates throughout the forecast period. In this case, infrastructure output is forecast to rise 11.8% in 2017, 16.1% in 2018, followed by 19.1% in 2019.

Water & Sewerage

Output in the water & sewerage sub-sector increased 52.8% between 2007 and 2011, before reporting double-digit contractions in the subsequent three years, reaching a nadir of £1.2 billion in 2014. However, output recovered strongly in 2015 and 2016, reporting double-digit increases and this growth trend is expected to continue in 2017 and 2018, underpinned by main construction works on the Thames Tideway project.

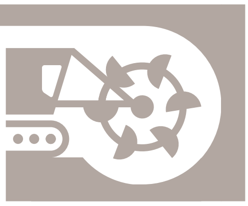
Drivers

The five-year Asset Management Plan (AMP) agreed with the regulator, Ofwat, determines investment in water & sewerage assets and customer charges are set to meet the funding requirements for enhancement and maintenance work.

Orders for the framework programmes are often placed before the funding agreements are confirmed and, as a result, orders and output in the water & sewerage sub-sector have historically been volatile. Under the current five-year settlement, AMP6 (2015/16-2020/21), the focus has shifted from separate capital and operational expenditure plans to total expenditure and encourages measures to improve efficiency through the maintenance of existing infrastructure, rather than replacements and new work. Total spend by water companies in England and Wales under AMP6 is estimated at £44 billion, with totex investment expected to peak in 2017/18.

The largest driver of activity will be construction on the £4.2 billion Thames Tideway Tunnel, the largest project in the pipeline. Preliminary construction is currently underway, with main tunnelling works set to start in 2018. The project has a £700 million backing from the EIB and following the EU Referendum result, the Bank has stated that its funding commitments to the sub-sector will remain unchanged in the near-term. The project is anticipated to be completed by 2024. In addition to this, activity will be supported by construction work on 29 programmes, worth £25.4 billion under AMP6 that includes works

Tunnelling works on the
£4.2 billion
Thames Tideway Tunnel to
start in **2018**



on both new build and repair and maintenance, according to the National Infrastructure and Construction Pipeline in December.

Output

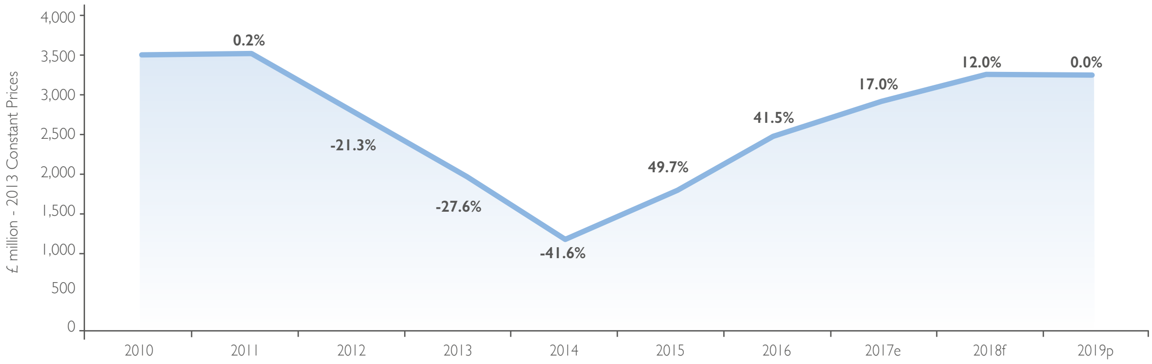
Since 2012, output in the water & sewerage sub-sector has declined for three consecutive years, reaching its nadir of £1.2 billion in 2014. From this low base, output increased 49.7% in 2015, followed by 41.5% in 2016 driven by the start of AMP6, as well as preliminary works on the largest project in the sub-sector, the Thames Tideway Tunnel. However, in 2017 Q1, output declined 8.8% year-on-year, marking the first annual decline since 2015 Q1 and, fell 7.0% on a quarterly basis.

Water & Sewerage

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	3,470	183.0%	2,650	10.3%
2010	1,571	-54.7%	3,532	33.3%
2011	1,076	-31.5%	3,539	0.2%
2012	1,472	36.8%	2,787	-21.3%
2013	597	-59.4%	2,017	-27.6%
2014	398	-33.4%	1,177	-41.6%
2015	2,076	421.8%	1,763	49.7%
2016	842	-59.4%	2,495	41.5%
2017e			2,919	17.0%
2018f			3,269	12.0%
2019p			3,269	0.0%

Source: ONS, Construction Products Association

Water & Sewerage Output



Source: ONS, Construction Products Association

Orders

Historically, orders in the water & sewerage sub-sector have been volatile and orders for framework programmes have often been placed before funding has been agreed with the regulator. In 2009, a year before the start of AMP5, orders increased 183.0% in 2009 on an annual basis totalling £3.5 billion, followed by double-digit contractions in the subsequent two years. However, in 2012, orders rebounded, before double-digit falls in the following two years, reaching a nadir of £0.4 billion in 2014 towards the end of AMP5. From this historic low base, orders increased 421.8% in 2015, before falling sharply again by 59.4% in 2016. In 2017 Q1, new work orders declined 55.5% year-on-year and were 65.4% lower on a four-quarter basis.

Forecast

The outlook for the water & sewerage sub-sector remains broadly unchanged since the Spring forecast, with output forecast to increase 17.0% in 2017 and 12.0% in 2018, driven by main tunnelling works commencing on the Thames Tideway Tunnel. In 2019, water & sewerage output is projected to total £3.3 billion, 177.6% higher than at the nadir in 2014.

Downside risks:

- Thames Tideway Tunnel delayed

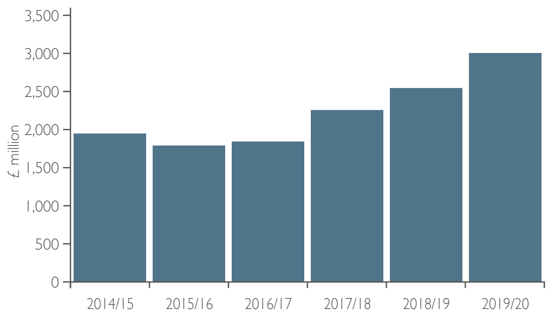
A downside risk to sub-sector growth arises if work on the Thames Tideway Tunnel suffers from delays due to cost overruns, slowing activity on the ground. However, in March the National Audit Office revealed that the government has provided a contingent support package, which aims to mitigate any downside risks, including providing financial support if cost overruns exceed 30% or if economic and political events make it difficult to access capital from debt capital markets. Nevertheless, water & sewerage output is expected to increase 10.0% in 2017, followed by 5.0% in both 2018 and 2019 in this case.

Upside risks:

- The focus shifts to new build under AMP6

Alongside construction activity on the Thames Tideway Tunnel, increasing focus on new build under the AMP6 will lead to stronger growth rates over the forecast period. In this case, growth of 20.0% is expected per year over the forecast period.

Highways England Capital Budget



Source: Highways England Strategic Business Plan

Roads

After three years of strong growth, output in the publicly-funded roads sub-sector contracted in 2016, due to lower activity occurring under the first Road Period than the funding profile initially suggested. Looking ahead, a further decline is expected in 2017, followed by no growth in 2018, reflecting insufficient new work to replace the completed projects as Highways England struggles to get activity on the ground outside of smart motorways and local authorities remain financially constrained. The Association however, expects a return to growth in 2019 supported by higher capital spending by Highways England in the final year of Road Period 1, which is expected to ensure the start of around 60 major schemes.

Drivers

In 2015, Highways England confirmed £15.2 billion investment in over 100 major schemes to enhance, renew and improve the road network over the 2015/16 to 2019/20 Road Investment Strategy period (RIS 1). In June, the Department for Transport (DfT) allocated £6.1 billion of funding announced in 2014 for road improvement schemes in the current RIS. This is expected to ensure progress on 55 projects over the next six months, including the opening of eight schemes, consulting on 10 schemes and publishing final plans for another 29 schemes. Planned upgrades include increasing capacity to the A1 in Northumberland and the A12 Colchester bypass, improvements to Junction 19 on the M6, upgrading the link between Port of Liverpool, as well as a new strategic corridor to the south-west via A303. According to the ORR's Annual Assessment of Highways England's Performance (April 2016 - March 2017), 16 out of the 112 major schemes started works before the road period, eight started in 2015/16 and a further eight started in 2016/17, with 80 anticipated to begin between April 2017 and the end of the road period. Of the 80, Highways England reports that 77 are on, or ahead of schedule, whilst three are delayed. Previously, in March, the National Audit Office reported that 54 schemes are scheduled to start construction within the final year of Road Period 1, whilst 16 are at risk of being cancelled or delayed. This suggests that the majority of the work will be heavily skewed towards the end of the road period and, as a result, this will need to be matched by a significant increase in skills and capacity in order to ensure delivery of these projects.

In Autumn Statement 2016, the government announced an additional £1.1 billion to upgrade local roads and transport through the National Productivity Investment Fund (2017/18-2020/21) and £220 million to address pinch points. In terms of projects in the pipeline, work is currently underway on the £1.5 billion A14 Cambridge to Huntingdon improvement scheme and the A19/A1058 Coast Road junction to relieve congestion. In Scotland, construction is currently completing on the £1.462 billion Forth Replacement Crossing, the £588 million combined M8/M74/M73 improvement projects and the £745 million Aberdeen Western Peripheral Route, all of which are due for completion this year and there is limited new work in the near-term pipeline.

Roads

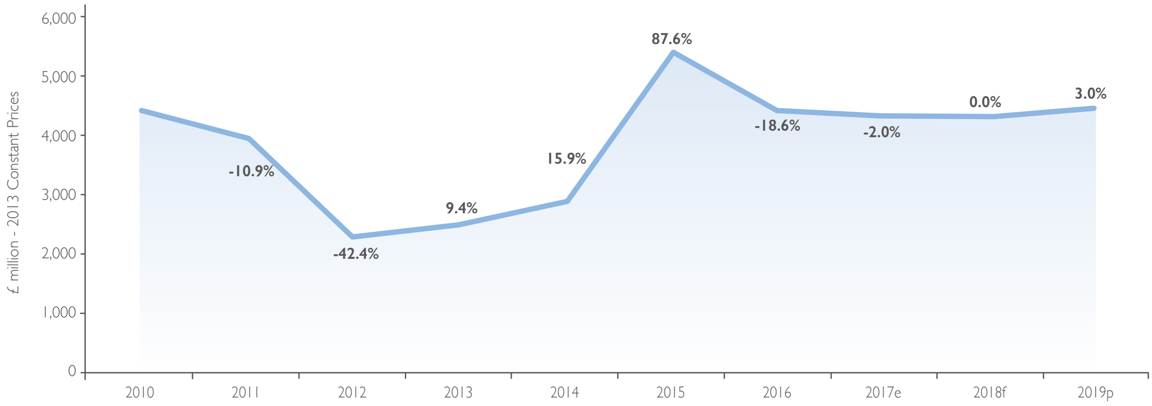
	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	3,296	59.5%	3,586	28.9%
2010	1,619	-50.9%	4,439	23.8%
2011	824	-49.1%	3,958	-10.9%
2012	1,613	95.9%	2,282	-42.4%
2013	1,700	5.4%	2,497	9.4%
2014	2,050	20.6%	2,895	15.9%
2015	2,782	35.7%	5,432	87.6%
2016	2,527	-9.2%	4,422	-18.6%
2017e			4,334	-2.0%
2018f			4,334	0.0%
2019p			4,464	3.0%

Source: ONS, Construction Products Association

A move towards smart motorways at the expense of road widening and new roads construction has reduced the importance of new roads construction within the sub-sector. Work on four schemes is currently underway, with three scheduled for completion this year. Construction on eight others is set to begin during the forecast period, including M4 Junctions 3 to 12. These involve a technology-driven approach, which aims to reduce congestion and increase capacity through transforming the hard shoulders in a way that aims to minimise cost and time rather than construction work.

Despite the focus on the Highways England work on major roads, local authorities are still responsible for the maintenance and renewal of around 97.0% of all roads. Local authority budget cuts since 2011/12 are likely to have an impact

Roads Output



Source: ONS, Construction Products Association

on local roads construction given that funding for roads is not ring-fenced, and financially-constrained councils may opt to re-allocate the money to other local services.

Output

Following two years of falls in 2011 and 2012 due to funding cuts to local authorities, output in the roads sub-sector increased in the subsequent three years, reaching £5.4 billion in 2015, the highest level on record due to a boost in spending from government for 2013/14 and 2014/15. However, in 2016, roads output declined 18.6% due to limited activity occurring under the Road Investment Strategy. The latest quarterly data suggest that roads output in 2017 Q1 decreased 3.4% quarter-on-quarter and was 16.1% lower than a year earlier, the fifth consecutive quarter of annual decline.

Orders

New orders in the roads sub-sector are highly volatile. Since its nadir in 2011, orders in the roads sub-sector increased 72.5% between 2012 and 2015. However, in 2016, orders totalled £2.5 billion, a 9.2% fall compared with 2015 and 23.3% lower than its peak in 2009, reflecting lower capital expenditure in 2016/17. On a quarterly basis, new orders in the road sub-sector are even more volatile. In 2017 Q1, new orders were 16.6% lower than one year earlier and declined 34.3% quarter-on-quarter.

Forecast

The near-term outlook for the roads sub-sector has been downgraded since our Spring forecasts. In 2017, output is forecast to decline 2.0%, a downward revision from no growth anticipated previously, reflecting completions on major road projects, as well as uncertainty over the timing of projects under the Road Investment Strategy. Thereafter, output is forecast to remain flat in 2018, before returning to growth and expanding by 3.0% in 2019 as activity picks up in the the final year of the first Road Period.

Downside risks:

- Further cuts to local authorities' funding
- Focus shifts further to smart motorways

Confirmed Major Road Schemes

Name of Project	
Work to start in 2017/18	
A14 Cambridge to Huntingdon	Cambridgeshire
M4 J3 to J12: Smart Motorway	South East
M6 J2 to J4: Smart Motorway	West Midlands
M1 J23a to J25: Smart Motorway	East Midlands
Work to start in 2018/19	
A1 North of Ellingham	North East
M6 J13 to J15: Smart Motorway	West Midlands
M6 J10	West Midlands
A63 Castle Street Improvement	Hull
M20 J10a	South East
M23 J8 to J10: Smart Motorway	South East

Source: Highways England

Government focus on austerity in the near-term could see funding to local authorities fall further, constraining their ability to deliver on roads projects. This, coupled with diminishing EU funding over the long-term, could see local government budgets stretched, leaving projects unfunded. Furthermore, increasing focus on smart motorways, mainly technology-based, rather than new roads construction could dampen activity in the sub-sector. In this case, output is anticipated to fall 5.0% in 2017 and 1.0% in 2018, before remaining flat in 2019.

Upside risks:

- Highways England brings forward finance

If Highways England brings forward finance and projects from later years during the RIS period that will ensure a smoother profile of works. This would provide higher workloads in the near-term and ensure a gradual increase in funding and investment over the RIS, rather than the bulk of activity occurring in the later years of the programme. Moreover, financial incentives to local authorities mainly in the form of ring-fenced funding could provide more clarity on roads projects and, in turn, ensure delivery of them over the medium-term. In this case, growth of 5.0% is expected in 2017, followed by 8.0% in both 2018 and 2019.

Rail

Work in the rail sub-sector is set to grow throughout the forecast period, due to ongoing work on station refurbishment and electrification projects, in addition to the completion of major projects around the country. Furthermore, strong growth is projected for the end of the forecast period, underpinned by main works commencing on HS2.

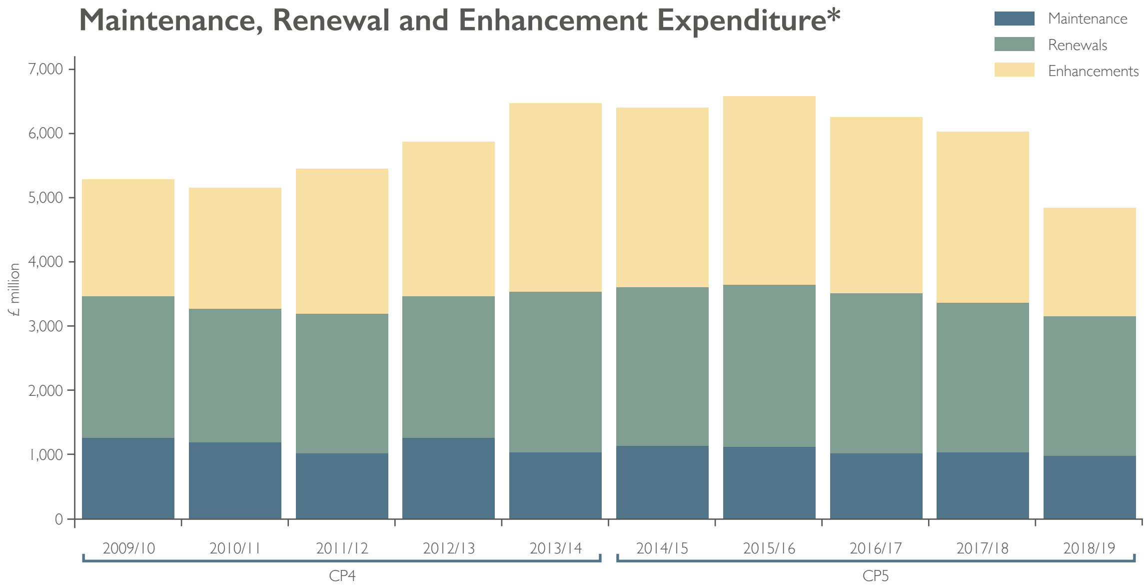
Drivers

Network Rail capital funding is determined by a five-year investment plan, currently Control Period 5 (CP5), and total expenditure is fixed at £37.9 billion between 2014/15 and 2018/19. £12.1 billion of this will be capital investment in renewals and £12.8 billion for enhancements. The settlement for CP5 was £33.9 billion for England and Wales with a further £4.0 billion available for Scotland. Network Rail's business plan states that it aims to reduce the cost of running railways by 18.0%, but this may be difficult to achieve given that the annual taxpayer subsidy will fall to between £2.6 billion and £2.9 billion by March 2019. This is down from £3.9 billion in 2011/12 and £6.3 billion at its peak in 2006/07.

According to the CP5 capital spending plan approved by the Office of Road and Rail, key investment will be in renewals work and enhancements. For England and Wales, renewals work was £2.2 billion in 2016/17, but will fall to £2.1 billion in 2017/18, before another marginal decline in the final year of CP5. For Scotland, renewals work was £0.28 billion in 2016/17, but will decline to £0.23 billion in 2017/18, followed by a further fall to £0.21 billion 2018/19. Enhancements work in England and Wales was £2.5 billion in 2016/17 and is expected to remain at £2.5 billion in 2017/18 and fall to £1.6 billion in 2018/19. Enhancements work in Scotland was £0.3 billion in 2016/17, but will fall to £0.2 billion in 2017/18, before falling a further to £0.1 billion in 2018/19.

In terms of the project pipeline, construction continues apace on the £563 million redevelopment of Bank Station. Main tunnelling works started in spring and the project is expected to be completed in 2021. In addition, a number of smaller station refurbishment schemes to improve conditions of Network Rail's existing assets are expected to take place in the near-term. Work to redevelop the £17.8 million White Hart Lane station is scheduled to start on site in Autumn and is due for completion in 2019.

Maintenance, Renewal and Enhancement Expenditure*



Source: Office of Rail Regulation - Final determination of Network Rail's outputs and funding for 2014-19
*not including Crossrail - Project value £14.5bn

Rail

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	1,914	6.4%	2,313	40.3%
2010	1,911	-0.2%	3,114	34.6%
2011	2,801	46.5%	4,032	29.5%
2012	2,750	-1.8%	4,653	15.4%
2013	1,902	-30.8%	4,570	-1.8%
2014	993	-47.8%	3,221	-29.5%
2015	1,067	7.4%	2,750	-14.6%
2016	2,130	99.7%	2,206	-19.8%
2017e			2,537	15.0%
2018f			2,664	5.0%
2019p			3,196	20.0%

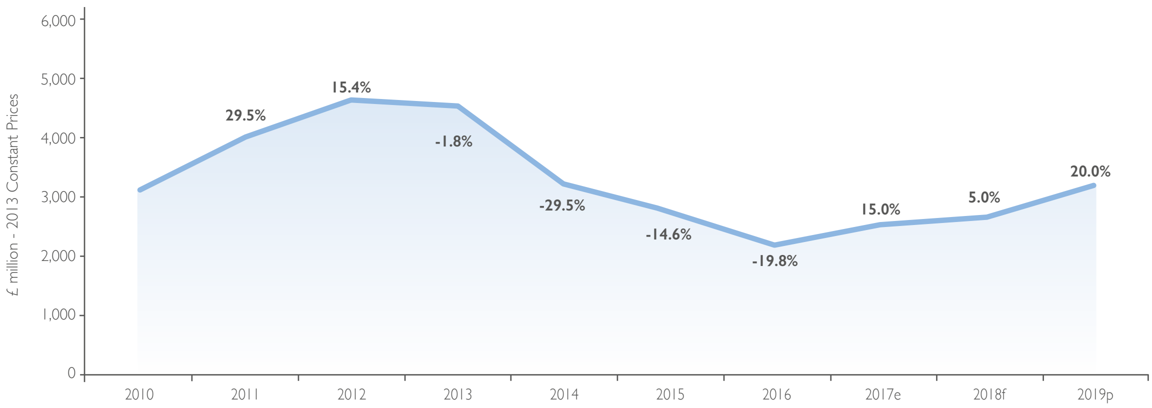
Source: ONS, Construction Products Association

Construction on the £1.2 billion Northern Line extension to Battersea, which will result in two new stations being built at Battersea Power Station and Nine Elms is also rapidly progressing. Tunnelling works are currently underway and are scheduled for completion in 2020. Furthermore, work on the £263 million London Overground extension to Barking Riverside is expected to start late-2017, with services commencing in 2021, subject to approval. Plans to start work on the much-delayed Metropolitan Line extension project (previously known as the Croxley Rail Link) faced another setback in March after TfL revealed a £50 million funding gap. The project is now estimated to cost £334 million and, given that TfL ruled out additional funding, this has once again raised concerns over delivery.

The £6.5 billion Thameslink upgrade programme, to increase capacity and improve service, started in 2009 and is expected to be completed in 2018. The key cost component of the project is the new rolling stock and track improvements. Work on Phase 2 of the programme, the transformation of London Bridge station, is currently underway and is expected to be completed by 2018.

Network Rail is running a £38.5 billion programme to electrify key rail routes. However, in November 2016, four projects within the Great Western Main Line electrification programme were deferred to CP6 (2019-2024) due to cost and time overruns. In March, the Public Accounts Committee signalled further concerns over delivery to the revised completion date of 2018 and budget of £2.8 billion. Moreover, in July, plans to electrify three routes: the Great Western line between Cardiff and Swansea, the London-

Rail Output



Source: ONS, Construction Products Association

Sheffield Midland Mainline north of Kettering and the Oxenholme to Windermere line in the Lake District were all cancelled by the government. As a result, further delays or cancellations on major electrification projects cannot be ruled out.

Based on latest estimates, the total construction cost of High-Speed 2 (HS2) is expected to be £55.7 billion. The capital cost of Phase 1 between London and Birmingham is forecast to be £27.4 billion, whilst the estimated cost for Phase 2 (West Midlands to Leeds and Manchester) is £28.5 billion, of which £3.7 billion will be allocated for Phase 2a (West Midlands to Crewe) with the remaining £24.8 billion allocated to Phase 2b (West Midlands to Leeds New Lane and Crewe to Manchester and Wigan). In June, the Queen's speech proposed a new bill that will allow £3.5 billion to be spent on work on Phase 2a. A total of £6.6 billion worth of contracts to build the first phase of HS2 have already been awarded. As a result, enabling works are currently underway, with main civil engineering works set to commence in 2018/19.

Output

After six years of robust growth, output in the rail sub-sector reached £4.7 billion in 2012, the highest level on record, before declining in the subsequent four years despite work peaking on high-profile projects such as Crossrail and the Thameslink programme, as well the start of the new control period (CP5). In 2016, sub-sector output totalled £2.2 billion, 19.8% lower than in 2015, reflecting limited work in the pipeline. However, more recent data indicate that in Q1, rail output increased 31.1% year-on-year and 13.3% compared to 2016 Q4. In contrast, the Civil Engineering Contractors Association state of trade survey for Q1 suggests that workloads in the rail sector continued to fall for a third consecutive quarter.

Orders

Following its peak in 2011, new orders declined 63.9% between 2012 and 2014 to £1.0 billion. However, in 2015, orders increased 7.4% to £1.1 billion, followed by a further 99.7% to £2.1 billion in 2016. In 2017 Q1, new orders were 30.7% higher year-on-year but contracted by 34.4% on a quarterly basis.

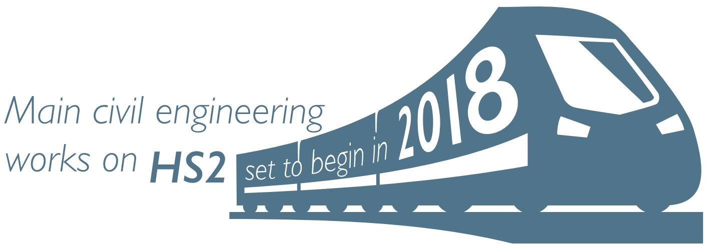
Forecast

Output is forecast to return to growth and expand by 15.0% in 2017, driven by station redevelopments, chiefly, Bank Station, as well as line extension works. Looking ahead, output is forecast to increase 5.0% in 2018, reflecting a hiatus between the end of major projects (Crossrail and station upgrades), delays to electrification and the start of works on HS2. In 2019, output is projected to rise 20.0%, which largely reflects main works occurring on Phase 1 of HS2.

Downside risks:

- Main works on HS2 delayed further
- Network Rail projects further delayed

A main downside risk to rail growth emerges if main construction works on Phase 1 of the HS2 project are pushed back further. Moreover, higher construction costs spurred by rising inflation could also exacerbate the project's budget issues, pushing the total cost of HS2 above the estimated £55.7 billion. Alongside this, an increasing backlog of work and cost overruns on key projects, is likely to slow delivery under Network Rail's Control Period 5 (CP5). In this case, rail output is forecast to increase 5.0% per year between 2017 and 2019.



Upside risks:

- Network Rail brings forward finance ensuring delivery of projects

If Network Rail brings forward capital investment from the next control period (CP6), increasing the volume of work on the ground, in turn, boosting activity within the current control period (CP5), this presents an upside risk to sub-sector growth. Rail output is forecast to increase 20.0% per year over the forecast period.

Gas, Air & Communications

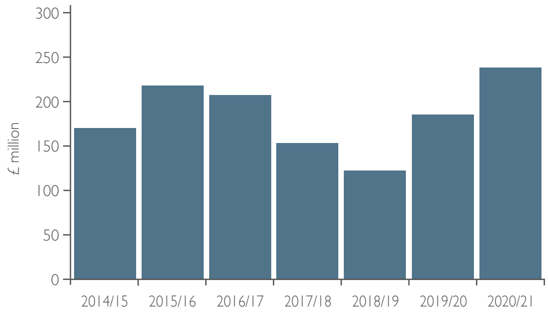
Sub-sector output consists of work on airports, gas storage facilities and communications networks. Construction of Heathrow Terminal East, the main driver of growth in recent years has been completed. The forecast reflects increasing volume of works on key airports and communications work but little in the way of major projects.

Drivers

Output in the gas, air and communications sub-sector is mainly driven by work on airport capacity, as well as major airport transformation programmes across the UK.

The Civil Aviation Authority (CAA) expects to invest £3.0 billion in capital expenditure at Heathrow during the regulatory period Q6 (2014/15-2018/19). Similarly, Manchester Airport has planned a £1.0 billion 10-year investment programme that includes transformation, expansion of Terminal 2 and other facilities.

Gatwick Capital Expenditure



Source: 2016 Gatwick Capital Investment Programme

Works on Terminal 2 are currently underway and is projected to reach completion in 2023. Furthermore, last year, Luton Airport unveiled a £1.5 billion 20-year investment programme, whilst Gatwick Airport announced £1.2 billion capital investment programme (2016 to 2021), which includes plans to expand both the departure lounges and immigration halls in the North and South Terminals, additional aircraft stands and upgrades to shopping facilities. Alongside this, near-term activity will be supported by work starting on London City Airport's £344 million expansion programme.

Gas, Air & Communications

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	914	-2.2%	1,288	0.9%
2010	1,640	79.4%	1,655	28.5%
2011	790	-51.8%	1,743	5.3%
2012	2,009	154.2%	1,587	-9.0%
2013	685	-65.9%	1,585	-0.1%
2014	216	-68.5%	1,133	-28.5%
2015	177	-17.9%	697	-38.5%
2016	560	215.5%	419	-39.8%
2017e			503	20.0%
2018f			604	20.0%
2019p			664	10.0%

Source: ONS, Construction Products Association

Despite this, there is still a lack of sufficient airport capacity in London and the South East. In October 2016, the government confirmed that the Heathrow Northwest Runway was its preferred option for delivering additional capacity, in line with the Airports Commission recommendations published in July that year. However, the final go-ahead for the government's preferred scheme has been pushed back further to the second half of 2018. Consequently, work on the £17.6 billion Heathrow Airport project is not forecast to occur within the forecast period, even if it were given final go-ahead.

Historically, high domestic gas production and reserves in the North Sea have resulted in years of underinvestment in gas storage. As a consequence, Great Britain currently has only 15 days' worth of gas reserves compared to 99 days in France and 122 days in Germany. Furthermore, according to the Department for Business, Energy & Industrial Strategy (BEIS), storage capacity between 2011 and 2015 remained broadly unchanged. However, in June 2017, Centrica announced the closure of the UK's largest gas storage facility, Rough, with a capacity equivalent to about 10% of winter peak demand and, which accounts for 70% of the country's total storage capacity.

In 2016, gas storage contributed 5.8% of total gas supply including imports, according to BEIS. Out of the UK's total gas storage capacity of 4.7 billion cubic metres, 3.3 billion is provided by Rough. However, in the past, the government has judged that gas storage was not a key contributor to gas consumption in the UK and stated in 2014 that no incentives were needed for additional gas storage facilities. With gas storage set to provide just 1.8% of total gas supply after the closure of Rough, National Grid's Gas Ten Year Statement in December 2016 highlights seven proposed new storage sites to increase capacity, although all are still subject to final investment decisions.

According to the National Infrastructure and Construction Pipeline, there are four gas storage projects in the pipeline, one of which is expected to be delivered by 2020, whilst the remaining are yet to begin or awaiting approval.

In December 2012, Ofgem announced that up to £24.2 billion was to be made available to upgrade and renew Britain's gas and electricity networks between April 2013 and 2021 operated by National Grid. As a part of the announcement, it indicated that £15.5 billion will be reserved for works in England and Wales. However, in 2016, a mid-period review opened by Ofgem, proposed to cut spending on the gas transmission network by £168.8 million after National Grid concluded it no longer needed to build new pipelines in Avonmouth given that fewer gas-fired powered stations were expected to be built.

The government's Superfast Broadband is being delivered in three phases. Phase 1, which included £530 million government investment reached completion in 2016. In 2013, the government announced an additional £250 million funding for Phase 2 that would support the expansion of superfast broadband provision to 95% of UK premises by 2017. Furthermore, in 2015, the largest investment in UK's broadband digital infrastructure worth £3.0 billion was announced by Virgin Media. Under the five-year investment programme (also known as 'Project Lightning'), four million homes and businesses are expected to benefit from broadband services, especially faster speeds. Although construction is currently underway and due for completion in 2020, concerns have risen over its delivery after Virgin Media discovered that progress on the roll-out has been exaggerated. In the Autumn Statement 2016, the government announced that it will invest £740 million through the new NPIF to support the market to roll out full-fibre connections and future 5G communications. This includes £400 million for a new Digital Infrastructure Investment Fund (DIIF) to fund the extension of fibre networks over the next four years. Moreover, in Budget 2017, the government announced a further £200 million to fund a programme of local projects to test ways to accelerate market delivery of new full-fibre broadband networks.

Output

After four years of consecutive rises, the gas, air & communications sub-sector output reached £1.7 billion in 2011. Thereafter, output fell for five consecutive years and, in 2016, reached £0.4 billion, 39.8% lower than the previous year and the lowest level on record due to limited activity in the pipeline. However, in 2017 Q1, output was 84.5% higher than a year earlier and increased 16.4% quarter-on-quarter.

Orders

Due to a lack of consistent work programmes in the sub-sector, new orders in gas, air and communications are often volatile. In 2012, new work orders increased 154.2% before contracting in the subsequent three years. However, in 2016, new orders increased 215.5% year-on-year to £0.6 billion. In 2017 Q1, orders rose 613.8% on an annual basis however, quarterly orders tend to be volatile, but on a four-quarter basis, were still 315.8% higher than a year earlier.

Forecast

Prospects for the gas, air and communications sub-sector appear bright, with growth expected throughout the forecast period. In 2017, output is forecast to increase 20.0%, reversing the downward trend seen since 2012, predominantly driven by work around airport expansion. In 2018, output is forecast to increase 20.0%, before further growth of 10.0% in 2019, which largely reflects work nearing completion on major superfast broadband projects.

Downside risks:

• Further delays in expansion to superfast broadband

A major downside risk to sub-sector growth emerges if Virgin Media's £3.0 billion ultra-fast broadband roll-out faces delays. This would result in lower growth figures over the next three years and, as a result, sub-sector output is expected to rise 5.0% in 2017, followed by 7.0% in both 2018 and 2019.

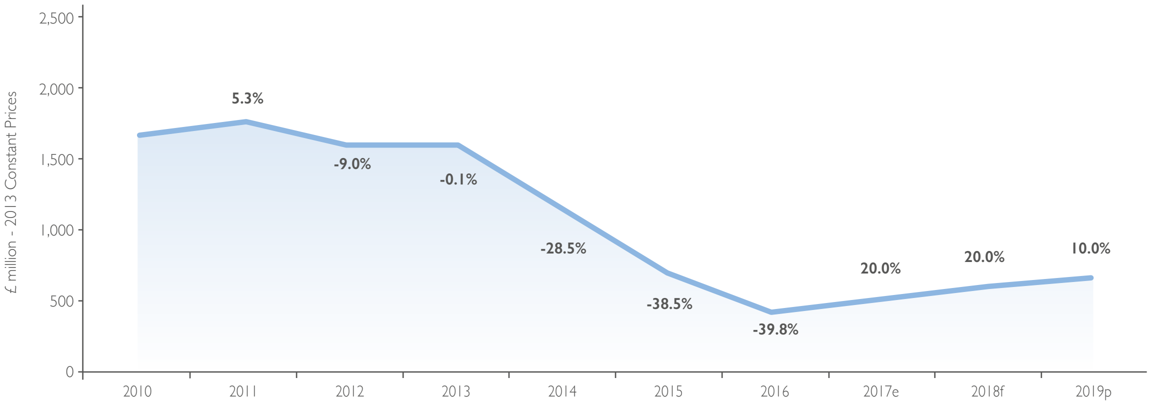
Upside risks:

• Substantial progress is made in expanding broadband across the UK

• New gas storage investment occurs

If progress is made on expanding broadband across the UK, including work under Virgin Media's £3.0 billion project, this presents an upside risk to sub-sector growth. This, as well as new investment in gas storage in response to utilising shale gas reserves, would underpin double-digit growth rates of 25.0% in 2017 and 2018 and 15.0% in 2019.

Gas, Air & Comms Output



Source: ONS, Construction Products Association

Electricity

Electricity, is the largest infrastructure sub-sector and will be the key driver of overall sector growth over the next three years. Although workloads in the sub-sector declined in 2016, this comes after six years of robust growth. Going forward, a return to growth is expected that will continue through to the long-term, driven by construction works on large-scale energy projects such as Hornsea One and Hinkley Point C, despite works being delayed once again.

Drivers

In 2013, 10% of the UK's electricity generation supply was closed. In June, National Grid projected that the de-rated margin range, the average excess of available generation over peak demand, is expected to be between 7.2% and 9.9% in winter 2017/18, higher than the 6.6% recorded for winter 2016/17, despite recent plant requirements. However, these are preliminary figures, with the final outlook expected to be released later in October.

Between 2010 and 2030, 18 power stations are set to close; six coal power stations, three oil power stations and nine nuclear power stations. Furthermore, all except one (Dungeness B) of the UK's current nuclear reactors will be decommissioned by 2023. Therefore, there is an increasing need for new capacity investment. The former DECC estimated that approximately £100 billion of investment in electricity generation and networks is required by 2020, the majority of which will need to be delivered by the private sector. Although the DECC highlighted the importance of large-scale investment in gas and low-carbon electricity, investor confidence may have been undermined by a lack of transparency and a series of sudden policy announcements.

In September 2016, the £18 billion Hinkley Point C project finally received go-ahead from government, making it the largest project in the sub-sector. The project has an agreed strike price of £92.5/MWh (in 2012 prices), inflation linked, for 35 years. In March, the first permanent concrete was poured on site, and EDF expects that it will generate electricity by 2025. However, in June, a report by the National Audit Office reported that the cost of the project could go up to £22 billion. Furthermore, following a cost review, EDF said that the project is 15 months behind schedule and the cost of the project is

Electricity

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	640	-11.1%	1,280	-4.5%
2010	1,728	170.2%	1,558	21.7%
2011	1,569	-9.2%	2,250	44.4%
2012	2,001	27.6%	2,588	15.0%
2013	3,019	50.8%	3,440	32.9%
2014	3,166	4.9%	5,042	46.6%
2015	4,428	39.9%	7,988	58.4%
2016	4,724	6.7%	7,629	-4.5%
2017e			8,163	7.0%
2018f			8,734	7.0%
2019p			9,957	14.0%

Source: ONS, Construction Products Association

now expected to be £19.6 billion, £1.5 billion higher than initially estimated, but if further delays occur this could push the total cost up to £20.3 billion. Despite this, the company stated that it is still on track to pour concrete for the first reactor mid-2019. However, we anticipate main works to occur in 2020, beyond the scope of the forecast.

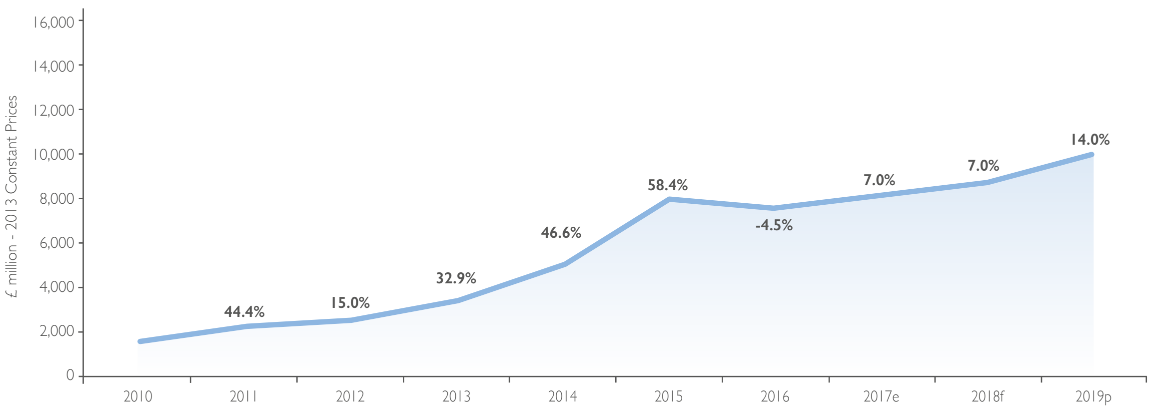
The
WORLD'S LARGEST
***offshore wind farm**,*
Hornsea One, is

The capital budget for work on site from the Nuclear Decommissioning Authority (NDA) has fallen from £3.0 billion in 2016/17 to an estimated £3.06 billion in 2017/18 across 17 sites, according to the NDA Business Plan 2017-20. In 2013, DECC stated that 26GW of new gas capacity may be required by 2030. In 2016, Centrica, the UK's largest supplier, confirmed investment of £180 million in new flexible energy storage and gas-fired generation capacity, which includes plans to build two 50MW gas-fired plants at Brigg in North Lincolnshire and Peterborough and a 370MW combined cycle gas turbine (CCGT) plant in Norfolk. Construction at the Peterborough power station started in July, with the plant expected to be operational in 2018 Q4.

In terms of offshore wind, construction of Race Bank and the 660MW Walney and 336MW Galloper Wind Farm extension projects that form part of the Round 2 offshore wind programme are currently underway. Within the Round 3 offshore wind programme, pre-construction works have already started on the 1.2GW Hornsea One project, the world's largest offshore wind farm. Main works are expected to begin in 2018 and, is scheduled for operation in 2020. Meanwhile, construction at Rampion has entered its final phase, whilst main construction works at East Anglia ONE are scheduled to start in 2018. Outside of this, construction works at the Beatrice Offshore Wind Farm are currently underway. In addition, plans to build a £1.3 billion Swansea Bay Tidal Lagoon in South Wales that would deliver 320MW of capacity were backed by the government-commissioned Hendry Review in January. However, a strike price is yet to be agreed and if given go-ahead by the UK government, on-site construction works are expected to begin in 2018.

In terms of onshore wind, construction work on Kilgallioch wind farm in Scotland is currently underway and is due for completion in 2017/18. Works on seven other smaller projects are expected to begin this year. In June 2015, the government ended new public subsidies for onshore wind farms and consequently closed the Renewables Obligation (RO) support scheme from 1 April 2016. This may incentivise new investment in biomass, and according to recent

Electricity Output



Source: ONS, Construction Products Association

contract awards, projects have already been awarded in 2016 and 2017, including a £200 million biomass plant in the North East of England and a £252 million energy from waste plant in Avonmouth.

Output

Electricity output increased in the six years to 2015. Activity in the sub-sector rose from £1.6 billion in 2010 to £8.0 billion in 2015, an increase of 412.8%. This was the highest level recorded since records began. However, in 2016, output fell 4.5%, given little activity occurring in the pipeline. In 2017 Q1, output in the sub-sector declined 3.3% on an annual basis, marking the fourth consecutive quarter of decline, but increased 2.7% quarter-on-quarter.

Orders

In recent years, new work orders for the electricity sub-sector have tended to be more volatile. Nevertheless, since 2012, growth has remained on an upward trajectory, reaching £4.7 billion in 2016, the highest level on record. However, more recent data indicate that new orders in the first quarter of 2017 were 12.7% lower than one year earlier and fell 17.2% on a four-quarter basis.

Forecast

Following a decline of 4.5% in 2016, electricity output is forecast to return to growth and expand by 7.0% in both 2017 and 2018, driven by ongoing nuclear decommissioning work, as well as activity in the offshore wind farm sector. Thereafter, output growth is forecast to accelerate to 14.0% in 2019, driven by main works occurring on the world's largest offshore wind farm, Hornsea One. In the Spring forecast, we projected growth to accelerate to 20.0% in 2019, reflecting the start of main construction works at Hinkley Point C however, given recent concerns over delivery and cost overruns, this spike in activity has been pushed beyond the forecast period, shifting the profile of work in the sub-sector. Nevertheless, by the end of the forecast period the electricity output is expected to be worth £10.0 billion compared with £7.6 billion in 2016.

Downside risks:

- Hiatus in new offshore wind development

A downside risk emerges if heightened economic and political uncertainty during the Brexit negotiation period further undermines investor confidence, deterring new foreign investments into the UK. Furthermore, increased uncertainty over access to European Investment Bank (EIB) funding over the medium-term could stall decision-making on large-scale projects, especially in offshore wind. In this case, lower growth rates of 3.0% and 7.0% are anticipated in 2017 and 2018 respectively, followed by 7.0% in 2019.

Upside risks:

- Investor confidence improves leaving large-scale projects unaffected
- The Swansea Bay Tidal Lagoon receives government go-ahead

A potential upside risk relates to a period compounded by better-than-expected economic conditions and greater clarity regarding the future UK/EU relationship. In this case, investor confidence is likely to be renewed, enabling large-scale projects to get off the ground, including work previously paused under the Round 3 Offshore Wind Programme. Furthermore, if the £1.3 billion Swansea Bay Tidal Lagoon project in South Wales receives government go-ahead, allowing works to commence in 2018, this would support higher growth rates throughout the forecast period. As a result, electricity output is forecast to rise 10.0% in 2017, 18.0% in 2018 and a further 25.0% in 2019.

Harbours

The harbours sub-sector, also known as harbours and waterways primarily covers privately-funded work on ports and publicly-funded environment agency work flood defences. Prospects for the sub-sector appear positive, with growth expected each year over the forecast horizon, largely underpinned by work on the Aberdeen Harbour Expansion project.

Drivers

The ports and related-warehouses element of the sub-sector is primarily driven by demand from global trade, for exports, and UK economic activity, for imports. Following the financial crisis, port expansion projects in the UK were put on hold during 2009 due to uncertainty regarding future demand. As a result, output in the sub-sector witnessed a double-digit decline in that year. However, a return to growth in 2010 saw these projects come back online. Although global economic growth has slowed progressively since then, activity has held up in the sub-sector. Looking ahead, while the UK economy is expected to slow, stronger global economic prospects should continue to underpin demand and, in turn, activity for the sub-sector.

Looking at the project pipeline, activity will be supported by works on the £135 million redevelopment of the port of Dover, which is expected to be delivered in 24 months. The project includes the development of new berths, a new 560m marina and a navigation channel with bridge and lock gates. Construction on the £10 million project to build a new link-span bridge at the Port of Heysham is currently underway and is expected to be completed by October. Furthermore, plans for a £350 million expansion of Aberdeen harbour were approved in December 2016. This includes construction of additional facilities at Nigg Bay, two breakwaters to be built across the bay and the development of an additional 1,400m of operational quay. Construction is underway and, is due for completion in 2020.

On the public funding side, activity in the sub-sector suffered in 2012 due to funding cuts in 2010 and 2011. Following the Comprehensive Spending Review in 2010, capital spending by the Department for Environment, Food and Rural Affairs (Defra) was cut from £568 million in 2010/11 to £463 million in 2011/12. The Spending Round 2013 outlined funding rises in flood defence investment to £370 million in 2015/16 and that funding would remain protected in real terms until 2020/21. Following the floods during Winter

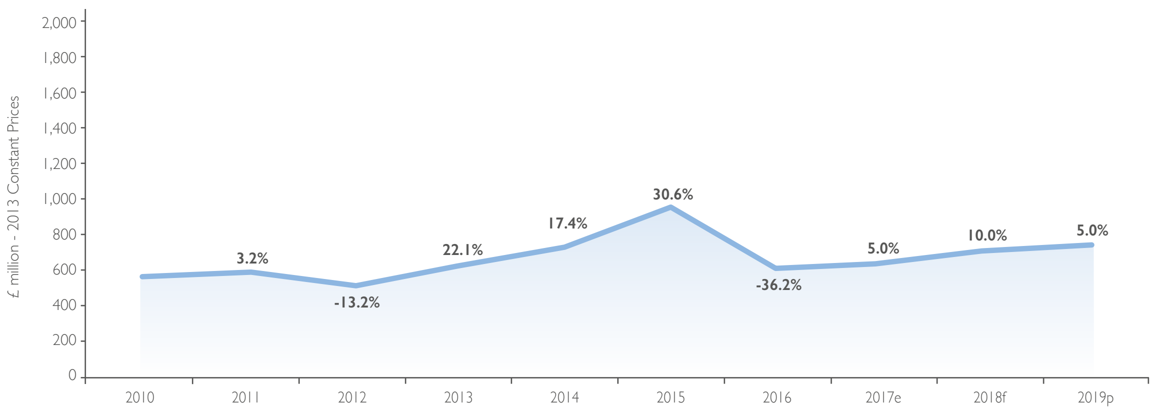
Harbours

	Orders		Output	
Year	£m 2005 constant prices	Change on previous year	£m 2013 constant prices	Change on previous year
2009	456	-44.7%	555	-24.8%
2010	251	-45.1%	566	2.0%
2011	180	-28.3%	585	3.2%
2012	288	60.0%	507	-13.2%
2013	529	84.1%	619	22.1%
2014	406	-23.3%	727	17.4%
2015	335	-17.5%	950	30.6%
2016	427	27.6%	606	-36.2%
2017e			637	5.0%
2018f			700	10.0%
2019p			735	5.0%

Source: ONS, Construction Products Association

2013/14, the government announced an additional £140 million funding for flood defences. In Autumn Statement 2014, the government also committed to a £2.3 billion capital investment for over 1,400 flood defence projects over a six-year programme. In addition, the government announced a £15.5 million investment in Somerset for flood defences over the next six years. More recently, in Autumn Statement 2016, the government announced £170 million in flood defence and resilience measures and, according to Budget 2017, Defra's capital budget is expected to remain stable at a planned £0.7 billion in both 2017/18 and 2018/19. However, even with a rise in funding, only around half of flood defence spending is on construction work. The remainder is spent on risk management, prevention and resilience measures, which constrains growth prospects for the sub-sector.

Harbours Output



Source: ONS, Construction Products Association

Output

The harbours sub-sector contracted sharply following the recession as global trade slowed considerably and UK economic activity fell. Consequently, private investment decisions on port expansions were paused and in 2009, output in the sub-sector contracted by 24.8% before rising in the subsequent two years. In 2010 and 2011, output rose by 2.0% and 3.2% respectively. However, in 2012, output declined 13.2% due to low orders in preceding years amid uncertainty over domestic economic performance the strength of export markets, before returning to double-digit growth in the subsequent three years. However, in 2016, sub-sector output contracted 36.2% to £0.6 billion, in line with slower global economic growth. In 2017 Q1, output fell 3.4% year-on-year, the sixth consecutive quarter of annual decline since 2015 Q4 and, was 30.7% lower on a four-quarter basis.

Orders

The harbours sub-sector is relatively small and a few limited large projects have tended to make the sub-sector relatively volatile. Since its nadir in 2011, new orders saw double-digit increases of 60.0% and 84.1% in 2012 and 2013 respectively, on the back of improved economic conditions. However, new orders declined in 2014 and 2015 by 23.3% and 17.5% respectively, before increasing 27.6% to £427 million in 2016, supported by robust UK economic growth. In 2017 Q1, new orders were 2093.0% higher than a year ago however, it should be noted that the large percentage growth rate is from a low base and reflects the contract for one large project, the Port of Dover expansion, awarded in Q1. On a four-quarter basis, output increased 129.9% in Q1.

Forecast

Global economic conditions are strengthening, underpinning a positive outlook for the harbours sub-sector. In 2017, output is forecast to return to growth and increase 5.0%, followed by 10.0% in 2018 and 5.0% in 2019.

Downside risks:

- Weaker-than-expected UK economic growth
- Investment falls amid increased uncertainty

A marked slowdown in UK economic growth that constrains demand for imports, presents a downside risk to the sub-sector. This, alongside heightened economic and political uncertainty that makes it difficult to ascertain demand will hinder investor confidence and, in turn, investment. In this case, output is forecast to contact 10.0% per year over the forecast period.

Upside risks:

- Stronger global economic growth underpins investment

Stronger activity in the global economy, associated with more robust demand presents an upside risk to the sub-sector. However, this is unlikely to fully offset softer domestic demand and, given the ongoing uncertainty, investors are still expected to retain a cautious stance. In this case, harbours output is forecast to rise 10.0% per year between 2017 and 2019.

Private Non-housing R&M

Private non-housing repair and maintenance (r&m) includes basic repairs and maintenance across industrial warehouses and factories and commercial offices and retail.

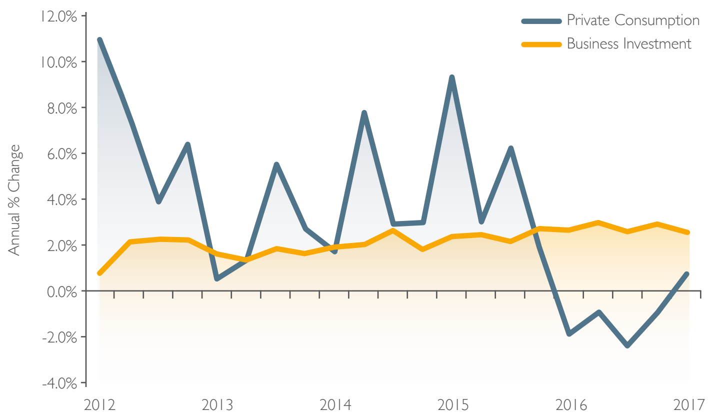
Since 2011, sector growth has remained on an upward trajectory and, in 2016, output increased 4.2% to a value of £11.1 billion. However, going forward, output is forecast to remain flat in 2017, reflecting a slowdown in the sector's key drivers, before increasing 1.0% in both 2018 and 2019.

Drivers

Construction output in the private non-housing r&m sector is driven by the macro-fundamentals and the economic cycle and covers basic repairs and maintenance of offices, shops, warehouses, factories and other privately-owned properties that are largely dependent on business investment and consumer spending. Given that work tends to be dominated by long-term general maintenance contracts and sub-contracted facilities management agreements, output typically displays more stability than other sectors in the industry. Demonstrating this, despite several contractions in commercial and industrial output since 2010, output has remained on an upward trend and, in 2016, was 4.2% higher than in 2015 and 31.1% above the level recorded in 2010. Framework contracts are most prevalent for r&m work in industrial warehouses and factories, and commercial offices and retail.

Commercial offices and industrial factories new build are expected to be hindered by weaker business investment growth as ongoing uncertainty relating to Brexit negotiations and its outcome continues to weigh on business confidence. In 2016, business investment declined 1.5% compared to 2015, the first annual fall since 2009. Indeed, business investment recovered in 2017 Q1, increasing 0.7% on an annual basis, after four consecutive quarters of declines, but on a four-quarter basis, declined 0.9%. Looking ahead, heightened uncertainty will continue to stifle investment intentions and, as a result, the OBR expects growth to decline 0.1% in 2017.

Private Consumption and Business Investment



Source: ONS

Commercial retail and industrial warehouses are anticipated to remain weak over the next 18 months as rising inflation and falling real wages constrain household spending power, in turn, eroding the resilient trend seen since the EU Referendum. In 2016, household consumption increased 2.8% compared to 2015, marking the strongest growth since pre-recession peak, supported by low inflation and a strong labour market. However, in 2017 Q1, household spending rose 2.6% year-on-year, down from 2.9%, in line with wider economic developments. Recent spending growth has largely been financed by households' savings however, in 2017 Q1, the savings ratio reached a record low of 1.7, down from 3.3 in 2016 Q4, suggesting that this will provide little support to consumers. This, alongside a weakening labour market is expected to undermine household expenditure. In Q1, real household disposable income fell 1.4% year-on-year, following no growth in 2016 Q4, reflecting the impact of higher inflation.

Alongside the prospective weakening in consumer spending in response to wider economic developments, the ongoing switch away from large supermarket store expansion and retail chains towards an internet-based retail environment is likely to lead to subdued growth in retail expansion. The growth in online retail continues to dominate growth in overall retail spend. In May, the amount spent online accounted for 15.9% as a proportion of total retail spending, the second highest rate on record. As a result, rising demand for logistics, storage and distribution space is expected to drive new build

activity in the warehouses sub-sector and the repair and maintenance of existing space.

Manufacturing output increased 0.4% year-on-year in May but fell 0.2% compared to the previous month, likely attributed to recent political uncertainty. Although recent surveys have painted an upbeat picture of manufacturing output going forward, there are concerns whether activity can be sustained within the sector given the expected weakening in domestic demand that is unlikely to be offset by the Sterling-induced export growth. Consequently, this should underpin marginal growth in activity in both new build and r&m for factories.

Private Non-Housing R&M

	Output	
Year	£m 2013 constant prices	Change on previous year
2011	9,054	7.1%
2012	9,163	1.2%
2013	9,568	4.4%
2014	10,364	8.3%
2015	10,631	2.6%
2016	11,079	4.2%
2017e	11,079	0.0%
2018f	11,190	1.0%
2019p	11,302	1.0%

Source: ONS, Construction Products Association

Quarterly household consumption to average ***0.25%*** *between* ***Q2*** *and* ***Q4***

Output

Following the financial crisis, companies delayed all but essential maintenance due to scarce finance and an uncertain economic outlook, but this stream of work allowed the sector to maintain growth whilst new build work in related sectors declined. Lower volumes of new work also increased the need for maintenance of existing buildings. As a result, between 2010 and 2015, output increased 25.7%, followed by a further 4.2% in 2016, reflecting strong economic growth driven by consumer spending.

Forecast

In the near-term, activity in both the commercial and industrial construction sectors is forecast to decline in line with a predicted slowdown in the UK economy. A lack of new developments will switch developers' interest towards refurbishments ensuring continued growth in private non-housing r&m. Consequently, the Association forecasts no growth in 2017, before 1.0% growth per year in both 2018 and 2019.

By the end of the forecast period, output is projected to reach £11.3 billion, 2.0% higher than 2016 levels.

Downside risks:

- Weaker-than-expected growth in business investment and household spending

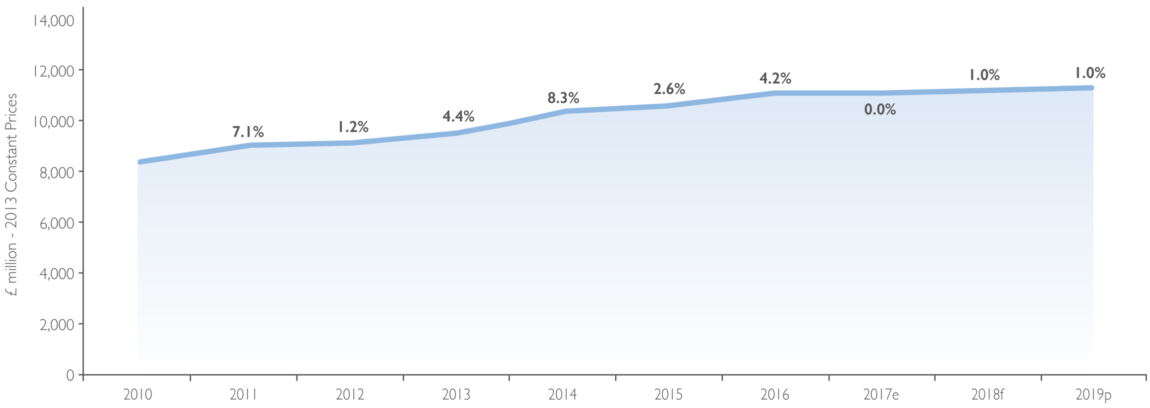
Heightened uncertainty over domestic politics and around Brexit negotiations, alongside rising inflation is likely to weigh on business and consumer confidence in the near-term. In this case, consumers and businesses are expected to rein back spending and investment plans respectively, restraining activity in offices and retail. Under these circumstances, private non-housing r&m output is expected to decline 2.0% per year from 2017 to 2019.

Upside risks:

- Consumer spending picks up as real wages recover

Official data for the first quarter of 2017 reflected weaker household spending amid rising inflation, which is expected to persist in the near-term. However, a shift towards unsecured borrowing as household savings reach near depletion, as well as a potential recovery in real wages is likely to support consumer spending. In this case, output is expected to increase 2.0% per year over the forecast period.

Private Non-housing R&M Output



Source: ONS, Construction Products Association


JB Structures
JB Structures

Public Non-housing R&M

Public non-housing repair and maintenance (r&m) covers basic repairs and maintenance on education, health, defence, prisons and council buildings.

In 2016, output in the sector decreased by £69.9 million to £4.6 billion, reflecting spending cuts across key departmental areas of the government. This marked the second consecutive year of falling activity. Looking ahead, this trend is expected to continue in the near-term, with output forecast to fall 3.0% and 2.0% in 2017 and 2018 respectively.

Drivers

In 2013/14, capital investment in education reached its nadir of £3.6 billion from £7.4 billion in 2009/10, primarily due to the cancellation of the Building Schools for the Future (BSF) Programme in Summer 2010. Frameworks signed prior to its cancellation have ensured that it has still provided work since then, albeit to a diminishing extent. The Priority Schools Building Programme (PSBP) was anticipated to partially offset the falls in work from BSF by providing new build for schools that needed refurbishment work. Under the first phase of PSBP, 261 schools are expected to be rebuilt by 2017. Delays in procurement have resulted in slower progress and, according to the National Audit Office, 178 were completed by February 2017. The delays have also led to a rise in demand for urgent basic repairs and maintenance.

Public Non-Housing R&M

	Output	
Year	£m 2013 constant prices	Change on previous year
2011	5,095	-1.5%
2012	4,947	-2.9%
2013	5,267	6.5%
2014	5,369	1.9%
2015	4,671	-13%
2016	4,601	-1.5%
2017e	4,463	-3.0%
2018f	4,374	-2.0%
2019p	4,374	0.0%

Source: ONS, Construction Products Association

In May 2014, the government announced an additional £2.0 billion funding for a second phase, PSBP2, to undertake rebuilding and refurbishment projects across 277 schools between 2015 and 2021. Furthermore, the government has recently announced a £1.4 billion investment to help improve and maintain the condition of school buildings and £4.2 billion in school condition funding between 2015 and 2018, which came in addition to the initial £5.6 billion invested between 2011 and 2015.

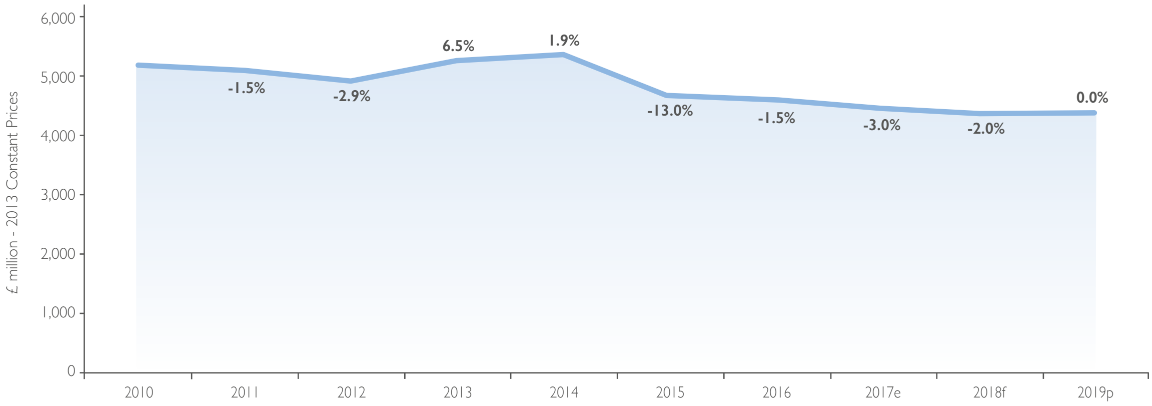
However, the schools Property Data Survey and the Royal Institute of British Architects estimate that schools face a larger backlog of repairs to school buildings, of between £6.7 billion and £8.5 billion. According to Budget 2017, capital funding for education is expected to narrow from a planned funding of £6.3 billion in 2016/17 to £5.3 billion in 2017/18. Furthermore, an additional £216 million investment was announced by government for school maintenance. However, according to the National Audit Office, the condition of the school estate is expected to deteriorate further despite planned investment and, in order to return to schools to satisfactory conditions, the costs are likely to double between 2015/16 and 2020/21. Unlike the capital budget, the current budget for education has remained steady over the past five years.

In 2010/11, the education departmental spending limit was £50.3 billion. By 2016/17, the limit is estimated at £59.6 billion and is planned to reach £61.4 billion in 2017/18 and £62.1 billion in 2018/19. Reflecting the increases in finance, activity in this part of the sector is not volatile, unsurprising given that it covers only basic repairs and maintenance.

Despite the government's commitment to protect health spending, the ring-fence around resource funding has been maintained at the expense of capital investment on new hospitals.

Capital funding for health has fallen from £5.4 billion in 2009/10 to £4.7 billion in 2015/16.

Public Non-housing R&M Output



Source: ONS, Construction Products Association

Funding fell further to £4.6 billion in 2016/17, but is set to rise to £6.1 billion in 2017/18, before remaining at near this level in the following three years. However, a higher proportion will be spent on IT projects. As large, new build hospital projects complete, is likely to lead to a change in focus of investment towards equipment and maintenance, which has supported growth in recent years.

Output

Despite declining public sector investment between 2010 and 2012, output in public non-housing r&m rose by 6.5% in 2013 and 1.9% in 2014. However, in 2015, output declined 13.0% and a further 1.5% in 2016 to £4.6 billion, reflecting a fall in public sector spending. In Q1, output declined 5.0% year-on-year but was 2.2% higher than the previous quarter.

Forecast

The near-term outlook for the sector appears weak, owing to potential cuts in public sector funding in key departmental areas. Public non-housing r&m output is forecast to contract 3.0% in 2017 and 2.0% in 2018, before remaining flat in 2019. By the end of the forecast period, the sector is expected to be worth £4.4 billion, £0.2 billion lower than in 2016.

Downside Risks:

- Local authorities cut spending plans further
- Direct funding from central government is cut to focus on new build

In the event of a further reduction in local authority spending power, due to budget tightening by councils, or central government shifting funding profiles to focus on new build, this could lead to output contracting 4.0% each year.

Upside Risks:

- Work on framework contracts limits falls in activity

Existing long-term contracts for maintenance on prisons and hospitals are less likely to be affected by economic uncertainty and will provide a steady stream of public non-housing r&m activity. However, even with this support, growth in the sector is expected to remain flat in 2017 and 2018, before growth of 1.0% in 2019.

Infrastructure R&M

Infrastructure repair and maintenance (r&m) covers both public and private expenditure on the repair and maintenance of assets owned by utility companies such as energy and water companies, roads and rail.

Around 60% of the sector is privately-funded work and growth prospects for the sector are expected to remain subdued as construction works on large new build projects get underway, shifting the focus away from repairs and maintenance.

Drivers

In addition to the large capital investment programme in over 100 schemes to 2019/20, announced by Highways England, spending on maintenance is also expected to rise. Highways England has a maintenance budget of £1.3 billion over its first fixed five-year investment period, which began in 2015/16. In 2017/18, expenditure on maintenance is set to rise to £258 million, from the £254 million allocated for 2016/17. Thereafter, it is expected to increase in 2018/19, before slowing in 2019/20. However, 97% of the roads network is under the control of local authorities, who are financially-constrained due to cuts in central government funding since 2010.

According to the Local Government Association, local authorities face an overall funding gap of £5.8 billion by 2020. As a result, basic repairs and maintenance are unlikely to be a key driver of work in the sector despite the desperate need for basic repairs to roads. In December 2014, the government announced £6 billion in funding for the repair of potholes on local authority roads between 2015 and 2021. Furthermore, in 2016, the government allocated £70 million of funding from the £250 million Pothole Action Fund for use by local highway authorities across England in 2017/18 that will help repair 1.3 million potholes. However, the Asphalt Industry Alliance's 2017

The ALARM survey 2017 reported a ***13-year backlog*** *of local roads maintenance in England*

Infrastructure R&M

	Output	
Year	£m 2013 constant prices	Change on previous year
2011	7,841	12.4%
2012	7,792	-0.6%
2013	7,983	2.5%
2014	8,579	7.5%
2015	8,154	-5.0%
2016	7,619	-6.6%
2017e	7,619	0.0%
2018f	7,619	0.0%
2019p	7,619	0.0%

Source: ONS, Construction Products Association

ALARM survey reported that there was a 13-year backlog of local roads maintenance in England, at a value of £10.8 billion. For London, the average maintenance backlog was 10 years (£686.1 million).

New build within the rail sector hit historically high levels under the previous five-year settlement, CP4 and, as a result, output was higher than new roads construction output between 2011 and 2014. However, the focus on new build detracted away from basic maintenance. Under CP5, operating between 2014/15 and 2018/19, maintenance spending on the network is expected to total £5.2 billion. According to the ORR's annual efficiency and finance assessment report, Network Rail maintenance expenditure for 2015/16 was £1.2 billion, £112 million over budget than the estimated £1.1 billion in the Periodic Review 2013 (PR13) determination. Furthermore, maintenance expenditure for the control period to-date was £156 million higher than initially estimated. Rising cost pressures and a backlog of work under the current control period is also likely to increase financial pressure on CP6 (2019-2024).

Apart from National Grid connections and nuclear decommissioning work, investment in new energy infrastructure has recently been limited. Over the past two years work in the sector has been supported by basic repairs on energy facilities and connections however, looking ahead this is likely to slow down. The focus on energy investment in new build is likely to translate into lower spending on maintenance, especially given that 18 power stations across coal, oil and nuclear energy sources are expected to close by 2025. In addition to several power stations being mothballed, five coal-fired power and two oil-fired power stations have already been closed.

In the last two years, in order to increase peak electricity capacity margins for the winter period, National Grid announced that it would keep power stations in reserve that would otherwise be closed or mothballed. Delays to new nuclear power station construction could also lengthen the service of existing generators and increase the requirement for maintenance. Therefore, despite the lack of investment in refurbishment this could lead to necessary maintenance expenditure although this is still likely to be limited over the forecast period.

In water & sewerage, water companies are subject to five year spending plans. Within the plans, little work has tended to occur during the first year and the final year. The majority of work tends to occur during the middle of the plan. Water companies have, over the last ten years, attempted to ensure that the stop-start nature of this investment has not occurred on maintenance spending. This has been necessary as 80% of the repairs and maintenance work has been reactive, to urgent issues that cannot be delayed. In addition, water companies have faced increasing work for basic repairs and maintenance following the transfer of private sewers, lateral drains and pumping stations that connect the public sewer network to the water companies. Under the current five year spending plan, AMP6, Ofwat has encouraged a focus on efficiency, through maintenance of existing water and sewerage infrastructure instead of new build.

Output

Output in the infrastructure repair and maintenance sector is relatively stable. In 2012, output fell 0.6% compared with 2011 where output grew by 12.4%, as the impacts of falls in rail maintenance offset a rise in work on energy and water. In 2013, output rose 2.5%, followed by a further 7.5% in 2014 to £8.6 billion, before declining in the subsequent two years. In 2015, output fell 5.0%, followed by a further 6.6% in 2016 and the sector was valued at £7.6 billion. Output in Q1 was 2.7% higher than a year earlier.

Forecast

Over the three-year forecast period, infrastructure r&m is expected to remain flat, as major infrastructure projects are due for completion. Furthermore, new build within the infrastructure sector is set to hit historical high levels towards the end of the forecast period. Alongside this, for publicly-funded work such as roads, local authorities are still expected to be financially-constrained. However, the continual increasing backlog of repairs will need to be addressed and cannot be delayed indefinitely.

Downside risks:

- Local authorities subject to further budget cuts
- R&m output is likely to be overshadowed by new build activity rather than basic maintenance

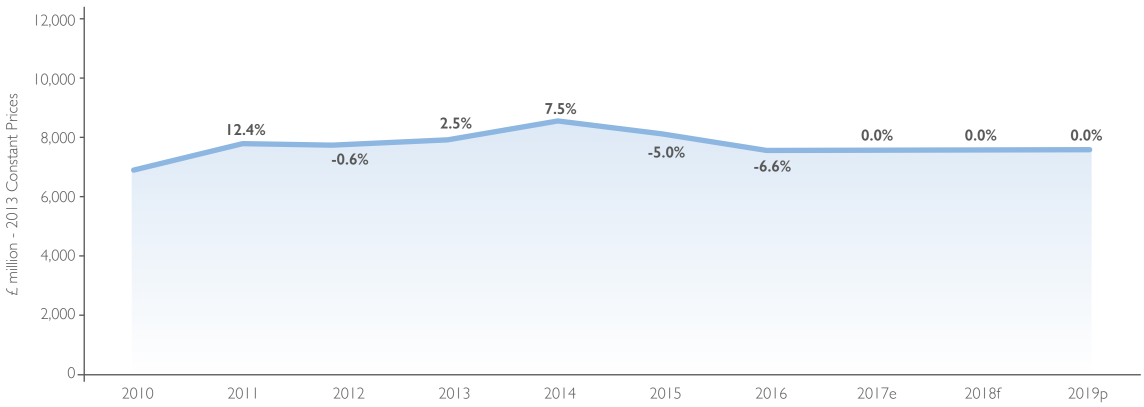
Further cuts to local authority funding amid constrained spending by central government under any further austerity programme pose a downside risk to sub-sector activity. In the event of this, local authorities may be forced to finance new build from maintenance budgets in order to ensure delivery of ongoing projects. In addition, increased pressure on government departmental budgets could lead to schemes being cancelled or delayed. Against this backdrop, r&m output is expected to contract 3.0% each year between 2017 and 2019.

Upside risks:

- Central government increases infrastructure r&m spending quickly

A large increase in ring-fenced funding to local authorities for transport projects that allows work to get off the ground, in turn, providing a boost to both infrastructure r&m output and the wider economy presents an upside risk. In this case, output is anticipated to increase 2.0% per year between 2017 and 2019.

Infrastructure R&M Output



Source: ONS, Construction Products Association

The Construction Products Association represents the UK's manufacturers and distributors of construction products and materials. The sector directly provides jobs for 300,000 people across 22,000 companies and has an annual turnover of more than £55 billion. The Association is the leading voice to promote and campaign for this vital UK industry.

The CPA produces a range of economic reports including quarterly Construction Industry Forecasts, Construction Trade Surveys, State of Trade Surveys and various bespoke research. These publications are available free to members and via subscription to non-members. To learn more, please contact our Economics Team at **020 7323 3770** or visit **www.constructionproducts.org.uk**.




ISBN: 978-1-909415-25-6

August 2017

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