UK Construction Forecast

SAMPLE

A report by the Forecasting Committee for the Construction Industries

This report has been prepared for publication by the Construction Futures team, which is part of Experian's Economics Unit, with guidance from its Forecasting Committee for the Construction Industries.

The members of the committee serve in a personal not a representative capacity. The contribution of the members, and that of the Forecasting Groups (listed in Appendix D), is gratefully acknowledged.

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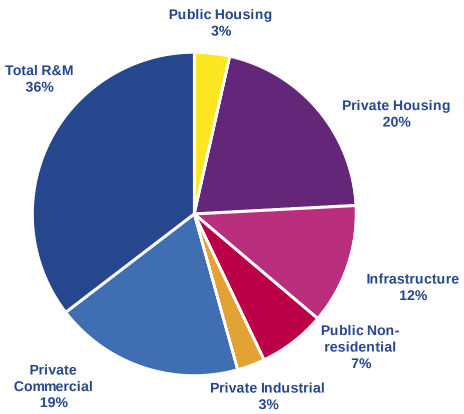
Key messages

Weak consumer spending and investment growth will impact overall economic expansion over the three years to 2020, with GDP expected to rise by a modest 1.4% a year on average, shaved down from 1.5% in the spring. This is well below the 1990-2016 average of 2 per cent.

A very weak first quarter of this year, in which construction output contracted by 2.7%, means that the outturn for this year as a whole is now likely to be negative, even if some of the decline was due to bad weather and activity picks up subsequently. However, 2019 and 2020 are now projected to be slightly better years than anticipated in the spring, bringing annual average growth over the forecast period up to 1%, only marginally down on the spring prediction (1.1%).

The prognosis for construction is very much a 'tale of three sectors', with moderate growth expected in the housing sector, the star performer the infrastructure one, but the non-residential building sectors struggling. In particular, commercial construction is expected to experience a couple of years of retrenchment as the slowdown in projects reaching construction stage in the aftermath of the EU Referendum vote has finally impacted on new orders and output figures.

CONSTRUCTION OUTPUT BY SECTOR, 2017



Source: ONS

Mega projects such as HS2 and Hinkley Point drive growth in infrastructure output from 2019

Government targets for net new homes the impetus for the housing sectors

Army Basing Plan boosts defence-related works to 2019

Forecast highlights

Industrial construction stable, but no significant growth

Possible 'Brexit bonus' for the logistics sub-sector with the UK having to hold a larger stock of imported goods post 2019

Forecast highlights

With government's eyes focussed on housing, capital expenditure on health and education suffers

A sharp retrenchment in office construction on the cards

No joy for retail construction

Forecast highlights

The outturn for 2017

The final estimate of GDP growth in 2017 from the Office for National Statistics (ONS) showed a 1.8% rise on the previous year, a somewhat better performance than had been expected six months ago and only marginally down on the 2016 outturn of 1.9%.

However, the UK has shifted from being one of the fastest growing G7 economies to the slowest. The economic recovery has lost momentum in large part due to a weaker performance by consumer spending, in which growth dropped from 2.9% in 2016 to 1.7% last year. Household incomes and sentiment have suffered from the combination of higher inflation, which averaged 2.7% in 2017, and sluggish wage growth, which only managed 2.3% over the year. Consequently, real household disposable incomes largely flat-lined in 2017.

The pressure on consumer spending growth can be in large part traced back to the decline in the value of sterling in the immediate aftermath of the EU Referendum vote in June 2016. This led to an increase in the level of imported inflation against a background of relatively poor wage growth. While this effect is now unwinding, it may be some time before consumer spending growth returns to more buoyant levels.

Despite ongoing Brexit uncertainty, total investment growth bounced back to 4% in 2017, from below 2% in the previous year and it was this, combined with a rise in exports of 5.7%, that helped sustain GDP growth at 1.8% despite the slowdown in consumer spending expansion. This represented the best export performance in growth terms since 2011.

Construction output reached a new high of just under £157.2bn in 2015 prices, according to the ONS, a 5.7% increase on the previous year. This took its level to 11% higher than the previous peak in 2007. However, this robust growth at an annual level disguises a much weaker performance on a quarterly basis, with most of the increase being a function of a high start off point at the end of 2016 and a good first quarter of last year. The quarter-on-quarter growth rate for the remaining three quarters of the year was flat on average.

The new work sector was slightly stronger than repair & maintenance, with the former posting growth of 6% compared with 5.2% for the latter in 2017.

It was another good year for the private housing sector, albeit the growth rate moderated somewhat to under 10% for the first time since 2013, and public housing output rose for the first time in three years. The government's focus on its aspirational target of 300,000 net new homes a year in England by the mid-2020s, combined with similar programmes in the devolved nations, is undoubtedly helping to boost both the public and private housing sectors.

Infrastructure output reached a new high in 2017 of not far off £19bn (2015 prices) with growth in the sector driven by energy and water & sewerage projects for a change, with transport work stalling somewhat.

For the non-residential building sectors performance was mixed. Publicly funded health and education work slipped and the decline was only partially mitigated by an increase in defence-related works as part of the Army Basing Plan. In the industrial construction sector, both factory and warehouse output rose slightly in current price terms, but taking account of inflation in real terms the overall level was down. Output growth for the manufacturing sector came in at around 2.5% last year, the best outturn since 2014, reflecting the strong export growth, but the transport & storage sector only managed 1.5%, thus general demand for distribution & logistics space was likely to have been muted.

The commercial construction sector was the only non-residential building one to show growth in 2017, at 5.5%, driven largely by another very strong year for the leisure sub-sector. However, quarterly output, having peaked in the second quarter of 2017 fell over the rest of the year, indicating that tougher times for the sector are in the offing.

R&M growth was primarily driven by an 11% increase in the private housing sector, which took output in that classification to a new high. Given that disposable incomes were under pressure for most of 2017, this outturn was something of a surprise and may indicate that the slower 'churn' in the housing market is leading homeowners to spend more on their current properties.

The outlook to 2020

In both economic and construction terms 2018 has started with a whimper rather than a bang. The ONS's second release showed that UK GDP grew by 0.1% quarter-on-quarter in the first quarter of this year, unrevised from the preliminary estimate. This is the smallest quarterly percentage increase in GDP in over 5 years and represents a 0.1% contraction on a per-head basis.

The slowdown in GDP growth continues to be driven largely by an easing in the gains in the consumer-facing industries. The services industries grew by 0.3% quarter-on-quarter and by 1.2% in the year to the first quarter. This compares unfavourably to average annual gains of 1.5% last year, and 2.5% in 2016.

Weakening service sector output growth in the first quarter of the year was underlined by a tepid 0.2% increase in household spending, the shallowest rise in three years. Inflation is falling and earnings growth is accelerating, but consumer spending is unlikely to pick-up until there is a more concrete improvement in household budgets.

Business investment also disappointed, contracting by 0.2% in the first quarter of 2018. Brexit related uncertainty appears to be holding back UK firms from investing as freely as they otherwise would. Furthermore, there was a 0.6% quarter-on-quarter contraction in total exports, with the manufacturing industries once more failing to capitalise on the weakness in sterling, growing by just 0.2%.

The production industries, of which manufacturing is a part, grew by 0.6% in the first quarter of the year, revised down by 0.1 percentage points from the preliminary estimate.

While the bad weather had some impact on the economy, particularly in construction and some areas of retail, the ONS stated that the overall impact on output was limited. The Bank of England's regional agents report a larger impact, though this still does not mask an underlying loss of momentum in the UK economy.

Looking ahead, GDP growth over the next three years is projected to average a fairly modest 1.4% as consumer spending continues to be constrained, expansion in investment drops back from its 4% rate last year and export growth returns to more 'normal' levels in a recent context.

Consumer price inflation (CPI) is expected to continue to moderate from its 2017 level down to the Bank of England 2% target by the second quarter of next year with average earnings growth accelerating mildly to around 3% by the middle of 2019. This should lead to a recovery in real disposable income growth, although rises are projected not to exceed 1.2% a year at best to 2020. However, rising interest rates are likely to mitigate in part the impact of the fall in inflation on disposable incomes. While the Bank of England's Monetary Policy Committee (MPC) held fire on a rate rise in May one later on in the year, possibly in August or November, is on the cards. However, the rate is unlikely to exceed 1.5% by the end of 2020, still historically very low.

The combination of the above factors should lead to some recovery in consumer spending growth from its expected nadir of under 1% this year, but it will be only moderate, with growth rising to 1.5% by 2020.

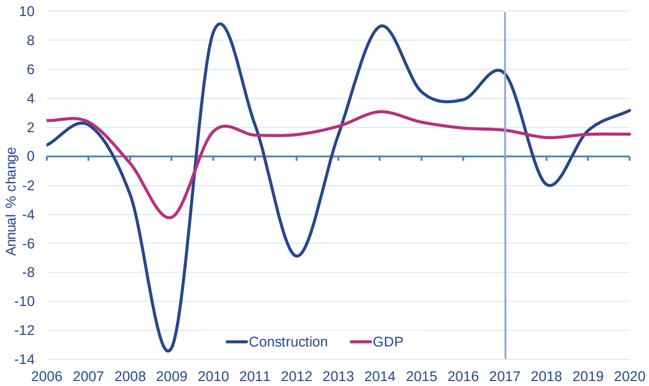
Until Brexit uncertainties finally dissipate, business investment is likely to remain subdued. Sterling has regained some of the value lost in the immediate aftermath of the EU Referendum, but the recent improvement in global trade could help boost export gains. However, this is only likely to offset some of the downward impact from the investment shortfall.

The labour market has continued to over-perform despite the weakness of the economy as a whole, with the employment rate reaching 75.6% for the January to March 2018 period, its highest level since comparable records began in 1971. However, this further feeds the productivity conundrum, with output per worker falling by 0.5% in the first quarter of the year. Between 1991 and 2008 output per worker grew by an annual average of 3.3%. This has dropped to 0.9% in the 2009 to 2017 period, and there is little sign at present of a sustained recovery in productivity gains. Without such a recovery it is difficult to see how average earnings growth can return to pre 2008/09 levels.

Construction output totalled £38.3bn (2015 prices) in the first quarter of this year, a 2.7% fall on the previous quarter. This was the strongest quarterly decline since the second quarter of 2012. While, as has already been mentioned, the construction industry in particular may have suffered from the bad weather in the first quarter of the year, this is unlikely to account for all the contraction. Inevitably given the poor start to the year, we have downgraded our projection for 2018 as a whole from the winter and spring, to one of around a 2% decline in output. Growth has been shaved off all the new work sectors and R&M.

However, 2019 and 2020 are now expected to fare a little better than previously expected as the industry bounces back from its poor 2018. In particular, a shift in the timing of some infrastructure projects means that growth in the sector in 2020 is now projected to be significantly stronger than put forward in the winter and spring. Overall, the annual average growth rate remains similar to that put forward in the Spring Update, at 1% over the 2018 to 2020 period.

GROWTH IN UK CONSTRUCTION OUTPUT AND GDP



Source: ONS, Experian

In terms of sector performance, it is a 'tale of three sectors'. The housing one, both public and private, should see moderate growth over the forecast period, while the star performer is likely to be the infrastructure sector as work on mega projects such as HS2 and Hinkley Point continues to build up. In contrast, the non-residential building sectors will struggle, the public ones suffering from government focus on housing, and the private ones from the fall-out from Brexit.

Sector summaries

Housing

As has been mentioned in recent reports the government's tone in relation to social house building has turned much more positive and recent announcements have been designed to boost both the public and private sectors. However, the number of public starts barely rose last year and while output was more strongly up over 2017 as a whole, this disguises a falling quarterly profile at the end of last year and into the first quarter of this one. Thus we have downgraded our forecast for 2018 to one of no change, and even this may prove to be optimistic in the light of the first quarter figures. Output growth is expected to return from 2019 as government initiatives to boost social house building start to bear fruit.

It remains the case that as long as the economy keeps growing, albeit only modestly, then private housing output is likely to continue to increase, despite a quieter housing market. However, with output already at record highs, growth is expected to be much more moderate than over the past five years.

In our winter and spring reports we estimated a flat 5% rise year-on-year in public housing R&M output as a result of remediation work to the high rise estate in the aftermath of the Grenfell Tower tragedy. In this report we have put a time profile on the likely increase. Our Housing Committee's view was that the testing programme was still in its early stages and thus it would be 2019 before we saw some real uplift in high rise remediation activity, but that when it gets going in earnest, the amount of work could be substantial.

For the private housing RM&I sector we have downgraded our 2018 forecast to a 2% decline from no change in our winter and spring reports, largely on the basis of the first quarter figures. Output in the sector has grown by 38% in real terms over the past five years to a record high and it is difficult to see this continuing through the forecast period given current disposable income growth and household indebtedness, despite the impact of a quieter housing market on the sector mentioned earlier.

Infrastructure

The infrastructure sector is once again expected to be the star performer over the forecast period, although all the growth will be in 2019 and 2020, with output largely flat-lining this year. The focus of expansion is expected to move from energy and water & sewerage, to transport and sewerage, with the former driven by the build-up in Highways England's road upgrade programme and HS2 and the latter by Thames Tideway. While growth in the energy sector is expected to be reasonably strong from 2019 onwards with main works at Hinkley Point commencing, a sharp retrenchment is predicted for this year.

Yet more funding has been provided for the repair of potholes on the local roads network, although all the research into the issue suggests that far bigger sums of money than currently being made available are needed to bring the network back up to a reasonable standard. However, it is road maintenance that is likely to drive any increase in infrastructure R&M over the forecast period.

Non-residential building

We have no reason to change our view put forward in recent past reports that with the focus so strongly on housing, the non-residential building sectors will struggle over the current forecast period. In fact, we have downgraded our forecasts for all three sectors, at least for this year.

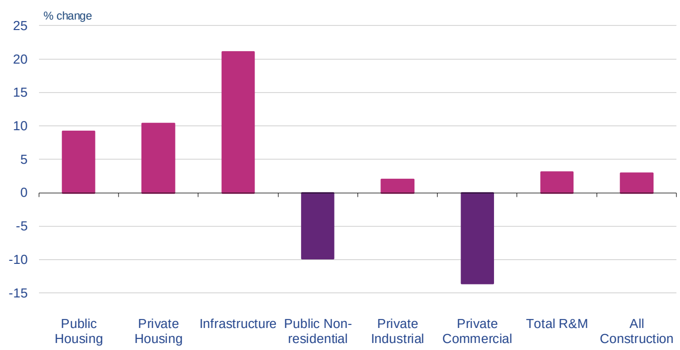
First quarter output and 2017 new orders data suggest that the decline in the public non-residential sector this year could be a stronger 9% than the 4% put forward in the winter and spring. Activity in the health and education sub-sectors looks like it is falling faster than anticipated while the bounce in the miscellaneous sub-sector from the Army Basing Plan looks like dissipating somewhat this year. Post 2018 output in the sector is expected to largely stabilise.

An expected driver of industrial construction growth this year had been the start of work on Jaguar Land Rover's (JLL) new manufacturing facility in Coventry, but this project has become more uncertain as JLL reviews its production of diesel vehicles in the light of falling sales. With growth in manufacturing and transport & storage output projected to average 1.2% and 1.3% a year respectively, general demand for factories and warehouses is unlikely to be strong.

The decline in commercial construction output that started in the final quarter of 2017 has continued into the first quarter of this one, with even the previously buoyant leisure sub-sector feeling the pinch a little. Weakness in the first quarter figures was pretty much across the board, with output in the big three sectors – offices, retail and leisure – dropping by over 5% quarter-on-quarter. This is the almost inevitable consequence of the more cautious attitude towards bringing new projects forward by investors and developers in the aftermath of the EU Referendum. However, there is anecdotal evidence that potential projects are being taken through the design and planning phases, thus once confidence returns to the market the gestation period for schemes may be shorter than usual and thus output could turn upwards quicker than would normally be the case.

The public non-residential R&M sector posted its weakest quarterly output figure in the first quarter of this year since infrastructure work was disaggregated from the building sectors in the first quarter of 2010, suggesting the decline in the sector this year could be much steeper than predicted in the spring. For the remainder of the forecast period for both the public and private sectors, there is no reason to predict more than modest growth at best.

GROWTH IN CONSTRUCTION OUTPUT BY SECTOR, 2018 TO 2020



Source: Experian

A (hopefully) final statistical note

The June 2018 output data release from the ONS included a new methodology for calculating sub-sector output in the infrastructure and non-residential building sectors, which includes the modelling of individual projects of over £50m in value. The revised methodology has been applied to data back to 2010 and while total sector output remains the same there are significant revisions to sub-sector figures. Full details of the new methodology can be found at https://www.ons.gov.uk/businessindustryandtrade/constructionindustry/articles/constructiondevelopmentimprovementstoregionalandsubsectorlevelestimatesjune2018/2018-06-04.

In addition, ONS is revising the imputation methodology to determine output data to reduce the bias of under-reporting in the early estimates of construction output. The data published in July 2018 will be the first to incorporate this new approach. The revisions will only affect data from 2017 onwards and the main impact will be on the estimates for five most recent months. Full details of these changes can be found at https://www.ons.gov.uk/businessindustryandtrade/constructionindustry/articles/improvementstoconstructionstatisticsaddressingthebiasinearlyestimatesofconstructionoutputjune2018/2018-06-04

Key risks to the forecast

Global	**The rise of protectionism**
Global	**Chinese credit boom adds to concerns over global debt levels**
Brexit	**Continues to be the ‘elephant in the room’ – downside risk to our forecasts**
Health	**Upside risk that some of the extra funding announced goes to capital expenditure side**
Commercial	**‘Shovel ready’ projects mean output bounces back quicker than expected**

CONSTRUCTION OUTPUT AND FORECASTS

chain-linked £ million in 2015 prices
annual percentage change

						Forecasts		
	2013	2014	2015	2016	2017	2018	2019	2020
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Note: Non-residential R&M breakdowns in 2015 prices are calculated by applying current price shares.

Sources: ONS and Experian.

1 The Macroeconomic Outlook

KEY UK MACROECONOMIC INDICATORS					
	annual percentage change (unless otherwise stated)				
				Forecasts	
	2016	2017	2018	2019	2020
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Source: ONS, Experian.

Brexit: June European Union (EU) summit

The EU heads of state will gather in Brussels on the 28th and 29th of June to discuss a host of issues including Brexit. The British Prime Minster has abandoned her plans to present the European leaders with a detailed blueprint for a future UK-EU relationship ahead of the summit. Instead a 150-page white paper will be published following the meeting.

With the UK's position on key issues such as its customs relationship with the EU and the state of the Northern Ireland border remaining unclear, progress is likely to be limited. The Prime Minister's cabinet remains deeply divided on the customs question, with some backing a "customs partnership" and others "maximum facilitation".

The former would involve the UK acting on the EU's behalf when imports arrive from the rest of the world, collecting tariffs and delivering them to Brussels. To the EU this may be viewed as too greater delegation of authority, while in the UK to some it could be seen as Brexit in name only. Alternatively, maximum facilitation in theory would dramatically reduce customs controls and barriers between the UK and the EU by electronically tracking and pre-clearing goods. Whether or not this is achievable without significant disruption to trade remains to be seen.

While it remains unclear what the final customs arrangement will look like, on balance we expect that an agreement between the UK and the EU will be reached somewhere before the end of the 21-month transition period, commencing when the UK leaves the EU in March 2019.Furthermore, until there is a

material change in agreed policy our central forecast will continue to assume that a "soft" Brexit will be the final outcome, with the UK gaining similar access to the EU single market as it does currently.

Global background

Output and trade

The global economy has continued to strengthen since our last report. World growth accelerated to 3.8% last year, the largest gain since 2010, and there was a notable rebound in global trade.

Growth was driven in a large part by a resurgence in investment spending in the advanced economies. Both stronger gross fixed capital formation and an acceleration in stock building contributed to the up-tick, with accommodative monetary policy, stronger balance sheets, and an improved outlook helping release pent-up demand for capital goods.

In addition, there was an end to the declining investment in some commodity-exporting emerging markets and developing economies.

Across the emerging markets, accelerating gains in consumption made a large upward contribution to global growth. In China and India net exports also picked-up strongly, more than offsetting easing investment. Similarly, an unwinding of the commodity price downturn during 2015 and 2016 supported an acceleration in growth in commodity-exporting countries, notably Brazil and Russia.

More generally the improved economic performance, particularly an acceleration in investment growth, was reflected in global trade which was estimated to have increased by a robust 4.9% last year.

In advanced economies such as Germany, Japan, the United Kingdom and the United States, exports grew strongly. An increase in imports was also broad based, although the UK was a notable exception.

In the emerging economies and developing markets where the upward contribution to imports was yet greater, China performed particularly well. In terms of exports the greatest gains were made in the commodity export led economies.

Going forward strong momentum in the global economy, healthy market sentiment and the impact of the expansionary fiscal policy in the US should underpin robust world growth. The key risks to this outlook are detailed in the table below.

Key Global Risks	
Geopolitical	Worsening political tensions result in a loss of confidence and lower net trade. Protracted conflicts (particularly in the Middle East) also delay the economic recovery in the countries impacted.
Protectionism	The emergence of protectionist policies, particularly in the US pose a serious threat to global trade prospects. This could also adversely impact on financial markets. The equity market correction in early February following the US announcements on steel and aluminium tariffs on a range of Chinese products and the retaliatory tariffs imposed by China on US products is evidence of this.
US rate rises	If US interest rates rise more quickly than expected, global financial conditions could tighten and the dollar will appreciate, adversely impacting on vulnerable economies.
Chinese credit boom	The current upturn in short-term growth in China is heavily reliant on a renewed credit boom engineered by policymakers since the start of 2017, further extending worries over the level of overall debt in the economy.
Brexit	While primarily affecting the UK, the outcome of the referendum has profound implications for the whole of the EU. A poor deal in terms of trade could significantly damage the potential output growth of both parties.

The UK economy

Recent trends and near term outlook

Over the last year, the UK has shifted from being one of the fastest growing G7 economies to the slowest. The economic recovery has lost momentum in large part due to a weaker performance in consumer spending. Household incomes and sentiment have suffered from the combination of higher inflation and sluggish wage growth.

Inflation is now beginning to ease in line with diminishing import cost pressures and real incomes have turned positive as wage growth has accelerated and employment gains remain strong. However, with household budgets being constrained for some time, the savings rate near historic lows and consumer credit growth, although easing, remaining extremely high, there is little room for a spending splurge this year. Conversely, we expect consumption to grow by just 1%, down from 1.7% last year.

Alongside this, companies continue to hold back on investment decisions due to uncertainty over Brexit negotiations. Furthermore, sectors of the economy that could benefit from weaker sterling through a boost to their export price competitiveness have failed to fully capitalise on this advantage. The net trade balance which was in deficit in 2016 has only mildly improved subsequently.

The second estimate of GDP for the first quarter of 2018 was unrevised from the first, confirming growth at 0.1% quarter-on-quarter in real terms. This is the smallest quarterly percentage increase in GDP in over 5 years and represents a 0.1% contraction on a per-head basis.

The slowdown in GDP growth continues to be driven largely by an easing in the gains in the consumer-facing industries. The services industries grew by 0.3% quarter-on-quarter and by 1.2% in the year to the first quarter of 2018. This compares unfavourably to average annual gains of 1.5% last year and 2.5% in 2016.

Weakening service sector output growth in the first quarter of the year was underlined by a tepid 0.2% quarter-on-quarter increase in household spending, the shallowest rise in three years. Inflation is falling (2.4% in April) and pay is growing (2.6% in the year to January – March), but consumer spending is unlikely to pick up until there is a more concrete improvement in household budgets.

Business investment also disappointed, contracting by 0.2% in the first quarter of 2018. Brexit related uncertainty appears to be holding back UK firms from investing as freely as they otherwise would. Furthermore, there was a 0.6% quarter-on-quarter contraction in total exports, with the manufacturing industries once more failing to capitalise on the weakness in sterling, growing by just 0.2%.

The production industries, of which manufacturing is a part, grew by 0.6% in the first quarter of the year, revised down by 0.1 percentage points from the preliminary estimate. In the agriculture and construction sectors output contracted by 1.4% and 2.7% respectively.

While the bad weather had some impact on the economy, particularly in construction and some areas of retail, the ONS stated that the overall impact on output was limited. The Bank of England's regional agents report a larger impact, though this still does not mask an underlying loss of momentum in the UK economy.

In the coming quarters of 2018 GDP growth is expected to remain muted in line with constrained consumer spending. The potential for a further slowdown in business investment growth, if progress in the Brexit negotiations falters, represents a key downside risk.

Medium-term outlook

The EU referendum result has created major uncertainties regarding the medium-term outlook for the UK economy. Much will depend on the outcome of trade negotiations and terminating involvement with the EU, and only time will tell how these issues affect economic performance.

Until the uncertainty surrounding the composition of a final Brexit deal dissipates, subdued business investment will act as a large drag on GDP growth. The weaker pound could boost net export gains, supported by the recent improvement in the outlook for the world economy. However, this is only likely to offset some of the downward impact from the investment shortfall.

Inflation is expected to ease and mildly accelerating wage growth should support a steady improvement in real incomes. This is anticipated to support a marginal pick-up in consumer spending and GDP from next year, to around 1.3% and 1.5% respectively. Given the pressures faced by consumers over the past year and a half there is little scope for the gains to overachieve much beyond this.

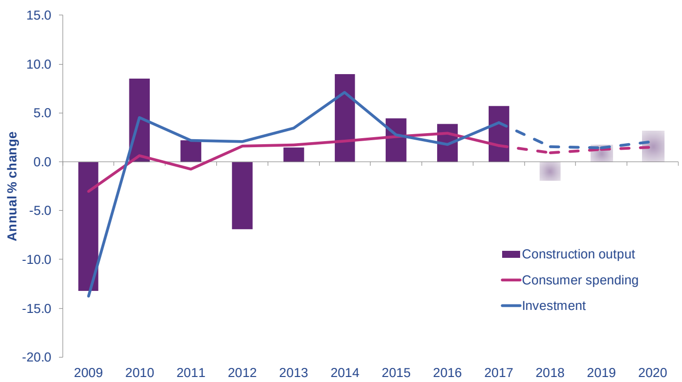
Further constraints on medium-term prospects will come from:

Tight government finances: The UK government's finances are improving. In the financial year ending March 2017, the UK government deficit was £46.9bn, equivalent to 2.4% of gross domestic product (GDP), a decrease of £29.0bn compared with the financial year ending March 2016. However, the chancellor has repeatedly signalled that any spending increases will be limited in-line with further progress on bringing the deficit down.

The main engines of growth in the 15 years to 2008 – financial and business services and government spending - will be less buoyant. The financial services sector is more tightly regulated and weakened banks will be less expansionary. The now mature business services sector will not be able to repeat its impressive near 8% annual rate of growth between 1995 and 2007, and government spending will be much more restrained than in the period 2000-08, when growth averaged 3% a year.

Beyond 2018 the UK's economic fortunes will largely be shaped by the final terms of the Brexit deal. The impact on external trade, foreign direct investment and migration flows are of particular importance as these influence the UK's long-term economic growth potential via labour supply and productivity. There will be a trade-off between market access and control over EU migration, so there is a real risk that the UK will have to accept significantly less favourable terms of access, which could undermine prospects for trade and investment. No adjustments have been made to the underlying population projections in our base case, but downside risks clearly exist on this front from a potential slowdown in EU migration.

CONSTRUCTION OUTPUT VS CONSUMER SPENDING AND INVESTMENT



Source : ONS, Experian

Autumn Budget 2017

The economic and political backdrop to the Chancellor's first fully fledged Autumn Budget – now the main fiscal event of the year - was highly uncertain. Progress had been slow on Brexit negotiations and the latest batch of economic indicators pointed to a weakening economy. This presented the Chancellor with the challenge of ensuring that there is money set aside to cushion any potential Brexit-related shocks in the pipeline whilst also providing support to a faltering economy.

Key measures

The Autumn Budget measures focused on boosting the housing market, productivity and low income households. The most significant announcements were;

- A package of measures to boost housing: £15.3bn of new funding for house building over the next 5 years with the aim of boosting net new homes to 300,000 per year by the mid-2020s. Changes to the planning system to encourage better use of land in urban areas.
- Stamp duty abolished for first time buyers on homes up to £300,000 and, in London, the first £300,000 of a home up to £500,000.
- A package of measures to support businesses and productivity. This includes funds for education and infrastructure, as well as bringing forward the CPI indexation of business rates by 2 years.
- National living wage to increase from £7.50 to £7.83 from April 2018.
- Tax free personal allowance to increase to £11,850 in April 2018
- Duty on fuel and alcohol to be frozen. Tobacco duty to rise.
- Universal credit: £1.5bn towards improving delivery of this benefit
- NHS to receive a £2bn injection of new funding

The Spring 2017 Budget set aside £26bn for any potential Brexit-related shocks to the economy. Much of that was eroded by the downgrade in the outlook for the government's finances due to the OBR's reassessment of the economy's productive potential and the government's spending announcements. In overall terms, the Chancellor's announcements amounted to a modest loosening of fiscal policy, with the package of housing measures at centre stage, which should support the economy. However, the overall impact on our macroeconomic forecasts was limited. Indeed, the key factor in the outlook for the UK remains the outcome of the Brexit negotiations and the impact of any final agreement on the UK's demographics, investment, exports and sentiment.

March Spring Statement 2018

In his Spring Statement presented on the 13th of March 2018 the Chancellor signalled that there could soon be some limited easing of austerity, with the UK economy performing better than expected in most regards since the November 2017 Budget. In particular, the Office for Budget Responsibility upgraded its 2018 growth projection from 1.4% to 1.5%, and lowered its forecast for borrowing in 2017/18 to £45.2bn from its £49.9bn November estimate.

The Chancellor sated that the country had reached a "turning point", with the burden of public debt predicted to start falling next year. However, the modest improvement in the public finances is unlikely to trigger a spending splurge. Instead, future rises in public spending are likely be focused on key areas, such as the National Health Service, and will be balanced against a continued focus on managing the National Debt.

True to his word the Chancellor did not announce any new tax or spending commitments in what was the first of the new pared-back Spring Statements. Our latest Macro forecast is thus unchanged from the previous vintage. The projections also assume a modest loosening of fiscal policy in the autumn.

Public finances

The UK's public finances registered their first current budget surplus in 16 years in the 2017/2018 fiscal year, showing the progress made by the government on this measure of deficit repair since the last recession.

The latest ONS data showed that public sector borrowing was just £1.35bn in March, and took full fiscal year borrowing to £42.6bn. This was below the £45.2bn forecast made by the Office for Budget Responsibility (OBR) as recently as March – and was the lowest UK total annual deficit since 2006/07.

When stripping out capital spending, the "current" budget deficit for 2017/18 was actually in a modest surplus of £112m, the first time this has happened since 2001/02. However, despite the healthy public finances, tax revenue growth eased compared to a year earlier, underlining the slow growth in the UK economy.

Labour market remains buoyant

Recent figures from the Office for National Statistics (ONS) confirmed that the squeeze on living standards has come to an end.

The key points comparing the three months to March 2018 with the previous three months are:

- Employment grew by 82,000 to 32.34 million. The number of employees was up by 92,000, while the number of self-employed fell by 9,000
- The number of people working full-time rose by 67,000. The number of part time workers rose by 15,000
- Unemployment edged down by 20,000 to 1.43 million
- The unemployment rate remained at 4.2%
- The number of people in part-time work, because they could not find a full-time job, decreased by 6,000
- Comparing January-March with a year earlier, pay for employees in Great Britain increased by 2.9% excluding bonuses, and 2.6% including bonuses.

The data continues to paint a positive picture of the UK labour market, with pay growth edging ahead of CPI inflation for the first time since the first three months of 2017.

Another positive aspect has been the employment rate, which has been generally increasing since early 2012. For January to March 2018 the employment rate for people was 75.6%, up from 74.8% for a year earlier and the highest since comparable records began in 1971.

Total job vacancies have been rising since July last year, and remain at near-record highs. There were 806,000 job vacancies for February to April 2018, 16,000 fewer than for November 2017 to January 2018 but 17,000 more than for a year earlier.

A slightly less reassuring message relates to productivity. Output per hour, a measure of productivity, declined by 0.5% during the first quarter following two quarters of strong growth at the end of last year. The decline was due to a 0.6% fall in hours worked and output growth of 0.1%. However, both metrics were likely affected by snow during the first quarter of the year as many employees could not travel to work.

Inflation easing

Consumer price inflation (CPI) edged down to a new one-year low of 2.4% in April, from 2.5% in March. Core inflation, which strips out the most volatile components of the index dropped to 2.1%, down from 2.3%.

The largest downward contribution to the change in the rate came from air fares, which were influenced by the timing of Easter. Clothing and footwear and food and non-alcoholic beverages also had a moderate downward effect. Rising prices for motor fuels made the largest, partially offsetting, upward contribution.

The downward contribution from air-fares in April was stark, with CPI in the air transport component dropping from 9.5% in March to -7.9%. This underlined a drop in services inflation from 2.5% to 2.1%. The Bank of England will be looking carefully at this series for any signs that accelerating wage growth is driving inflation, but at present this does not appear to have materialised.

Conversely, goods inflation that had been easing in recent months, in line with diminishing import cost pressures linked to sterling's depreciation in 2016, rose in April, to 2.6%, from 2.4% a month earlier. Underlying this was an acceleration in price growth for materials and fuels (input prices), from 4.4% to 5.3%.

Rising input prices, though not felt in the clothing and food components of CPI were reflected in an increase in fuel and lubricant inflation, from 0.3% to 3.1%. The upward trend in the global oil price has intensified since July last year driving an increase in fuel prices domestically. Brent crude oil is currently priced at almost $80 a barrel, compared to a low of roughly $45 dollars a barrel in January 2016.

Going forward inflation is anticipated to ease further as import cost pressures diminish, though with wage growth picking up in recent months and relatively strong growth in input prices lingering, CPI is unlikely to hit the Bank of England's target of 2% by the end of the year.

Bank Rate remains at 0.5%

At its meeting ending on 9 May 2018, the Bank of England's Monetary Policy Committee (MPC) maintained Bank Rate at 0.5%. The MPC voted seven-to-two against raising interest rates immediately, with the majority saying that there was a need "to see how the data unfolded over coming months to discern whether the softness in the first quarter might persist", leaving the path open for a rate rise in August or November this year.

The two members who favoured a rise in Bank Rate by 25 basis points, noted the widespread evidence that slack was largely used up and that pay growth was picking up, presenting upside risks to inflation in the medium term. For these members a modest tightening of monetary policy at the May meeting could mitigate the risks from a more sustained period of above-target inflation that might ultimately necessitate a more abrupt change in policy.

Overall, should the economy perform in line with our forecasts, we expect a 25bps increase in interest rates later this year.

MACROECONOMIC FORECASTS

% change year-on-year in real terms unless otherwise stated	2016	2017	2018	2019	2020
				Forecasts	
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Source: ONS, Experian.

2 New Housing

	Housing Construction Output					Forecasts		
	2013	2014	2015	2016	2017	2018	2019	2020
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Source: ONS and Experian.

Summary

Although public housing output saw overall growth in 2017, the most recent quarter marked a reversal in this trend as output fell. Furthermore, key leading indicators remain soft. In particular, the new orders series remained depressed in the final quarter of 2017, unsurprising in the uncertain economic backdrop. The financial outlook remains unconducive for the sector and a fall in business investment triggered by the uncertainties around Brexit could undermine social housing providers' ability to raise finance. While recent budget announcements around government plans to focus on encouraging council housing building will provide some modest uplift, we still expect weakness in the sector to persist.

On the private housing side, recent data reveals that while output enjoyed a healthy expansion in 2017, the pace of growth has been weakening in the last few years. On a quarterly basis, output growth was the weakest in the final quarter of 2017 compared with earlier in the year. Underlining this weakening momentum, output growth turned negative in the first quarter of 2018. We expect this weakness to persist in the months ahead as economic conditions curb investor appetite at the same time as affordability issues dampen buyer confidence and demand. While recent data on job creation and wage growth has been positive, the impact of this is outweighed by the high levels of household indebtedness and strained budgets. Also, stricter lending criteria and higher transaction costs continue to depress demand, further reducing builders' incentive to expand output.

Public Housing

Output & orders

After two consecutive years of decline, public housing output posted a robust outturn in 2017, rising by 14% to reach £5.5bn (2015 prices) by the end of the year. Although overall output expanded in 2017, this growth was concentrated in the first three quarters of the year with the sector contracting by 1% in the final quarter. Data for the first quarter of 2018 confirms this weakening trend with output falling sharply by a further 9% quarter-on-quarter. On a four-quarter moving total basis, output fell by a more modest 2% in the first quarter of 2018 to £5.4bn.

Public housing orders showed significant weakening in 2017, falling by 17% compared to the previous year. Most of the weakness was in the first quarter of the year as orders fell by 22%. The recovery from this was particularly robust in the second and third quarters, during which period the value of new orders almost doubled. Nonetheless, much of this growth petered out in the final quarter of the year and, on the less volatile four-quarter moving total basis, growth in orders was flat at £1.47bn.

The ONS announced a reclassification of Housing Associations as private sector entities effective from 16th November 2017, possibly shifting away output from the public sector towards the private sector in future data releases.

Public Housing Orders And Output				
	Orders		Output	
	£ million (2005 prices)	*% change y-on-y*	£ million (2015 prices)	*% change y-on-y*
2013	3655	*62.0*	4570	*6.6*
2014	1818	*-50.3*	6027	*31.9*
2015	1374	*-24.4*	5050	*-16.2*
2016	1711	*24.5*	4861	*-3.7*
2017	1427	*-16.6*	5541	*14.0*
2016 Q1	559	*47.9*	1168	*-18.2*
Q2	440	*25.0*	1159	*-13.8*
Q3	391	*61.6*	1214	*5.5*
Q4	321	*-20.1*	1320	*17.1*
2017 Q1	252	*-54.9*	1364	*16.8*
Q2	370	*-15.9*	1378	*18.9*
Q3	489	*25.1*	1409	*16.1*
Q4	316	*-1.6*	1390	*5.3*
2018 Q1	276	*9.5*	1267	*-7.1*

Source: ONS.

Starts & completions

The Welsh government discontinued publication of housing starts data broken down by tenure in April 2011 due to concerns over the accuracy of the split between public and private. Due to the relatively small number of public housing starts in Wales, for purposes of analysis, we include these in the private housing sector.

English public housing starts performed poorly through most of 2017, declining in all quarters except the third. On a four-quarter moving total basis, starts fell by 4% to 25,650 in the fourth quarter of 2017. On an annual basis, starts fell by 2% between 2016 and 2017. In contrast, Scottish starts picked up by 24% from 4,716 in 2016 to 5,859 in 2017. Overall, GB starts rose by a muted 2% in 2017.

On the completions side, growth of 8% was seen in GB in 2017. Most of this was underpinned by strong growth in English completions, which picked up by 11 percent to 29,200. Some of this growth was offset by weakness in Scottish completions, which fell back by 12% in the year. Looking at underlying trends, the four-quarter moving total for English completions was positive in all four quarters of 2017, settling at growth of 3% in the final quarter of the year.

ONS data shows that public sector construction is increasingly dominated by new houses which constituted over 60% of new builds in 2016/17. A decade ago, flats constituted 66% of new public sector dwellings. Two-bedroom properties (for both houses and flats) continue dominate the public new build sector, constituting over half the new construction in 2016/17.

Projects and market intelligence

The November 2017 Budget focused on the housing shortage as the Chancellor announced a stimulus package worth £15.3bn of new cash over the next five years, bringing total support for housing to £44bn over this period. In addition, he pledged to push forward planning reforms to ensure more land was available for housing, and that better use was made of underused urban land.

The Homes and Communities Agency was renamed Homes England in January 2018, and given fresh powers to drive housing delivery including compulsory purchase orders. The aspiration is to build 300,000 new homes annually by the middle of the next decade, with the public sector needing to make a significant contribution to meet this target.

In October 2017, an additional £2bn was set aside specifically for council housing, aiming to provide 25,000 new homes over the next five years. A further £2.7bn from the budget's £44bn pot will be injected into the Housing Infrastructure Fund, doubling it to £5bn. Previously, the Autumn Statement 2016 had allocated £2.3bn to this fund for new housing infrastructure to help deliver 100,000 new homes to high demand areas by 2020/21. An additional £1.4bn was allocated to provide 40,000 affordable homes by 2021 under the Shared Ownership and Affordable Homes Programme and it also plans to invest £1.7bn to support construction of new homes on public sector land in England by 2021.

In terms of planned projects in the pipeline, Homes England finalised a £74m deal in April 2018 to fund infrastructure works unlocking 657 acres of land in order to develop 5,290 new homes in Ebbsfleet

Garden City in Kent. More than 1,000 of these homes will be provided by 2021, with the full scheme due for completion over the next decade. One of the largest deals in the last year, the loan has been made available from the Home Building Fund.

According to the National Housing Federation, in the next three years housing associations in Cornwall plan to spend more than £556m on development projects, building 3,772 new homes in the process. Indeed, with £20m of investment from Homes England alongside other funding, Coastline Housing Ltd is committed to deliver 1,000 homes between 2017 and 2021, making it one of the most active housing associations in Cornwall.

In March 2018 it was revealed that the Northern Gateway programme in Manchester will be situated on a 155-hectare site in the north of the city. The development will deliver 15,000 homes and will include new social housing as well as residential properties for affordable rent. The scheme is a joint venture between property developer Far East Consortium and Manchester City Council.

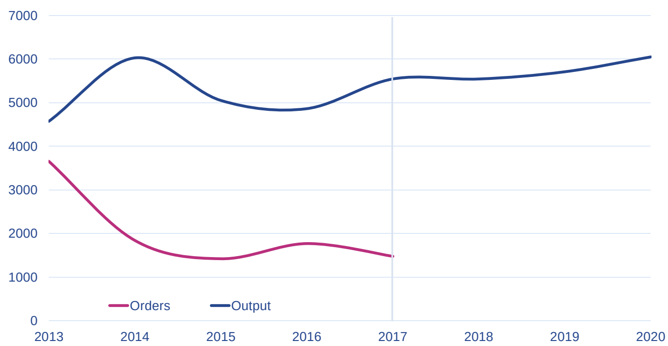
North Tyneside Council recently approved plans to develop the Murton Gap and Killingworth Moor site over the next 15 years. As part of this, 5,000 homes could be built which will contain an element of affordable housing.

Housing associations in Wales are continuing their efforts to deliver on the 20,000 new affordable homes target, with the United Welsh Housing Association committed to building 800 new homes over the next five years and Bron Afon promising a further 450 over the same period. Coastal Housing Group are taking forward 103 affordable housing units across three sites in South West Wales.

Outlook

Public housing output saw strong expansion in 2017, partly a rebound from a weak 2016. Looking ahead to the next few years, our view remains unchanged that while, on the one hand, the recent budget announcements around plans to encourage council housing building will boost output numbers, on the other hand, the fall in business investment triggered by the uncertainties revolving around Brexit will affect social housing providers' ability to raise finance and this will offset any gains from policy measures. Our forecast is for output growth to falter and grow at a much slower pace than seen in 2017 over the next three years. The recent fall in output in the first quarter of 2018 vindicates our decision to downgrade our forecast for the year. We are currently expecting no change in 2018, a figure that could well be downgraded further if newer data remains similarly weak. We expect growth to recover slightly in 2019 and 2020 as government initiatives to boost social housebuilding come to some fruition.

PUBLIC HOUSING ORDERS (2005 PRICES, £M) AND OUTPUT (2015 PRICES, £M)



Source: ONS, Experian.

Private Housing

Output & orders

The private housing sector has seen a strong performance in the last five years with output growing by a substantial 87% over this period. The recent annual growth of 9% in 2017 has, relatively speaking, been the slowest annual rate of expansion over this latest five-year period. Nonetheless, it was still a healthy pace of growth which brought output to £32.4bn by the end of 2017. While growth in the final quarter of 2017 remained a healthy 6 percent with the four-quarter moving total growth a little more muted at 3%, this trend seems to have reversed in the early part of 2018. The latest data for the first quarter of 2018 shows that output fell by 2% on a quarter-on-quarter basis although on a four-quarter moving total basis growth remains a marginally positive 1%.

New orders for private housing totalled £14.2bn (2005 prices) in 2017, 5% higher than the previous year. This followed 3% growth in 2016 and was the seventh consecutive full year of no decline. On a quarterly basis, orders rose by 7% in the third quarter of 2017 but then fell by the same amount in the final quarter of the year. On a four-quarter moving total basis, private housing orders fell by a marginal 1% in the final quarter of 2017.

Private Housing Orders And Output				
	Orders		Output	
	£ million (2005 prices)	*% change y-on-y*	£ million (2015 prices)	*% change y-on-y*
2013	11843	*31.6*	19011	*9.4*
2014	12715	*7.4*	23816	*25.3*
2015	12715	*7.4*	23816	*25.3*
2016	12409	*-2.4*	26276	*10.3*
2017	12834	*0.9*	29718	*24.8*
2016 Q1	2700	*-17.1*	7217	*12.5*
Q2	3476	*13.7*	7327	*11.1*
Q3	3394	*17.7*	7433	*14.7*
Q4	3264	*1.7*	7741	*14.0*
2017 Q1	3638	*34.7*	7955	*10.2*
Q2	3193	*-8.1*	7811	*6.6*
Q3	3411	*0.5*	8084	*8.8*
Q4	3173	*-2.8*	8575	*10.8*
2018 Q1	4301	*18.2*	8435	*6.0*

Source: ONS.

Starts & completions

GB private housing starts slowed in the second half of 2017, with 76,836 starts in this period, 7% down from 82,188 seen in the first half of last year. However, overall the total number of starts in 2017, at just over 159,000, was 7% higher than seen in the previous year. Although starts have increased on an annual basis for five consecutive years, the pace of growth has slowed markedly. Starts rose by 20% and 14% in 2013 and 2014 respectively, compared to rates of well under 10% from 2015 onwards. Growth in 2017 was twice as strong in England (8%) as in Scotland (4%).

In contrast GB completions in the second half of 2017 were slightly stronger than in the first, growing by 2% half-on-half. On an annual basis, GB completions reached 152,700, nearly 15% higher than in 2016 and the best level since 2007.

ONS data shows that private sector construction is dominated by new houses which constituted nearly 80% of new builds in 2016/17. A decade ago, houses constituted about 55% of new private sector dwellings and flats the remaining 45%. Three and four-bedroom properties (for both houses and flats) continue to dominate the private new build sector, collectively constituting over 70% of new construction in 2016/17.

Projects and market intelligence

Demand factors

Nationwide quarterly house price data for the first quarter of 2018 shows that UK house prices rose by 0.8% in the quarter, bringing annual growth down to 2.1%. While there was a slight uptick, of 0.2%, in monthly growth in April that boosted annual growth to 2.6%, May saw that unwind with annual price growth once again at 2.4%. Halifax recorded a marginal fall in the first quarter of 2018, with annual growth at 2.7%, but this slowed to 2.2% in April. Both surveys confirm that the market remains characterised by muted demand, tight supply conditions and weak activity. ONS data, that comes with a lag, suggests that prices

Housing Starts and Completions					000s	Provisional Forecasts		
	2013	2014	2015	2016	2017	2018	2019	2020
Private Housing								
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Note: starts and completions forecasts are rounded to the nearest thousand. *At the time of finalising, Q4 2017 Scottish figures were not yet published.
Welsh housing starts no longer split between private and public thus are allocated to the private sector as the largest element
Starter homes are classed as private homes.
Source: CLG and Experian.

rose by 4.2% in the year to March 2018, down from 4.7% in January.

The April RICS survey shows no change in downbeat market conditions with most balances exhibiting a continuation of the trends seen over most of 2017. On the demand side, balances for new buyer enquires marked 13 months of consecutive declines, although the pace of fall abated slightly in April. Although employment and wages have both picked up, buyers remain under pressure from rigid budget constraints and ongoing affordability issues. Nationwide data shows that the house price to earnings ratio for first-time buyers was 5.2 in the first quarter of 2018 while mortgages as a proportion of pay touched 32.5%. To put this in context, the last time these measures were around these levels was just before the crash of 2007.

Activity, measured by the agreed sales indicator in the RICS survey, also stayed negative with no growth seen since the beginning of 2017. Corroborating this, Bank of England data shows a general weakness in the number of loans available for house purchase. While the number of loans did see a modest rise to around 67,000 in January, this indicator has fallen to around 62,900 in March, underperforming the 6-month average of 64,500. HMRC data shows that the seasonally adjusted estimate of the number of residential property transactions fell by 0.3% month-on-month in February 2018. UK Finance's latest statistics reveal that gross mortgage lending was £20.5bn in March 2018, up from £18.9bn the previous month. Bank of England data shows that gross mortgage lending in the first quarter of 2018 was £61.1bn, 3.4% up from £59bn in the same period the previous year.

On the policy side, recent moves have been largely supportive of increasing the housing stock and encouraging first-time buyers. While the Monetary Policy Committee (MPC) kept rates steady at 0.5% in May, it signalled that rates could rise earlier than was previously thought due to a more stable economy than expected. Even with two further 0.25pp increases on the horizon until end-2019, interest rates remain historically low which will support demand. The 2017 Budget introduced measures to help first-time buyers, significantly the abolishing of Stamp Duty for first-time buyers on homes up to £300,000 and, in London, the first £300,000 of a home up to £500,000. While intended to be supportive of demand, it is likely to have only a modest impact as first-time buyers tend to pay only a small amount of Stamp Duty already, given the price of a typical first-time property outside of London is around the previous threshold of £125,000.

The Financial Stability Report published in 2017 reviewed risks in the UK mortgage market. Key amongst the recommendations to mitigate these was the affordability criterion requiring lenders to test that borrowers are able to weather increases of up to 3 percentage points above the rate specified in the mortgage contract. This suggests that some borrowers may find it difficult to get a mortgage under these tighter rules, weighing on demand even further.

The April RICS survey confirms that price expectations in the short-term remain firmly negative, with the poorest balances seen in London and the South East. Over a 12-month horizon, however, price expectations are more positive. We forecast house price growth in the 2%-3% range in 2018 with risks still to the downside.

Supply factors

Market supply conditions remain tight. The RICS survey for April 2018 reveals that the number of new instructions fell yet again in the month, marking 26 months of no growth and highlighting how lingering uncertainty and high transaction costs are continuing to limit housing supply. Following such a prolonged decline in new instructions, average stock levels on agents' books are now near an all-time low. It is these tight supply conditions that are preventing more pronounced falls in overall house prices and keeping these at around a broadly flat trend.

On the policy side, recent moves have been largely supportive of increasing the housing stock and encouraging first-time buyers. £15.6bn of new funding has been set aside to help deliver 300,000 homes new home annually by the mid-2020s. The government also announced planning reforms that would make more land available for the construction of new urban homes whilst at the same time protecting the Green Belt. However, it is unclear how far this will go in the current environment of heightened economic and political uncertainty.

According to Glenigan's New Housing Pipeline report for the final quarter of 2017, the residential development pipeline remained healthy after some cooling off in the first half of the year. The number of units approved was 1% higher than the third quarter of 2017, and 9% higher than in the fourth quarter of 2016. The annual rise was underpinned by a 7% increase in the number of private housing units approved and a 27% rise in social housing units approved. Overall the number of residential units approved in 2017 was 21% higher than the previous year.

The latest Homes England report shows that the social housing sector invested £10bn in new housing supply and £1.6bn in existing stock. Total investment of £11.6bn represents a 15% increase on 2016. £1.9bn worth of finance was agreed in the quarter. Investment in housing supply was £2.3 billion in three months to 30 September 2017 while expected investment in new housing supply in the 12-month forecast period is £13.3 billion (of which £8.9 billion is already contractually committed).

Some key projects in the pipeline include a £400m one at Rochester Riverside in Kent, with plans for 1,400 homes. The first batch of homes should be completed in 2019. In addition, sign-off for the £300m Adastral Park development in Martlesham Heath, Suffolk, was agreed recently. Final approval was subject to conditions and the completion of a section 106 agreement, detailing £96m in infrastructure investment. The final scheme will feature up to 2,000 new homes, including affordable housing, as well as shops, and an extension to the business park.

At the end of 2017, John Sisk & Son were awarded a £210m contract to build 743 new build homes for rent. The development around Wembley Stadium will consist of seven buildings and will also include a roof terrace, BBQ area, allotments, a play area and a new park. The project is due to be complete in 2020.

Work on the Chase Farm development in Gedling has been picking up pace with the first phase of the £170m development seeing 506 homes being constructed by early 2019. The project looks set to conclude within the forecast period, with the £40m access road due for completion by 2020.

The government's latest Spring Statement outlined a Housing Deal with the West Midlands Combined Authority (WMCA). The package of £350 million of new government funding is the first step in a programme of joint work and investment between the WMCA and Government to deliver 215,000 new homes by 2031. There seem to be little definitive plans for specific projects at present, however.

In total 5,500 new homes are planned for the new town of Sherford, in Devon. Some units have already been delivered, but the project is likely to span the next 20 years before full completion. Swindon Borough Council has announced an agreement with Barratt Developments to build around 2,750 new homes in Wichelstowe. Approval has been granted for 2,000 new homes in Taunton, with construction likely to begin next April.

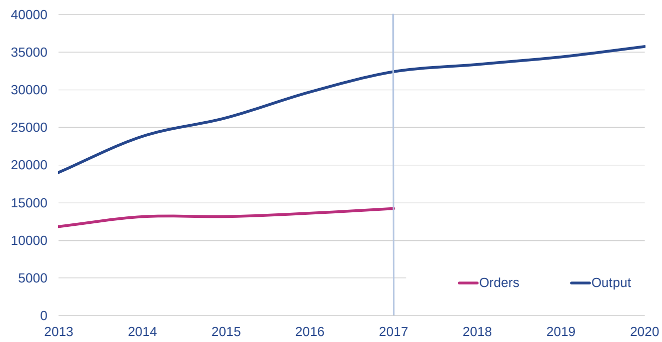
The Hanro Group has been given the green light to build twenty one apartments in Newcastle. The seven storey block will be situated next to the grade two listed Print Works. The developer successfully argued that providing affordable housing as part of the project would make it financially unviable.

The £350m South Bank development scheme, submitted by Feilden Clegg Bradley Studios on Globe Road and Water Lane, has been given the go-ahead. Plans include 750 new homes. Plans have also been submitted by developer X1 and property consultancy Knight Knox for a £210m mixed-use development on Leeds' South Bank, which could create more than 900 new homes. Pending approval, construction is set to begin in December 2018.

Outlook

Our view remains that private housing output growth will see some softening after five years of strong expansion. On a quarter-on-quarter basis, output fell in the first quarter of 2018 and, given the economic uncertainty and political headwinds that lie ahead, we expect no strong reversal of this trend in the near term. The decline in new orders seen in the latest data is testament to this. On the demand side, affordability issues and uncertainty continue to dampen buyer confidence despite recent policy incentives to bolster demand and boost supply. We therefore expect weaker overall growth of 3% in 2018, a marked slowing from the double-digit rises seen per annum in the last 5 years. The slowdown in growth is expected to continue during the forecast period, with expansion picking up only slightly to 4% by 2020. However, this should be put in the context of the fact that private housing activity, at least in output terms, is running at a historically high level.

PRIVATE HOUSING ORDERS (2005 PRICES, £M) AND OUTPUT (2015 PRICES, £M)



Source: ONS, Experian.

3 Housing Repair, Maintenance & Improvement

Housing Repair, Maintenance & Improvement						Forecasts		
	2013	2014	2015	2016	2017	2018	2019	2020
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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Source: ONS and Experian.

Summary

Our outlook for public housing repair, maintenance and improvement (RM&I) output shows stronger growth than seen in recent history as lessons from the Grenfell Tower tragedy lead to a review of safety procedures on residential high rise buildings and encourage a significant amount of remediation work over the forecast period. However, most of this impact will be felt in 2019 and 2020, with the outlook for 2018 largely flat. Spending on remediation works will offset the otherwise gloomy outlook for the fundamental drivers of this sector as local authorities face ever-rising budgetary pressures.

The outlook for private housing RM&I is bleaker as consumer fundamentals remain depressed. While there are signs that private housing RM&I output benefited in 2017 from the slowdown in the housing market as potential buyers postponed purchases and settled for home improvement instead, we expect performance to weaken in the forecast period as real wages show lacklustre growth and high levels of indebtedness keeps a rein on spending.

Consequently, we expect private housing RM&I output to fall in 2018 with some stabilisation seen the following year. Growth is unlikely to return to this sector until 2020 when household consumption, one of the main drivers of this sector, sees a stronger performance.

Public Housing Repair, Maintenance and Improvement

Output

Public housing RM&I contracted by 4% in 2017 to £7.4bn (2015 prices), the lowest outturn since 2002. Output declined by 3% quarter-on-quarter in the first quarter of 2017, and then saw a welcome uptick of 2% in the second before falling once again, by 2%, in the third and a further 1% in the fourth. On the more stable four-quarter moving total basis, output declined by 2 percent in the first quarter of 2018 to £7.28bn. On

Public Housing RM&I Output

	£ million (2015 prices)	*% change y-on-y*
2013	7780	*-4.1*
2014	7993	*2.7*
2015	8140	*1.8*
2016	7708	*-5.3*
2017	7388	*-4.2*
2016 Q1	2004	*-2.1*
Q2	1945	*-4.7*
Q3	1851	*-10.0*
Q4	1908	*-4.5*
2017 Q1	1852	*-7.6*
Q2	1880	*-3.3*
Q3	1840	*-0.6*
Q4	1816	*-4.8*
2018 Q1	1739	*-6.1*

Source: ONS.

this measure, the sector has failed to record any growth since the second quarter of 2015.

Projects and market intelligence

The government's Standard Assessment Procedure (SAP) is an index which calculates the energy efficiency of homes. The SAP measure is expressed on a scale of 1 (very inefficient) to 100 (extremely efficient with zero energy costs). According to the English Housing Survey headline report 2016/17, the energy efficiency of English housing stock has increased significantly over the past two decades, but improvements have slowed in recent years. The average SAP rating of English dwellings was 62 points in 2016, up from 45 points in 1996, but unchanged from 2015. In 2016, the social housing sector had a mean SAP rating of 67, up from 48.7 in 1996, but also unchanged from 2015. The owner occupied and private rented stock exhibited similar trends, maintaining constant average SAP ratings of 61 and 60 in 2016 compared to 2015 respectively. Overall, the social housing sector was more energy efficient than the private one. This is probably due to wider use of wall insulation in social housing as well as differing dwelling types, e.g. there is a higher proportion of flats in the social housing sector which will have less exposed surface areas through which heat can be lost compared with detached or semi-detached houses. Although increased take-up of more energy efficient boilers appears to be continuing, investment in forms of insulation.

The Energy Company Obligation (ECO) and Green Deal (GD) were government energy efficiency schemes launched to replace the Carbon Emissions reduction Target, Community Energy Saving Programme and Warm Front. The aim of the new schemes was to encourage the use of energy efficiency measures to improve the efficiency of building stock, reduce consumers' bills and increase comfort in home. The target was to achieve one million insulated homes by 2020. While the government discontinued funding of the Green Deal in 2015, there have been over 2.2 million measures installed in roughly 1.8 million homes under the ECO scheme between January 2013 and March 2018. The ECO itself, however, is undergoing a period of transition as it relaunches as ECO3 for the period 2018-22 from 1st October. The biggest change is that the ECO's budget has been cut by 40%, to £640million, highlighting the pressure on budgets and government energy efficiency investment. Under the latest proposals, ECO3 will attempt to target bill caps, rebates and efficiency investments at low-income and cold households to address fuel poverty. ECO3 will expand the Affordable Warmth funding from 70% to 100% of the total, scrapping the Carbon Emissions Reduction Obligation (CERO), but requiring 15% of funding to target rural households. Component measures include the Warm Home Discount and Flexible Eligibility, which hope to benefit from governmental data sharing through the Digital Economy Act 2017. The new scheme also limits boiler installations to 25,000 per year, instead focusing on insulation investments.

The Domestic Renewable Heat Incentive (RHI) is another government scheme to promote the use of renewable heat. People who join the scheme and stick to the rules receive a quarterly payment for seven years for the amount of green heat it is estimated their system produces. Reformed requirements and guarantees were introduced in May 2018 to close loopholes in the scheme. All these schemes are available for tenants in both the public and private sectors, although their usage in the public sector is largely driven by local authority budgetary considerations.

Dame Judith Hackitt's Review of Building Regulations and Fire Safety was published in May 2018 in response to the Grenfell Tower tragedy. In it, she said the whole system of fire safety regulation regarding complex and high-rise buildings was "not fit for purpose", and left room for those who wanted to take shortcuts to do so. Her main recommendations are:

- An overhaul of the "Approved Documents" in building regulations;
- An accreditation system to ensure competence for people working on the design, construction, inspection and maintenance of complex buildings are suitably qualified;
- Better consultation with fire services when designing buildings;

- Building developers to ensure formal handover process for any new high-rise residential building before occupation;
- More done to make sure that fire safety information is passed to the person responsible for running the building once it has been constructed;
- Fire risk assessments are carried out at least annually;
- Desktop studies to approve changes to cladding should be used only where appropriate and with sufficient, relevant test evidence. The cladding on the Grenfell tower is thought to have contributed to the spread of the fire.

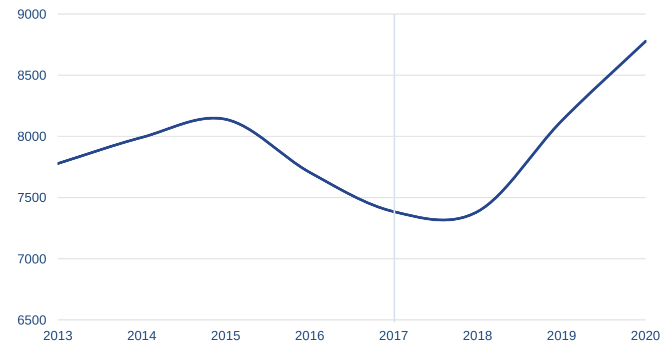
Government data released on 22 May 2018 show 311 buildings over 18 metres in height present fire hazards because of their cladding. Within this number 159 are social-sector residential buildings, 138 are private-sector residential buildings, and 14 are publicly owned non-residential buildings. Dame Hackitt's final report stopped short of recommending a blanket ban on combustible cladding and the government is yet to make a final decision on the matter, so the ultimate value of the remedial works is still largely undetermined. The government has confirmed that £400m of funding will be available for the remediation of the 159 social-sector residential buildings. However, this funding will be drawn from the Affordable Homes Programme, meaning that fewer affordable housing units will be built under the scheme during its current funding round, which ends in 2021/2022.

As part of Leicester City Council's next capital programme, it is anticipated that a further £30m will be made available from the Housing Revenue Account between 2018 and 2020. This will be invested in improvements to council housing and housing estates over this period.

Outlook

Public housing RM&I output saw a 4.2% decline in 2017 as local authority and housing association finances remained under pressure. However, increased awareness around safety and fire hazards after the Grenfell Tower tragedy suggests that the sector's output will rise as public spending in RM&I increases over the forecast period. Funding for major renovation schemes is likely to be at a premium for local authorities and other social housing providers. Our latest estimates are for output to stay flat in 2018, but to see a sharp uptick of 10% and 8% in 2019 and 2010 respectively, as major remediation works kick in from next year.

PUBLIC HOUSING REPAIR, MAINTENANCE & IMPROVEMENT OUTPUT (2015 PRICES, £M)



Source: ONS.

Private Housing Repair, Maintenance & Improvement

Output

At £22.1bn, private housing RM&I output grew at a considerable rate of 11% in 2017. On quarterly basis output rose by 3% in the first quarter of 2017 but expansion slowed to 2% in the second quarter of the year. In the third and fourth quarters of 2017 output growth was roughly flat on a quarter-on-quarter basis. On a four-quarter moving total basis, output growth remained broadly flat in the sector in the final quarter of 2017. More recent data, for the first quarter of 2018, shows a further weakening in the trend with output falling by 2% on a quarter-on-quarter basis.

Private Housing RM&I Output		
	£ million (2015 prices)	***% change y-on-y***
2013	16414	*2.3*
2014	17998	*9.7*
2015	18577	*3.2*
2016	19908	*7.2*
2017	22087	*10.9*
2016 Q1	4752	*6.8*
Q2	4827	*3.2*
Q3	5058	*6.7*
Q4	5271	*11.9*
2017 Q1	5416	*14.0*
Q2	5546	*14.9*
Q3	5571	*10.1*
Q4	5554	*5.4*
2018 Q1	5420	*0.1*

Source: ONS.

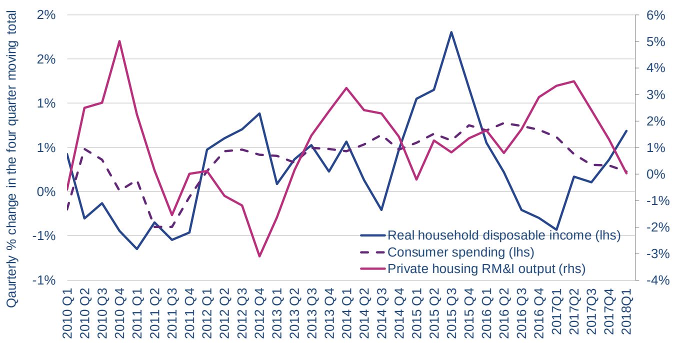
Projects and market intelligence

The health of the economy and especially household finances are the key drivers of the private housing RM&I market. Families with secure jobs and growing incomes are more likely to invest in non-essential improvement work to their homes, such as a new bathroom or kitchen. However, concerns over unemployment and squeezed incomes are likely to slow this category of non-essential expenditure.

Nevertheless, there is also essential repair and maintenance work that must be undertaken in order to keep a dwelling habitable, and this cannot be put off indefinitely.

UK consumer price inflation (CPI) edged down to 2.4% in April, from 2.5% in March. The largest downward contribution to the change in the rate came from air fares, which were influenced by the timing of Easter, underlining a drop in services inflation from 2.5% to 2.1%. The Bank of England will be looking carefully at this series for any signs that accelerating wage growth is driving inflation, but at present this does not appear to have materialised. Conversely, goods inflation that had been easing in recent months, in line with diminishing import cost pressures linked to sterling's depreciation in 2016, rose to 2.6% in April, from 2.4% a month earlier. Underlying this was an acceleration in price growth for materials and fuels (input prices), from 4.4% to 5.3%. Going forward, we expect inflation to ease further as import cost pressures diminish, falling to around 2% in 2019 and remaining there in 2020.

The latest figures also show signs of improvement in the UK labour market, with the recent squeeze in living standards finally lifting. As of May this year, pay growth edged ahead of CPI inflation for the first time since the first three months of 2017. Despite this, conditions facing consumers remain challenging. Although pay growth is now marginally outstripping inflation, this follows a year of largely falling real incomes. The savings rate has also dropped to near historic lows, and borrowing is exceptionally high. Furthermore, consumer confidence although rising is deeply in negative territory, and households will be wary of a possible interest rate rise later this year.



Source: ONS.

The chart above plots quarterly changes based on four-quarter moving totals for real household disposable incomes (RHDI), consumer spending and private housing RM&I output.

While RHDI and consumer spending are thought to be the most relevant variables influencing housing RM&I expenditure, RM&I spending may not always follow the trends of the former two variables as there are other factors at work in the sector.

Under the domestic Renewable Heat Incentive scheme, of the 62,239 accreditations made between April 2014 and April 2018, just over three quarters were for owner occupiers and private landlords. Owner occupiers accounted for the largest share at 74% whilst private landlords accounted for just 3% of total accreditations, and the remaining 23% were assigned to social landlords.

In total, there has been over 2.24 million measures installed under ECO up to the end of 2017, with 202,050 in that year. This is down 44% from the 359,611 that were installed in 2016. Around 13.4% of installations in 2017 were in rural areas, with the remaining proportion in urban areas of the UK.

According to the latest data from the Department of Business, Energy & Industrial Strategy, renewable energy installations benefitting from the feed-in tariff (FiT) scheme have tapered off significantly since 2016. The total number of installations in 2017 was 23,954, only 30% of the 79,750 installed in 2016. Data for the first quarter of 2018 show there were 5,861 installations in the months of January, February and March - down 10% from the 6,484 installed in the first quarter of 2017 and 87% from the 45,146 in the first quarter of 2016.

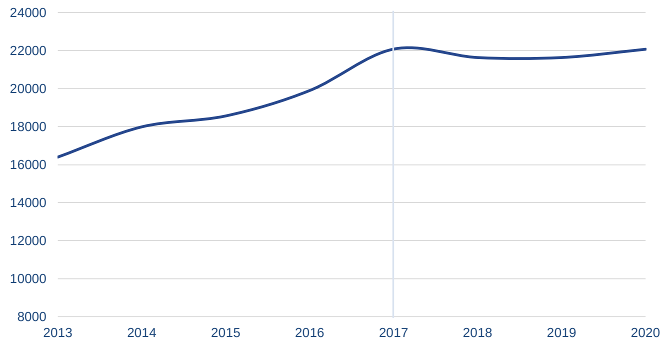
Between October and December 2017, according to data from the Bank of England, housing equity withdrawal remained negative for the 40th consecutive quarter as homeowners continued to pay down mortgages. One of the main methods of funding substantial RM&I work is through housing equity withdrawal thus the negative trend is likely to continue to impact on major RM&I works.

Outlook

There are signs that private housing RM&I output has benefited from the slowdown in the housing market as potential buyers postpone their purchases and settle for home improvement instead. This has driven around 11% growth in the private housing RM&I sector in 2017, the fifth consecutive year of increase. Further out, though, we expect real disposable incomes to remain under pressure from higher inflation and this impact to dominate RM&I trends. We therefore expect a fall in output in 2018 followed by stagnation in 2019. Moderate growth of 2% will eventually return to the sector by 2020.

In the longer term, expenditure on RM&I in the private housing sector could be impacted by structural changes in the housing market as a whole. If the overall level of house transactions remains relatively low, suggesting home-owners are moving less often than previously, this may give more impetus to the improvement side of the equation.

PRIVATE HOUSING REPAIR, MAINTENANCE & IMPROVEMENT OUTPUT (2015 PRICES, £M)



Source: ONS.

4 New Infrastructure

[redacted]							[redacted]		
	2012	2013	2014	2015	2016	2017	2018	2019	2020
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

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Statistical update

In June 2018 the ONS published further significant revisions to the construction output data series. As with previous recent revisions, the impact of the changes is greatest in the infrastructure sector. Whilst there are no revisions to the data at sector level there are major, significant changes at the sub-sector level.

These latest changes address the concerns, expressed in our previous reports, of the use by ONS of its standard modelling of output for the large Thames Tideway Tunnel project contracts. This had led to an overstatement of sewerage output in 2016, with all the other sub-sectors being understated, and the reverse in 2017 when compared with actual activity.

ONS has modelled individually, with effect from 2010, the output from all contracts with a value above £50m. At the headline level, in addition addressing the above issue this approach will also deliver benefits particularly in the reporting of output from the main HS2 construction contracts placed in the third quarter of 2017. However, it has affected all the sub-sectors within infrastructure. The table below shows the impact on each sub-sector by comparing, from 2014 to 2017, the percentage changes in annual output in the previously published data with the data published in June 2018.

[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

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In addition, ONS is revising the imputation methodology to determine output data to reduce the bias of under-reporting in the early estimates of construction output. The data published in July 2018 will be the first to incorporate this new approach. The revisions will only affect data from 2017 onwards and the main impact will be on the estimates for the five most recent months.

Summary

Since its previous peak in 2011, infrastructure output has been quite volatile, falling one year and rising the next, with 2017 being no exception. 2015 set a new annual record at £18.4bn in 2015 chain linked prices, 21% higher than 2014, but in 2016 output fell by 3% to £17.9bn before rising in 2017 by 6% to £18.9bn. For the four quarters ending March 2018 output totalled £18.7bn, 2.8% higher than the preceding four quarters.

After suffering a period of decline from 2012 to a nadir in mid-2015, the four-quarter total of current price output in the water sub-sector has progressively recovered. The data revisions now mean that from its low point in early 2015 sewerage four-quarter output has shown consistent quarterly growth through to March 2018. Electricity output had a protracted period of growth from 2010 to peak in the third quarter of 2017. Whilst it has eased since then the latest four-quarter total remains higher than any period prior to 2017. Conversely the four-quarter totals for gas, air & communications output have suffered a period of decline dating back to 2013, with the latest data still showing further easing. Rail followed a similar, but less severe, pattern of decline from mid-2013 to mid-2017, but has since begun to grow. The decline in harbours and waterways output evident from mid-2015 has only been reversed in the data for the latest quarter.

New infrastructure orders progressively increased from a low point in the first quarter of 2014 to a peak in the third quarter of 2015, boosted by the Thames

Tideway contracts. Since then they have been through a period of volatility, impacted the placing of large or, in the case of HS2, very large contracts. Orders in calendar year 2015 of £10.6bn in 2005 prices were nearly 50% higher than 2014 and in 2016 set a new annual record of £10.9bn, a 3% increase. Orders in 2017 set a new record of £14.8bn, 35% above the previous year, boosted by the HS2 contracts placed in the third quarter. For the four quarters to March 2018 orders totalled £13.8bn, 26% more than the previous four quarters.

Following output growth in 2017 of 6%, it is forecast that output in 2018 will be flat, but then show strong growth in the remaining two years of the review period, increasing by 10% in 2019 and 9% in 2020. The strongest drivers in the forecast period are sewerage, as Thames Tideway activity ramps up in 2018, electricity as Hinkley Point C nuclear power station moves to main construction activities, rail as HS2 output increases, and roads from increased work from Highways England's programme.

The latest National Infrastructure and Construction Pipeline (NICP), published in December 2017, shows investment totalling £460bn (including £43bn on social infrastructure), excluding those areas of expenditure which are devolved to the Welsh Assembly and the Scottish Parliament. £245bn of projects potentially will be delivered by 2020/21. From £62.5bn in 2017/18 and £63.4bn in each of 2018/19 and 2019/20 spending falls to £55.4bn in 2020/21. The 2020/21 spend is an underestimate as it does not include any investment in water and sewerage in the first year of the new regulatory period. In the period to 2020/21 the three largest sectors, energy (£57.1bn, 23%), transport (£78.5bn, 32%) and utility networks (£47.7bn, 19%) account for 75% of the pipeline's total value, but not all this value will be measured as infrastructure construction output. Of the pipeline to 2020/21, 45% is funded entirely by private investment, 5% by a mix of public and private sources and 50% entirely publicly.

Sector overview

Output & orders

Infrastructure output in 2015 established a new record of £18.4bn, up 21.4% on 2015 in chain-linked 2015 prices. However, output fell by 3.0% in 2016, before recovering by 6.1% in 2017 to £18.9bn, another new record. In the four quarters to March 2018 output was £18.7bn, 2.8% higher than the previous four quarters.

The following table shows the value of contractors' orders and output in constant prices since 2013.

New Infrastructure Orders And Output

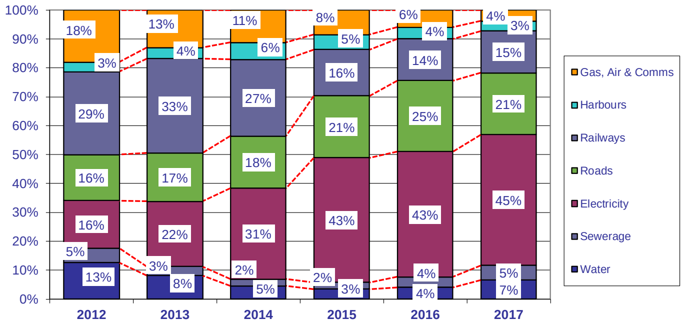
	Orders		Output	
	£ million (2005 prices)	*% change y-on-y*	£ million (2015 prices)	*% change y-on-y*
2013	8432	*-16.8*	15641	*2.3*
2014	7158	*-15.1*	15162	*-3.1*
2015	10581	*47.8*	18403	*21.4*
2016	10926	*3.3*	17851	*-3.0*
2017	14777	*35.2*	18936	*6.1*
2016 Q3	2958	*1.1*	4536	*-2.0*
Q4	2809	*34.2*	4584	*0.5*
2017 Q1	2774	*1.2*	4768	*7.5*
Q2	2344	*-3.0*	4769	*11.0*
Q3	6391	*116.1*	4747	*4.7*
Q4	3269	*16.4*	4651	*1.5*
2018 Q1	1843	*-33.6*	4527	*-5.1*

Source: ONS.

Following an excellent year in 2012, new infrastructure orders in 2013 fell back to £8.4bn in 2005 prices, a 16.8% decrease and by a further 15.1% in 2014 to £7.2bn. Orders then established a series of new records, increasing by 47.8% to £10.6bn in 2015, 3.3% to £10.9bn in 2016 and 35.2% to £14.8bn in 2017. In the four quarters to March 2018 orders totalled £13.8bn, 26% higher than the previous four quarters.

The contributions from each sub-sector to overall infrastructure output as reported by ONS have changed significantly in recent years, as shown in the following chart.

Mix of Infrastructure Output by Sub-Sector 2012 to 2017



Source: ONS

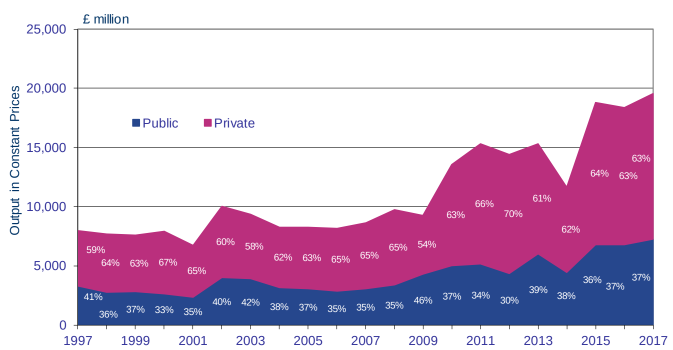
Rail was the largest sub-sector in 2013 with 33% of total infrastructure output, but its share progressively fell to 14% in 2016, before recovering to 15% in 2017. Conversely electricity grew from 16% in 2012 to be the largest sector in 2017 with 45%, over four times its share in 2010.

The combined share taken by both water and sewerage fell from 18% in 2012 to just 5% in 2015, recovering to 8% in 2016 and 12% in 2017. Roads' share grew from 16% in 2012 to 25% in 2016 slightly below the 30% recorded in 2010, before falling back to 21% in 2017.

The share taken by harbours and waterways grew from 3% in 2012 to a peak of 6% in 2014 before falling back to 3% in 2017. The share taken by gas, air and communications in 2012 was 18% in 2012 but has since decreased year-on-year to just 4% in 2017.

The chart below shows how the relative balance between public and private funding has developed in the period since 1997 based upon ONS constant price data. Privately funded infrastructure output represented 63% of total sector output in 2017, similar to 2016 and 1% lower than in 2015.

Split of Infrastructure Output by Public/Private Funding 1997 to 2017



Source: ONS

The tables on the final page of this chapter show the value of contractors' orders and output in current prices split by sub-sector.

Sector drivers

The Highways England (HE) investment programme in major road network schemes is the main driver of roads output. Funding has been committed by the Government for an extra year beyond the 5-year 'Roads Investment Strategy' (RIS1) Plan period which runs to March 2020. Additionally, there is a limited number of major schemes in Scotland and Wales. County Council funded projects, the Large Local Majors Scheme, the National Productivity Investment Fund, the 'pinch point' programme and an element of the Housing Infrastructure Fund provide further support for this sub-sector.

As the Crossrail and Thameslink projects have progressed to completion rail output has declined. However, looking forward there will be an increasing level of output as activity on the HS2 project increases in each year of the review period and a new Network Rail funding package has been agreed for April 2019 onwards. Compared with £38bn for April 2015 to March 2019 the new settlement provides for investment of £47.9bn in 2017/18 prices during the CP6 period from April 2019 to March 2024 in England and Wales. However, within this spend there will be an increased focus on current improvements at the expense of new schemes.

In water and sewerage, the five-year Asset Management Programme (AMP) agreed between the regulator, OFWAT, and the water companies is the key driver of investment. The current five-year period ends in March 2020 and provided for total investment of £44bn in improving services, providing resilience, and protecting the environment. Traditionally output has reduced towards the end of each AMP period. Overlaying this pattern is output from the £4.2bn Thames Tideway Tunnel, the largest ever Nationally Significant Infrastructure Project and the biggest ever project undertaken by the UK water industry.

The main influence on electricity investment is the need to ensure the supply security of both generation and distribution as ageing, primarily coal-fired, power stations are progressively decommissioned. There is confidence for investment in new capacity across different means of generation including offshore wind, biomass and energy from waste (EfW). Hinkley Point C, the first nuclear power station in over 20 years will provide a significant boost to output in this sub-sector through the review period. The recent Contracts for Difference (CfD) auction demonstrated the current price competitiveness of offshore wind farm and other non-traditional forms of supply.

Within the gas, air and communications sub-sector, air contributed over 70% of output in 2016. Investments in the five London area airports, led by Heathrow and Gatwick, provide the basis for changes in output, supported by capital expenditure by the Manchester Airport Group. Investment in digital communications is not construction intensive and therefore future output in this area is likely to continue at the current lower levels. Gas output is driven by investment in the distribution networks.

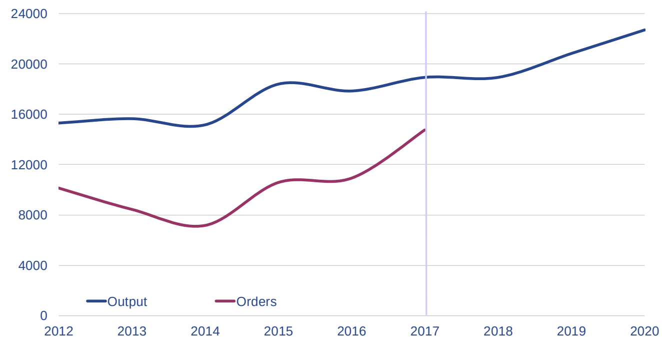
Harbours and waterways output derives primarily from the commercial development of ports and harbours and the strengthening of flood defences. There is a number of major port development schemes plus ongoing spending at smaller facilities. The December 2017 NICP now shows a £2.3bn capital investment programme in flood defences through to 2020/21, with a broadly flat profile of expenditure.

Outlook

The latest data from ONS show that sector output declined by 3.0% in 2016, but returned to growth in 2017, increasing by 6.1%. It is forecast that output in 2018 will be flat, but then show strong growth in the remaining two years of the review period, increasing by 10% in 2019 and 9% in 2020. The chart below shows the recent movements in the values of orders and output and the forecast levels of future output.

In the roads sub-sector, following a double-digit increase in 2016 there was a smaller decrease in 2017. Output growth is forecast to return throughout the review period, with increases touching double digits in both 2018 and 2019. Further strengthening is projected for 2020, despite a tempering of the forecast to reflect doubts that the published Highways England plan can be delivered to timetable.

NEW INFRASTRUCTURE ORDERS (2005 PRICES, £M) AND OUTPUT (2015 PRICES, £M)



Source: ONS, Experian

In the rail sub-sector, following a single digit rise in output in 2017, strong double-digit growth is forecast for 2018 as increased HS2 activity more than offsets declining Crossrail expenditure. Further increases in HS2 expenditure drive mid-teen increases in both 2019 and 2020, albeit that the level of private sector funding to support Network Rail's latest business plan may be at risk following the demise of Carillion.

Reflecting the water companies planned spending profiles within AMP6, following very strong percentage growth in the water sub-sector in 2017, output is forecast to decline throughout the review period, in mid-single figures in both 2018 and 2019, before gaining some further pace in 2020. Given the revised modelling by ONS of the Thames Tideway Tunnel contracts it is now forecast that the sewerage output will show growth touching double digits in 2018, with further stronger growth in 2019, before decreasing in low double digits in 2020.

It is forecast that the pattern of growth established since 2009 in the electricity sub-sector will be reversed in 2018 with a mid-teen percentage decline, with increased output derived from Hinkley Point C nuclear power station failing to offset decreases on other generation types. The move to main construction activities at Hinkley Point C and ongoing offshore activity provide the basis for double-digit growth in both 2019 and 2020.

The pattern of decline in gas, air and communications evident since 2012 is forecast to continue in 2018 with a further double-digit reduction in output. Following this a recovery touching double digits is forecast for 2019 before a further single digit decline in 2020.

In harbours and waterways following the further decline in output in 2017, the ongoing spend on flood protection and the strength of the harbours development programme provide the basis for double digit growth in 2018, following by output stabilising for the remainder of the review period.

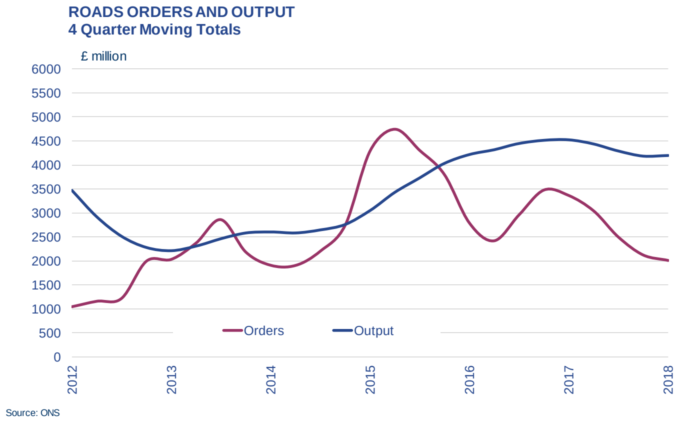
Roads

Orders & output

Roads orders rose strongly from their nadir of £967m in 2011, to peak at £3.8bn in 2015, up 38% on 2014. Since then orders have progressively declined to £2.12bn in 2017 in current prices, 39% below 2016. For the four quarters to March 2018 they totalled £2.01bn, 40% lower than the previous four quarters.

Roads output in current prices grew strongly from a low in 2012 of £2.28bn, to reach a new record of £4.52bn in 2016, 12% higher than in 2015. Since then output has weakened to £4.19bn in 2017, 7% lower than the previous year. In the four quarters to end March 2018 output totalled to £4.2bn, 7% lower than the previous four quarters.

The recent movements in order and output values are given in the chart below.



Projects and market intelligence

Highways England is the government-owned company tasked with managing and operating England's motorway and strategic A-road network with locked-in funding. The Highways England Delivery Plan 2015-2020 published in April 2015 remains the base of planned capital expenditure in the Road Investment Strategy 1 Period (RIS1) with the addition of £4.6bn now committed to the first year, 2020/21, of the five-year RIS2 period.

In the last couple of years, the Government has announced a number of tranches of additional funding. The 2016 Autumn Statement allocated £2.085bn of investment from the National Productivity Investment Fund through to 2020/21 and announced a further £220m 'Pinch Point' programme. The 2017 Spring Budget provided more details on the Pinch Point Programme with a total of 29 schemes identified, most for completion by spring 2020. Construction to address pinch points and ease congestion is planned to take place through 2018/19 and 2019/20 on 76 local projects across the country from the £244m of funding announced in October 2017. A summary of all these funding schemes is given in the table below.

Category	2015/16 £m	2016/17 £m	2017/18 £m	2018/19 £m	2019/20 £m	2020/21 £m
Highways England Funding						
Capital Enhancements	£1,064	£1,101	£1,509	£1,789	£2,230	£4,600
Capital Renewals	£718	£726	£732	£738	£744	
National Productivity Investment Fund						
Roads and Local Transport			£365	£500	£430	£650
Cambridge - Milton Keynes - Oxford Corridor			£5	£135	£0	£0
Large Local Majors Scheme						
All Schemes		£10	£45	£45	£95	£280
Pinch Point Programme						
Spring Budget 2017				£220		
Autumn Budget 2017				£244		

Source: Highways England, H M tresury

The Large Local Majors Fund is providing for the business case development through 2017 and 2018 of 18 projects for potential inclusion in RIS2. It has also funded six schemes to date with a total value of £429m.

The Government will publish in summer 2018 its response to the consultation on roads to be included in the Major Roads Network. These key 'A' roads across the country can then benefit from up to £100m each of funding from the National Roads Fund, with a £20m minimum project value. Schemes eligible for funding will provide transformative solutions, including bypass upgrades, missing links, road widening, major junction improvements, and technological and safety enhancements.

In February 2018 the Government allocated £866m to more than 130 council-led civil engineering projects to make housing developments viable as the first wave of cash allocations from the £5bn Housing Infrastructure Fund. The funding will deliver local infrastructure projects including roads, cycle paths, flood defences and land remediation work.

Highways England has started its selection of contractors as delivery integration partners, designing and constructing highway projects across England. Total spend is forecast to be as high as £8.7bn over the period from 2018 to 2024. It will focus on greater collaboration and a stronger regional procurement footprint for medium size projects.

The timetable for the Highways England schemes in construction during the review period is summarised in the table and reflects the latest re-phasing of individual projects.

Highways England Major Roads Projects Under Construction During the Forecast Period

Road / Section	Scheme Type	Value £m	Start Date	2018–2020 (Q1–Q4)
M60 J8 to M62 J20	Managed Motorway	208	Q2 2014	
M25 HS2 Access	Temporary Slip Roads	TBA	Q3 2017	
M1 J23A to J25	Managed Motorway	120	Q1 2017	
M6 J16 to J19	Managed Motorway	192 - 274	Q4 2015	
A19 / A1058 Coast Road	Junction Improvement	66 - 86	Q2 2016	
M6 J2 to J4	Managed Motorway	155 - 234	Q1 2018	
M20 J10A	New Link Rd and Jct	104	Q1 2018	
A14 Cambridge to Huntingdon	Widening / Junction Imp	1200 - 1800	Q1 2017	to Q1 2021
M49 Avonmouth Junction	New Junction	25 - 50	Q2 2018	
M20 J3 to J5A	Managed Motorway	92	Q2 2018	
M23 J8 to J10	Managed Motorway	164	Q2 2018	
M62 J10 to J12	Managed Motorway	104	Q2 2018	
M1 J13 to J16	Managed Motorway	349	Q2 2018	to Q2 2021
M6 J13 to J15	Managed Motorway	232 - 335	Q2 2018	to Q1 2022
M4 J3 to J12	Managed Motorway	586 - 862	Q3 2018	to Q1 2022
M27 J4 to J11	Managed Motorway	244	2018/19	to Q1 2021
A1 North of Ellingham	Widening / Junction Imp	Part of 290	2018	to TBC
M6 J21A to J26	Managed Motorway	150	Q4 2018	to Q2 2021
A19 Testo's / Down Hill Lane	Junction Improvements	150	2018/19	to Q1 2021
A63 Castle St, Hull	Junction Improvement	100 - 250	2018/19	to 2021/22
M271 / A35 Redbridge Roundabout	Roundabout Upgrade	25	Q1 2019	to TBC
M56 J6 to J8	Managed Motorway	67	Q2 2019	
A47 Great Yarmouth	Congestion Relief	25 - 50	2019	to 2022
A1 Morpeth to Ellingham	Dualling	Part of 290	2019/20	to TBC
M6 J10	Junction Improvement	65	2019/20	to TBC
A34 Technology Enhancements	New technonology	TBA	2019/20	to TBC
A30 Carland Cross to Chverton	Dualling	290	2020	to 2022/23
M42 J6	Junction Improvement	282	Q1 2020	to TBC
A2 Bean & Ebbsfleet	Junction Improvements	125	Q1 2020	to Q1 2023
A27 Arundel Improvement	New Dual Carriageway	100 - 250	Q1 2020	to TBC
M6 J19	Junction Improvement	50	Q1 2020	to Q3 2021
M2 J5	Slip Roads / Jct Improve	50 - 100	2019/20	to 2022
M27 Southampton Junctions	Junction Improvements	130	Q1 2020	to TBC
M62 J20 to J25	Managed Motorway	283 - 392	Q1 2020	to TBC
M40 / M42 Interchange	Managed Motorway	25 - 50	Q1 2020	to TBC
A19 Norton to Wynyard	Widening	75-128	Q2 2020	to 2022
A57 / A628 Trans-Pennine Programme	Dualling etc	TBA	Q2 2020	to 2023
A428 Black Cat to Caxton Gibbet	Congestion Relief	TBA	Q2 2020	to TBC
A1 Birtley to Coal House	Widen and Jct Improve	TBA	2020/21	to TBC
M25 J10 to A3 Wisley Interchange	Junction and Other Imp	100 - 250	2020/21	to TBC
A12 Chelmsford to A120	Widening	100 - 250	2020/21	to TBC
A31 Ringwood	Road Widening	12 - 14	2020/21	to TBC
M25 J10 to J16	Managed Motorway	336 - 479	2020/21	to TBC
M25 J25	Junction Improvement	25 - 50	2020/21	to TBC
A47 Thickthorn Junction	Congestion Relief	25 - 50	2020	to 2021
A47 Wansford to Sutton Dualling	Congestion Relief	50 - 100	2020	to 2021
A47 GuyhirnJun ction	Congestion Relief	up to 25	2020	to 2022

Source: Highways England

Final elements of work are being undertaken to complete the phased opening of the M60 Junction 8 to M62 Junction 20 smart motorway by summer 2018. Night time only working is being used to deliver the M1 J23a to J25 smart motorway by end 2018.

Work continues along the full length of the M6 J16 to J19 smart motorway scheme to deliver it by March 2019. Work on the A19/A1058 Coast Road scheme on Tyneside, was over 70% complete in early May and the A1058 westbound bridge beams will be lifted into place in summer 2018. Several of the 34 bridges on the A14 Cambridge to Huntingdon scheme will complete over summer and autumn 2018, with the project due to open by March 2020.

Following preparatory, work main construction will start in summer 2018 on the M4 J3 to J12 smart motorway scheme. Narrow lanes were introduced over the full length of the M6 J2 to J4 scheme in May 2018. Work at M25 J4 commissioned by HS2 continues for planned completed later in 2018.

Main construction work started in the last quarter on the M20 J10A, M20 J3 to J5A, M23 J8 to J10, M1 J13 to J16 and M6 J13 to J15 schemes and is due to commence on the M49 Avonmouth Junction contract in July 2018. Completion of detailed design work is planned to lead to the start of work in September 2018 on the M6 J21 to J26A smart motorway and on the A1 North of Ellingham scheme during 2018. However, the main dualling between Morpeth and Ellingham on the A1 will not start until 2020.

In the south east, main construction work was due to start on the smart motorway schemes M20 J3 to J5 in late May, M23 J8 to J10 and M27 J4 to J11 in June. Additionally, the M62 J10 to J12 smart motorway scheme was due to start in spring 2018.

Subject to final approval by November 2018, work on the A19 Testo's Roundabout will start in January 2019 with the Downhill Lane element of the scheme to follow in September 2019.

The Development Consent Order (DCO) application for the A63 Castle Street scheme is still awaited, with indications that the project may struggle to start before 2019. The A47 corridor improvements have now been split into six separately reported schemes, the first of which is due to start in 2019.

Looking further ahead there are nine projects due to start in 2019 and a further 21 in 2020, all subject to satisfactory completion of the statutory processes. Neither the £1.6bn Stonehenge tunnel nor the £5bn+ Lower Thames Crossing has a firm start date. The

Oxford to Cambridge Expressway preferred route announcement may be after the review period.

Looking at bridge-specific projects, the detailed route alignment for the £90m Upper Orwell Crossings project in Ipswich has been announced and is on course to start in 2020 for completion in 2023. Award of the £90m Lowestoft lift bridge contract is awaited, with construction planned to take place from 2019 to end 2022. Norfolk County Council is to use a design and build contract for the £120m third river crossing in Great Yarmouth. Subject to planning approval it has a planned start in 2020 for completion in 2022.

Turning to projects in other programmes, completion of the final stretch of the £290m dual carriageway from the A6 to Manchester Airport has slipped further to late summer 2018. Land acquisition for £110m Preston Western Distributor and associated link roads and the 7.5km £87m East Leeds Orbital Route is underway. Work continues on the Lincoln Eastern Bypass, although the cost has increased by £24m to £120m and the planned road opening date has slipped to May 2020, both following the collapse of Carillion. The Ely by-pass completion date has slipped to October 2018 with costs rising from £35m to £49m. Cheshire East Council now plans to start the £90m Congleton Link Road in November 2018 for opening in late 2020. It has recently completed consultation on the £47m Middlewich Eastern Bypass and is hoping to start construction in 2020. It anticipates construction of the £30m Poynton Relief Road will start in late 2019 with road opening in 2021.

Investigative work on the £30m contract to complete the dualling of the A69 Hexham to Newcastle has started, Advance work on the new £14m M11 J7 near Harlow has started for completion in 2021. Work on the £54m Worcester Southern Relief Road will continue through to 2020.

Work was due to start in spring 2018 on the £28m dualling of a 3km stretch of the A421 near Milton Keynes, part of a key section of the strategic east/west corridor, linking Oxford and Cambridge. Main work on the £80m scheme to widen the A13 Stanford-le-Hope bypass from 2 to 3 lanes is due to start in autumn 2018 for completion in summer 2020. In London, the DCO has been granted for the £1bn Silvertown Road Tunnel. Contract award is planned for early 2019 and completion in 2023.

Construction was due to start on the £15m, 2.5km, A49 Link Road project near Wigan in June 2018. A £70m Portsmouth City Council scheme is planned to start on site in the third quarter of 2019 for completion by autumn 2021. Work on the 1km, £15m, Colley Lane Southern Access Road in Bridgwater, Somerset started in April 2018. Work on the £35m 3.5km Stubbington Bypass in Hampshire is planned to start in early 2019.

In May 2018 the DfT agreed support for the 7km £64m Melton Mowbray by-pass, the £51m A164 Jock's Lodge junction improvement scheme in Beverley and a £93m package of improvements to the A361 between South Molton and Bideford. All will now proceed to detailed planning and construction.

In Scotland preparation continues on the remaining 11 (of 12) planned sections to dual the A9 from Perth to Inverness by 2025 at a total cost of £3bn. Initial demolition work has started prior to the award of the £70m, 9.5km, A9 Luncarty to Pass of Birnam contract. Preferred routes are in place for the later 24km Dalraddy to Slochd and the 16km Crubenmore to Kincraig schemes. Completion of the A90 Balmedie to Tipperty section of the £745m Aberdeen Western Peripheral Route has slipped further to autumn 2018. Work continues on the £31m A737 Dalry Bypass for completion in 2019. Construction continues on the £35m A9/A85 Junction Improvement phase of the Perth Transport Futures Project for completion in the second quarter of 2019. The second phase, the Cross Tay Link road, is not due to start until 2021. The Scottish Government is seeking to identify the A96 Hardmuir to Fochabers dualling preferred route later in 2018. Contractors have been shortlisted for the £18m A90/A96 Haudagain Improvement contract in Aberdeen.

In Wales the lengthy public inquiry for the £1.1bn M4 Newport Relief Road, to be built between J23 and J29, has concluded but the results are still awaited. The planned project dates are now to start by end 2018 for completion by end 2023. Other projects include work on the £35m A40 Llanddewi Velfrey to Penblewin project due to start in spring 2019 subject to completion of statutory processes, for completion in autumn 2020; later work on the £250m A55 Deeside Corridor where the preferred route has been announced, but only some elements of which may start in the review period; the ongoing dualling of the A465 Heads of the Valleys road, where the Gilwern to Brynmawr section is due to complete in 2019; the £400m section from Dowlais Top to Hiwaun due to start by end 2019 for completion in 2022 subject to final approval; and the A483 Newtown bypass where completion has been delayed until early 2019.

Construction of the £135m A487 Caernarfon to Bontnewydd bypass is due to start in November 2018 for completion by spring 2021. Work on the £15m 2km-long St Athan Northern Access Road is due to complete in autumn 2018. Initial consultation has closed on the proposed third Menai Bridge, with target dates of selecting a preferred route by summer 2018 and construction starting by end 2020. The Welsh Government and National Grid are exploring the potential for the bridge to carry power cables from Wylfa Newydd as well as road traffic.

Outlook

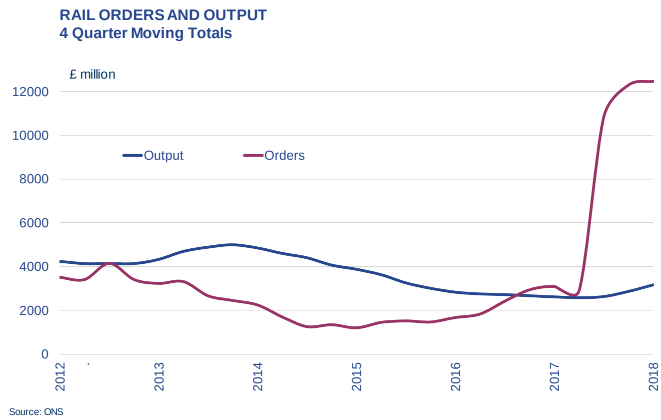
Following a double-digit increase in 2016 there was a smaller decrease in 2017. Output growth is forecast to return throughout the review period, with increases touching double digits in both 2018 and 2019. Further strengthening is projected for 2020, despite a tempering of the forecast to reflect doubts that Highways England can delivered its plans to timetable.

Rail

Orders & output

After peaking at £4.14bn in the four-quarter period ending September 2012 orders fell away in current prices, to a low of £1.19bn in the four quarters ending March 2015. Since then orders have recovered significantly to £2.93bn in 2016, just over double the 2015 level. With the benefit of the HS2 orders in the third quarter, the outturn for 2017 was £12.29bn, over four times the value in 2016. For the four quarters to March 2018 orders totalled £12.47bn, 305% higher than the previous four quarters.

From a peak in current prices of £5bn in the fourth quarter of 2013 four-quarter output progressively fell to £2.57bn in the period ending June 2016, recovering since then to record £2.85bn in 2017, 7% higher than 2016. In the four quarters to March 2018 output totalled £3.16bn, 21% higher than the preceding four quarters. The recent movements in order and output values are given in the chart below.



Projects and market intelligence

The current five-year regulatory period, CP5, runs until March 2019. CP6 will follow from April 2019 to March 2024. Compared with the ambitious £38bn Network Rail Business Plan for CP5, including £11.8bn in 2012/13 prices for enhancements, the Government has given Network Rail the funding to spend around £47.9bn in 2017/18 prices during the CP6 in England and Wales. The Government will directly fund £34.7bn, with the remainder coming from track access charges and income from other sources, including Network Rail's property portfolio. The balance has changed between new schemes and current improvements, with the former falling by 33% and the latter increasing by 25%. The split is £18.bn for operations and maintenance, £18.5bn for renewals and £10.5bn for enhancements. There are several programmes that will either run over from CP5 to CP6 or have been delayed until CP6. Few new enhancements will be considered for funding in the early years of CP6. Network Rail is seeking an extra 10% of cost efficiencies across its maintenance and renewal operations during CP6.

The November 2017 Government document *'Connecting People – a strategic vision for rail'* outlined its long-term plans for joint working of the track and train operating companies and a new funding approval process is to be rolled out for individual major upgrades.

Each of the six main routes is to have separate regulatory settlements from April 2019. The Scotland, North East and Southern regions are expected to see the largest workloads over the next five years with renewals work worth of over £5bn in each region.

One major area of cost and time overrun from CP5 is the Great Western Main Line electrification. The electrified line is due to open beyond Didcot to Bristol Parkway and Cardiff by December 2018.

Transport Secretary Chris Grayling has confirmed that work will start in spring 2019 on the long-term £3bn programme of upgrades to the Trans Pennine route. Network Rail has submitted to the Department for Transport a number of infrastructure options for consideration, but some early interventions will be delivered prior to the main programme, which will form part of the Great North Rail Project being delivered through to 2022.

Work on £900m of HS2 enabling works will continue through to 2021. Winners of the £6.6bn main construction contracts for HS2 Phase 1 were announced in July 2017. Stage 1 covers design and construction preparation works. Stage 2, the full construction stage, will start in 2019 and is likely to last for approximately 4 to 5 years. Preferred routes have now been published for both Phase 2a (West Midlands to Crewe) and 2b (Crewe to Manchester and West Midlands to Leeds), which will be due to open in 2033. The hybrid bill for Phase 2a received its second reading in January 2018 and the Government plans to lodge the hybrid bill for Phase 2b by the end of 2019. In total, the full HS2 scheme is estimated to cost £55.7bn in 2015 prices (including rolling stock). Bids are being prepared for the Euston Station building (£1.65bn) and Old Oak Common Station, West London (£1.35bn) by five contractors/JVs, for contract award in autumn 2018.The process to decide who will build the Birmingham Curzon Street and Interchange Stations will commence later this year and conclude in 2019.

The final public consultation on the Western Rail Link to Heathrow closed in June 2018. It is planned to submit a DCO application in 2019. Subject to approval a five-year construction period is anticipated for this £90m project for completion by 2027. In addition, a £1.4bn Southern Rail link into Waterloo is under discussion for completion by 2025.

A further round of public consultation on the western section (Bedford to Bicester/Aylesbury) of the East-West Line was completed in February 2018 with the Government looking for completion by 2024. The £800m investment programme at London Waterloo is due to conclude in December 2018 with the former Eurostar platforms coming back into use.

New track and signalling are now in place as part of the £320m Midland Mainline scheme to deliver electrification to Kettering and Corby by 2020. The completion of Preston to Manchester electrification has been further delayed until autumn 2018. The £40m Salford Central station upgrade has also been delayed and is now unlikely to start before 2019. Fresh plans have been submitted for the proposed £120m revamp of Gatwick station. Subject to planning, a final decision on funding the project will be taken in autumn 2018 with construction taking place from 2020 to 2022.

The final elements of the £340m spend on Merseyside will see completion of two new platforms at Lime Street Station in summer 2018, and the upgraded Halton Curve by December 2018. Network Rail is building a new £46m train depot in Wigan as part of its Great North Rail Project, to be brought into use from December 2019. Work is also underway on a £40m train depot at Exeter for completion in summer 2019.

More than £16m is being spent on new stations at Horden Peterlee, County Durham (opening March 2020); Warrington West, Cheshire (spring 2019); Reading Green Park (summer 2019) Bow Street, Ceredigion, Wales (March 2020); and Portway Parkway, Bristol (2019). Additionally, the £22m Worcester Parkway is due to complete by spring 2019. Works have started on the £19m train station contract, part of the wider £150m Wolverhampton Interchange development due for completion in 2020.

The £60m Twickenham station redevelopment will deliver the new forecourt and ticket office in 2019, with the wider scheme, including housing, completing in

2020, Work continues on a similar £20m development at Walthamstow.

In Scotland, the £120m transformation of Glasgow Queen Street station is due to complete in 2019. Electrification of the Stirling, Alloa and Dunblane lines and the £60m Shotts line remains on schedule to complete by March 2019. The £330m first phase of Aberdeen to Inverness Rail Improvement project is due to complete by September 2019 and includes new, extended and relocated stations and reinstating double track. Completion of the full project will not be until 2030. The £57m Scottish government investment on the Inverness and the Central Belt line includes extending platforms at Pitlcohry, infrastructure works at Aviemore, and upgrading of signalling systems.

In Wales, 2018 will see completion of the Baglan to Llanelli re-signalling scheme. Following the franchise award, the £738m South Wales Metro project is now expected to be signed off in October 2018 subject to finalisation of funding arrangements between the EU, Welsh and UK Governments. Phase 1 will see lines in Cardiff converted to light rail with work planned to start in 2019. Phase 2 will extend through to 2023. The project includes a new £100m train depot at Taff's Well. £194m is to be spent on station improvements across Wales.

Intensive work is underway on the fit-out of stations and tunnels for Crossrail, with the Transport for London (TfL) project over 92% complete. TfL Crossrail construction expenditure is now decreasing, falling from £402m in 2018/19 to £65m in 2019/20. Services in the central section are on schedule to commence by end 2018. Completion of the Network Rail stations upgrades on the eastern and western sections will lead to the full introduction of the Elizabeth Line service by end 2019.

The TfL 2018/19 Business Plan shows new capital expenditure on the Underground of over £1bn in each year through to 2020/21. On the Docklands Light Railway (DLR) and the Overground it is around £100m per annum over the same period. TfL plans to award the £263m Overground Barking Riverside extension contract in summer 2018 with services commencing in 2021.

On the London Underground, the Victoria station upgrade will complete in summer 2018. Work on the main tunnelling and station box activities on the £612m Northern Line extension from Kennington to Battersea continues ahead of station fit-out at Nine Elms and Battersea Power Station planned for 2019. Work continues at Bank station on the £607m project to substantially upgrade capacity and is now due to complete in late 2022. Improvements include a new Northern line platform, two new moving walkways and a new station entrance in Cannon Street.

Work was due to commence in spring 2018 on upgrade works at South Kensington station. The £18m rebuild of White Hart Lane station is due to complete by spring 2019, as is work at Finsbury Park.

Within the light rail sector, track laying has started on the £350m contract to extend the Manchester Metrolink to the Trafford Centre, with the line due to open in 2020. The £128m extension of the Midland Metro, linking Snow Hill and Birmingham New Street stations, is scheduled to fully open by end 2018. The contract for the £200m seven-mile extension from Wednesbury to Brierley Hill was placed in January 2018. Opening of the £22m Blackpool tramway extension is scheduled for 2019.

Work on the Glasgow Subway includes a £16m tunnel upgrade programme and completion of station refurbishment works. Edinburgh Council has shortlisted four contractors for the £165m tram extension from York Place to Newhaven and will make the final decision in late 2018 on whether to proceed on this three-year project.

Work has started on the £225m railway station and 2.1km light rail link at London Luton Airport with the line expected to be operational by March 2021.

A £25m innovation and test centre in Dudley looking into the next generation of Very Light Rail coaches is to be built, starting this year.

Outlook

Following a single digit percentage rise in output in 2017, strong double-digit growth is forecast for 2018 as increased HS2 activity more than offsets declining Crossrail expenditure. Further increases in HS2 expenditure drive mid-teen increases in both 2019 and 2020, albeit some private sector funding in Network Rail's business plan to support the growth in 2020 may be at risk following the demise of Carillion.

Water and sewerage

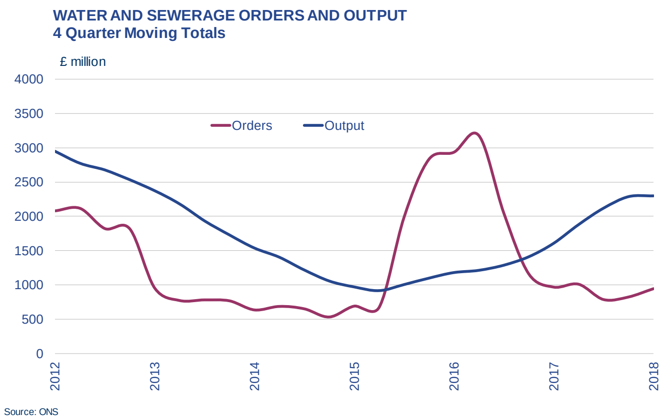
Orders & output

New orders for water and sewerage in current prices fell to just £532m in 2014, the lowest level since the mid-1980s. Boosted by the large Thames Tideway Tunnel contracts, orders then peaked at £3.18bn in the four quarters to June 2016. However since then orders have weakened to £1.16bn in calendar year 2016 and £823 in calendar year 2017, a fall of 29%, with sewerage orders remaining weak. In the four quarters to end March 2018 orders were £944m, 2% lower than the previous four quarters.

Following a protracted period of decline through to 2015, each component of this sub-sector has nearly doubled in size, with sewerage gaining from the early stages of work on the Thames Tideway project.

Following the nadir of just £917m in the four quarters to June 2015, output in calendar year 2016 recovered to £1.41bn, 28% higher than in 2015, and to £2.29bn in calendar year 2017, an increase of 62%. In the four quarters to March 2018, output of £2.3bn was 43% higher than the previous four quarters.

The recent movements in order and output values are given in the chart below.



Projects and market intelligence

Capital expenditure by water and sewerage companies in England and Wales is primarily driven by their five-year Asset Management Plans (AMP).

The AMP6 period covers the period from April 2015 to March 2020. The AMP6 plans provide for investment of £44bn in improving services and resilience, and protecting the environment, only part of which will be reported as construction orders and output. Thames Water leads the way with total expenditure of just over £7bn, followed by United Utilities at £5.2bn. Anglian Water will invest £4.1bn, Yorkshire Water £3.8bn and Scottish Water £3.5bn.

In the run up to the AMP7 period from April 2020 to March 2025, companies will submit their draft business plans to OFWAT in September 2018 with the draft determinations published by summer 2019 and the final determinations by December 2019.

Every five years all water companies are required to produce and publish a Water Resources Management Plan to demonstrate the company has long-term plans to balance water supply and demand. These include plans for new reservoirs, water treatment works and water transfer schemes. Companies are now consulting on and publishing their plans for 2020 onwards.

Despite capital expenditure levels being not dissimilar in AMP6 to AMP5 only as 2017 progressed did output for water projects start to increase to levels approaching consistency with anticipated AMP6 capital expenditure. Excluding the Thames Tideway project, sewerage orders have remained subdued.

The £4.2bn Thames Tideway Tunnel is the largest ever Nationally Significant Infrastructure Project (NSIP) and the biggest ever undertaken by the UK water industry. Of the 24 construction sites across London 20 are now operational and work is ramping up to its peak year with tunnelling starting later in this year and continuing through to 2021. The table on the following page summarises the construction programme at each site.

In the United Utilities (UU) area, work continues on the five-year the £300m Thirlmere Transfer West Cumbria Water Supplies Project which includes a 100km pipe supply and installation contract, a new water treatment works, two service reservoirs, a new pumping station and a 13km main aqueduct from Thirlmere reservoir to Bridekirk, all due to be in operation by March 2022. UU is spending £100m at

Thames Tideway Projects - Main Construction Planned Start and Finish Dates							Comments / Status
Location	2016	2017	2018	2019	2020	Later	
Beckton Sewage Treatment Works	H2		H2				Tunnel boring commenced
Hammersmith Pumping Station	H2			H1			Additional cabin provision
Putney Embankment, Wandsworth	H2				H1		Piling operations
Carnwath Road, Hammersmith & Fulham	H2					to 2022	Shaft excavation
Chambers Wharf, Bermondsey	H2					to 2022	Shaft wall under construction
Greenwich Pumping Station	H2					to 2022	Shaft wall under construction
Kirtling Street, Nine Elms	H2					to 2022	Shaft ready for tunnel boring
Victoria Embankment, Westminster		H1				to 2021/22	Pier relocated prior to main work
Blackfriars Bridge Foreshore		Q2				to 2022	Large site, work ongoing
Dornay Street, Wandsworth		Q2			Mid		Bored piling to prepare shaft
King Edward Memorial Park, Wapping		Q2				H1	Cofferdam construction
Barn Elms, Richmond		Q3			H1		Construction of sports changing rooms
Albert Embankment, Lambeth		Q3				to 2021/22	Cofferdam completion
Chelsea Embankment		Q3				to 2021	Ongoing works
Earl Pumping Station, Deptford		Q3				to 2021	Preparatoy works
King George's Park, Wandsworth		Q4			H1		Sheet piling for cofferdam
Crermorne Wharf Depot, Hammersmith		Q4			Q3		Preparatory works underway
Heathwall Pumping Station, Wandsworth		Q4			Q3		Main shaft construction
Deptford Church Street		Q4				to mid 2021	Grouting shaft, installing chamber walls
Bekesbourne Street, Limehouse		H2					Main works underway
Shad Thames Pumping Station, Bermondsey		H2		H2			Cofferdam completed
Acton Storm Tanks		H2				to H1 2021	Acton Storm Tanks
Abbey Mill Pumping Station, Stratford						to 2021	To start in 2018
Falconbrook Pumping Station, Wandsworth						to 2021	Enabling works

Source: Thames Tideway

Anchorsholme, Blackpool with construction due to complete in 2019 and £70m on a project at Morecambe started in 2017 and due to complete in 2020. Waste water treatment works (WWTW) projects include the £80m Oldham and Royton upgrade due to complete in 2019, £140m at Blackburn, Darwen and Nabs Head to complete in summer 2021, and £60m at Ellesmere Port.

In 2018/19 Wessex Water will spend £260m on capital schemes, including the completion of its eight-year £230m water supply grid project and the £39m Burnham-on-Sea bathing water improvement project. It is also working on the 5km, £15m Frome Valley Relief Sewer and has awarded the £42m, 6.3km Trym Relief Tunnel scheme contract for a late 2019 start, with completion in 2023.

Work continues on Northumbrian Water’s £46m major upgrade of its Horsley Water Treatment Works in the Tyne Valley, now due to complete by August 2019, part of its £400m annual capital spend.

The five-year £63m redevelopment of Southern Water’s Woolston WWTW project remains on schedule for an early 2019 completion. Subject to planning approval, it intends to start work on the 10km Chichester sewer pipeline in summer 2018 for completion by end 2019.

Affinity Water is to spend £55m protecting drinking water quality from HS2 construction work, including modifications to two groundwater abstraction sites.

Anglian Water is investing £384m in 2018/19, £41m lower than in 2017/18. It will see completion of the £34m Heigham Water Treatment Works in Norwich, £16m to connect rural homes to the mains sewerage network for the first time and £48m and £10m respectively maintaining, refurbishing and renewing parts of the water pipe and sewer network.

Severn Trent Water capital expenditure within AMP6 is planned to peak in the years 2017/18 and 2018/19. It will now invest £240m more than the AMP6 settlement ahead of AMP7. The £242m Birmingham Resilience Project will provide an alternative water supply for Birmingham whilst the hundred-year old Elan Valley Aqueduct is off-line for maintenance. Of the four sub-projects one has now been completed and three are in progress, with the full scheme due for completion by August 2019. Work on the four-year £60m Newark Improvement Plan to help prevent sewer flooding continues to progress towards the earlier completion date of May 2019. Work continues on the £35m Finham Sewage Treatment Works upgrade, due to complete by October 2019.

In 2018/19 Yorkshire Water is spending £318m on improvements, £68m lower than in 2017/18. Key schemes include £30m at Hull Waste Water Treatment Works, £24m at Rivelin Water Treatment Works near Sheffield, £10m to improve the Whitby WWTW and £13m to replace old Victorian lead water pipes with modern plastic equivalents. Work continues on the £72m Knostrop sludge and energy project due to complete in 2020.

In Scotland, the second phase of the £120m Ayrshire investment to improve drinking water with a further length of water main and a new pumping station is due to complete in 2020. The £21m 18-month contract to upgrade Inverurie WWTW is due to complete by spring 2019. The £29m spend on Oban's water supply will complete in late summer 2018, with further investment expected. Work on the £17m contract to prevent flooding and enhance water quality in Paisley is due to complete in early 2019. Additionally, following completion of a pipeline, upgrade work is due to start in summer 2018 on the Ardersier WWTW expansion. Scottish Water has committed £190m between 2015 to 2021 to tackle the issue of sewer flooding and launched a new strategy in early 2018 to provide more sustainable solutions.

Welsh Water is now set to invest a record £470m in 2018/19 in capital projects, £70m more than in 2017/18, including £24m on a new pumping station at Prioress Mill on the River Usk and £15m on Anglesey to clean and replace 174 miles of pipe. This is part of a £1.7bn programme from 2015 to 2020.

Outlook

Reflecting the water companies planned spending profiles within AMP6, following very strong percentage output growth in the water sub-sector in 2017, output is forecast to decline through the review period, in mid-single figures in both 2018 and 2019, before gaining some further pace in 2020.

Given the revisions to the modelling used by ONS to calculate output from the Thames Tideway Tunnel contracts and the impact that this project has on the sub-sector it is now forecast that sewerage output will show growth touching double digits in 2018, with further stronger growth in 2019, before decreasing by a low double digit percentage in 2020.

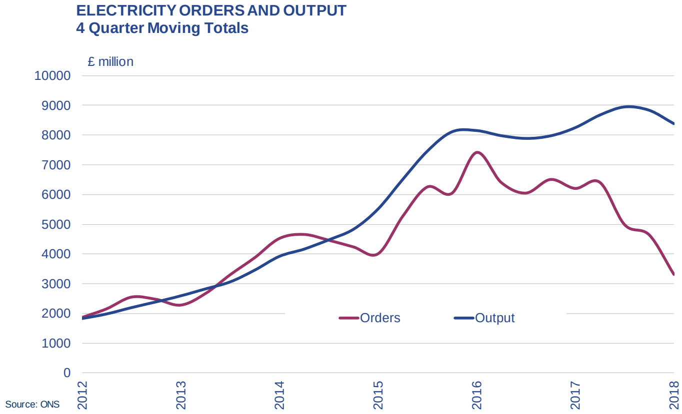
Electricity

Orders & output

Following the record four-quarter total of electricity new orders of £7.41bn set in the period to March 2016 this measure eased through 2016 to a year-end total of £6.5bn, 8% higher than for 2015. In calendar year 2017 orders decreased further to £4.63bn, 29% lower than 2016. For the four quarters to March 2018 orders totalled £3.31bn, 47% lower than the previous four quarters.

From 2010 through to the four quarters ending September 2017 electricity output experienced a period of almost continuous growth and established new records. Whilst output in calendar year 2016 of £7.98bn was 2% lower than in 2015, 2017 set a new record of £8.84bn, 11% higher than 2016 and over seven times the value of output in 2009. For the four quarters ending March 2018 output fell to £8.39bn, but this was still 2% higher than the previous four quarters.

The recent movements in order and output values are given in the chart below.



Projects and market intelligence

The Government has underlined its commitment to phasing out unabated coal generation by 2025, launching its Powering Past Coal alliance with Canada. This will mean closing the UK's remaining eight operational coal-fired power stations, about 15%

of total generating capacity. Currently it is expected all UK coal plants may shut by 2022 as they became uneconomic, in part due to environmental rules. Drax closed a further unit in mid-2018 and Eggborough has announced recently that it is to shut later this year.

These anticipated closures provide the background for investment in new generating capacity. Indicators of how electricity supply is changing are that 52% of generation over summer 2017 came from low carbon and renewable sources, up from 35% in summer 2013 and that offshore windfarms are set to supply 10% of the UK's electricity demand by 2020, up from 5% in 2017. Further evidence is that three consecutive days in April 2018 were powered without coal generation and in 2017 the renewable energy produced would have met the total UK electricity needs in 1958.

In October 2017, the Government awarded £557m of Contracts for Difference (CfD) to less established renewables projects. Offshore wind farm developers bid far more aggressively than predicted, delivering a strike price on the Moray Offshore and Hornsea 2 projects on a par with new gas power and far lower than the Hinkley Point C price, As a result, the offshore wind sector will invest £17.5bn in the UK up to 2021, only part of which will be recorded as construction. The next CfD auction is planned for spring 2019.

Activity at the £24bn+ Hinkley Point C nuclear power station project is ramping up with over 3,000 workers now on site each day. The third of four concrete batching plants is being commissioned. Construction of the nuclear island foundations and the pre-stressing gallery has started and work on the four-year tunnelling contract will begin later this year. The first nuclear safety concrete for the building of Unit 1 is scheduled for mid-2019 subject to completion of the final design by end 2018. The £350m Marine Works contract was awarded in February 2018.

The 2.7GW £10bn Wylfa Newydd nuclear power station on Angelsey is expected to be the next nuclear new build. The Planning Inspectorate application was made in June 2018. Negotiations with Horizon Nuclear Power over the level of government subsidy for the project have begun and the Government has started talks about taking a direct investment in the project. Subject to approval main construction will not start before 2020 at best and may not commence during the review period.

Main construction work at the Javelin Park £500m Energy from Waste (EfW) project remains on schedule with the facility due into service in late 2019. Main construction on the 34MW, £252m Avonmouth EfW plant began earlier in 2018, for completion by summer 2020. The £205m EfW plant at Beddington, South London is expected to open in summer 2018. Construction continues on the £800m Parc Adfer incinerator on Deeside, due in operation by end 2019. The £340m Kemsley 49.9MW combined heat and power facility in Kent is due to complete in 2019, as is the 14.1MW £142m plant at Millerhill, Midlothian. Biffa is planning to start work on a £250m 33MW EfW plant at Shepshed in 2019. Work started in June on the £24m Markinch CHP biomass plant in Fife, for completion in January 2019. Work is due to start in 2018 on the 60MW Rookery South EfW project in Bedfordshire with a three-year construction period.

Amey has submitted plans for a £200m EfW plant at Waterbeach, Cambridgeshire. Plans are also being developed for the £650m North London Heat and Power Project, to include an EfW plant and energy and resource recovery facilities. Preparatory work could start in 2019 with construction phased through to 2025. SSE is to invest £350m in a new 840MW CCGT power station at Keadby, North Lincolnshire, with work due to start in 2018. SSE plans to enter the plant into the next four-year-ahead (T-4) capacity market auction.

The table overleaf summarises the major projects which are covered by the National Joint Council for the Engineering Construction Industry (NJCECI) agreements in the power generation sector.

Construction continues on schedule on the MGT, imported wood chip fired, £650m Tees Renewable Energy Plant at Teesport with commissioning planned to start in 2019. Construction of the £360m 90MW Ferrybridge Multifuel 2 project in West Yorkshire remains on schedule for operation in 2019.

Whilst plans for a £300m gas power station in Wrexham have been approved there is no firm construction timetable. The DCO decision on the 2.5GW Eggborough Power CCGT gas plant was

NATIONAL JOINT COUNCIL for the ENGINEERING CONSTRUCTION INDUSTRY - MAJOR PROJECTS

Client / Managing Contractor	Location	Project	Cap Value £m	Start	Finish	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4
Confirmed Projects as at May 2018																	
Ince BioPower / MBV Energy Recovery	Ince	20 MW Biomass	86	Q1/17	Q2/18	■	■										
Ferrybridge MFE2 / HZI AG	Ferrybridge	90MW Energy from Waste (FM2)	270	Q1/17	Q4/18	■	■	■	■								
MGT Teesside Ltd	Teesside	299 MW Biomass	650	Q3/17	Q1/19	■	■	■	■	■							
Tricoya Technologies plc	Saltend	Wood Acetylisation Plant	59	Q1/18	Q1/19	■	■	■	■	■							
Spalding Energy / Atlantic Projects	Spalding	299 MW OCGT	TBA	Q2/18	Q1/19		■	■	■	■							
Valero	Pembroke	45 MW CHP	100	Q1/19	Q1/20					■	■	■	■	■			

Source: NJCEC

scheduled for end June 2018 and RWE anticipate submitting the DCO application for a 2.5GW CCGT at the former Tilbury B site in late 2018. Any decision to proceed with construction on either project will be dependent on it securing a supply contract.

The conversion of a fourth unit to biomass operation at Drax is due to take place during a planned outage in the third quarter of 2018. Drax has submitted plans to repower two coal units to gas (a maximum of 3.6GW) and build up to 200MW of battery storage. It is hoping to receive approval in 2019 to enable it to enter the capacity market auction in December 2019.

The second phase of offshore cable laying for the Nemo Link interconnector between Kent and Belgium is taking place ahead of first energisation in late 2018. Construction is due to start in 2018 for both the France-Alderney-Britain interconnector, for completion in 2021, and onshore for the €620m IFA2 interconnector which will join the UK and French electricity networks, scheduled for 2020 completion. Both secured four-year ahead (T-4) contracts in the February 2018 capacity auction.

The €2bn North Sea Link project will construct the world's longest subsea interconnector at 720Km from Norway to Blyth. UK onshore work is due to start in 2018 with operational completion planned for 2021.

Onshore wind farm capacity installation is forecast to fall from a record 2.6GW in 2017, a fifth of all installed capacity, to 0.94GW in 2018 and 0.37GW in 2019. Turbine deliveries to the 177MW Dorenell wind farm in Moray commenced in April 2018. Work on the 33.6MW Mynydd y Gwair onshore wind farm, near Swansea, is expected to complete in 2018.

Cable installation is in progress on the Beatrice project. Onshore construction and jacket fabrication is underway on East Anglia One. The Aberdeen Bay project has been connected to the national grid. Partial generation has commenced on the Walney extension project and foundation installation is taking place on Hornsea Project 1. Onshore work to provide the connection to the Triton Knoll windfarm off the Lincolnshire coast which won a CfD in September 2017, is due to start later in 2018.

Offshore Wind Projects by Status - Forecast Offshore Construction Timeline 2018 to 2020

Project	Current Phase	Investment Decision	MW	No. of Turbines	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4
Race Bank	Commissioned	Q4/15	580	91	■											
Galloper	Commissioned	Q4/15	336	56	■											
Rampion	Construction	-	400	116	■	■										
Aberdeen Bay	Construction	Q1-Q4/16	100	11	■	■	■									
Walney Extension	Construction	-	<660	<90	■	■	■	■	■							
Beatrice	Construction	Q2/16	588	84	■	■	■	■	■	■	■	■	■			
East Anglia Offshore 1	Construction	Q1/16	714	102		■	■	■	■	■	■	■	■	■	■	
Hornsea - Project 1	Construction	Q1/16	1200	174		■	■	■	■	■	■	■	■	■	■	■
Inchcape	Consented	Q4/16	750	95-110			■	■	■	■	■	■	■	■	■	■
Moray Firth East'n Dev Area 1	Consented	Q3-Q4/18	504	46-62				■	■	■	■	■	■	■	■	■ to 2022 Q2
Triton Knoll	Consented	Q3 2018	860	75-150									■	■	■	■ to 2021
Neart na Gaoithe	Consented	Q1-Q4/18	450	56-64												■ to 2022 Q4

Source: www.renewableuk.com dated June 2017, updated from www.4coffshore.com May 2018

The Nuclear Decommissioning Authority (NDA) is scrapping, from August 2019, the current £6bn contract for the management and decommissioning of 12 redundant Magnox sites. It is currently deciding on proposals for new arrangements, based on improved governance. Key activities in the 2018 to 2021 NDA Business Plan include the ending of Thermal Oxide Reprocessing at Sellafield in 2018, completing defueling of the remaining two Magnox reactors by 2019 and the subsequent ending of Magnox reprocessing in 2020. Total clean-up costs in 2018/19 are £2bn, of which over 57% is expenditure at Sellafield, and nearly 25% relates to Magnox Ltd. A similar level of spend is budgeted for 2019/20.

Whilst the proposed £1.3bn 320MW Swansea Bay Tidal Lagoon Project, has been excluded from our forward assessment, the Government has indicated that it does not want to 'close the door' on the project, The Welsh Government has pledged to invest £200m as part of its bid to secure the future of the project.

Detailed engineering design is taking place for the £100m 99.9MW Snowdonia Pumped Hydro (SPH) electricity storage facility at Glyn Rhonwy near Llanberis. Construction is anticipated to take three to four years once financing is agreed.

Turning to power distribution, the £38m 400kV Canterbury and Richmond overhead line will connect to the Nemo Link when the project is complete in 2020. Work was due to start in spring 2018 on the Fort Augustus to Fort William 132kV transmission reinforcement project for completion in 2020. The £44m contract for the Beauly to Keith 132kV modernisation programme has been awarded for completion in early 2021.

National Grid is inviting bids for a £1bn underground power line tunnelling programme. The three major projects are the £750m 33km London Power Tunnels 2 project planned to start in summer 2019; the £100m 4km long Menai Tunnel to connect Wylfa Newydd to the grid with a five-year construction period; and a 3.3km three-year programme of tunnelling in Snowdonia due to start in 2021, part of its £500m visual impact provision programme.

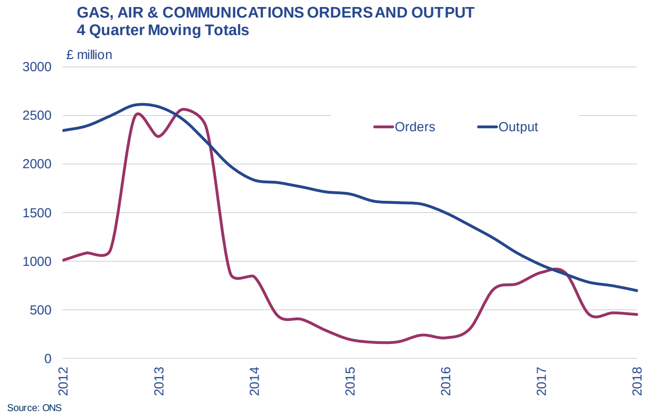
Outlook

It is forecast that the pattern of growth established since 2009 will be reversed in 2018 with a mid-teen percentage decline, with increased output derived from Hinkley Point C nuclear power station failing to offset decreases from other generation types. The move to main construction activities at Hinkley Point C and ongoing offshore activity provide the basis for double-digit growth in both 2019 and 2020.

Gas, air and communications

Orders & output

The recent movements in order and output values are given in the chart below.

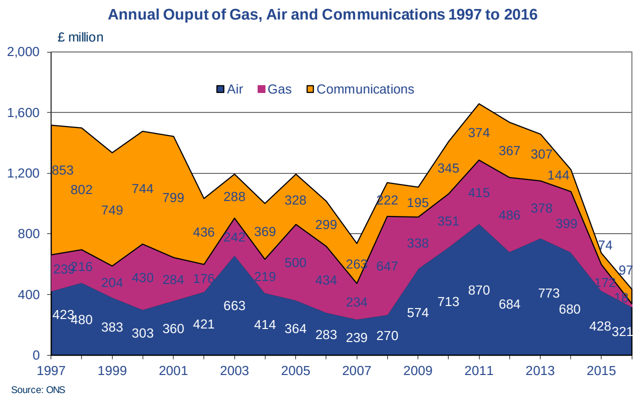


Orders progressively declined from 2013 to just £168m in the four quarters ending June 2015, the lowest in current prices since the series started in 1985. Since then orders have progressively increased, reaching £770m in calendar year 2016, more than three times the value in 2015, and a peak of £885m in the four quarters to March 2017. For calendar year 2017 orders totalled £470m, 39% below 2016, For the four quarters ending March 2018 orders fell back to £454m, 49% lower than the previous four quarters.

Four-quarters output has progressively fallen from a peak of £2.61bn in calendar year 2012. Output in 2017 of £749m was 31% less than in 2016. In the four quarters to March 2018 output of £700m was 27% lower than the previous four quarters.

The chart on below shows the contribution to sub-sector output of its component parts from 1997 to 2016. As this data is only published annually, in

August, it excludes the revisions to output data published in June 2018. Compared with the peak in



2011 output in this sub-sector in 2016 was 74% lower. Gas output in 2016 was only one twentieth of its level in 2011, air output was 63% lower and communications output 74% lower. In 2016, output was split air 74% (up 10% on 2015); gas 4% (down 22%), and communications 22% (up 11%). In current value terms communications output is less than one eighth and gas less than one twelfth of the levels recorded in 1997.

Projects and market intelligence

The 2018 Capital Business Plan of Heathrow Airport Ltd shows total capital investment for the five-year ‘Q6’ period through to 2018/19 will be £3bn. It plans to invest £695m in expanding existing facilities over the course of 2019, only part of which will be recorded as construction. The initial plan for the period 2020 and beyond will be published by end 2018. The longer-term plan to construct a new northwest runway is assumed not to start within the review period despite the Government recently publishing its final proposal for an airports national policy statement backing this option.

Gatwick Airport’s recently published five-year £1.11bn Capital Investment Programme sees spend of £266m in 2018/19 before it falls to £233m and £227m in the following two years, although only part will be construction related. The preferred bidder for the £88m contract for a 144-metre wide maintenance hangar has been named and it has awarded the £180m Pier 6 extension contract to start in 2018 for completion by 2022. Other planned investments include the expansion of both the North Terminal and South Terminal departure lounges, upgraded shopping facilities, expansion of the North and South Terminals’ immigration halls, additional aircraft parking stands and optimisation of taxiways.

The Manchester Airport Group eight-year small/medium construction framework package for airside and landside buildings includes planned expenditure of £100m-£200m at Manchester Airport, £30m-£60m at East Midlands Airport and £80m-£180m at Stansted, including a total spend of £50m on modular car parks over the next four years.

Manchester Airport’s £1bn 10-year development plan will see Terminal 2 merge with Terminal 3 and an 8,300 square metre extension completed by 2020. The £38m first phase extending the airfield’s west apron is due to complete by November 2018. Other current work is construction of the Terminal 2 extension and multi-story car park. Overall the plan includes new and enlarged airside transfer facilities, new stands and piers, an improved surface access road system and an extended multi-storey car park.

Stansted is to invest approximately £340m in a two-phase terminal expansion. The new arrivals hall is expected to cost £120m-£150m with bids due in mid-2018 for a three-year construction programme. Work to remodel the main terminal into a dedicated departure building will cost £180m-£230m with prequalification due in the fourth quarter of this year and work to be completed by 2022. It is part of a five-year, £600m construction project to expand passenger facilities.

The £85m contract for King George V Dock Apron at London City Airport, the key first phase of the airport’s expansion, was awarded in February 2018, with work starting in the spring. It is part of the £400m upgrade due to complete in 2021 to provide an extension to the passenger terminal, seven extra stands and a parallel taxiway and will deliver increased capacity by 2019. The 50-metre digital air traffic control tower under construction will be operational in 2019.

Phase 2 of the £150m Luton Airport redevelopment programme is underway. Fit-out has started on the £80m terminal extension and upgrade at Edinburgh Airport, which is due to open in late 2018. It is part of the airport’s £220m capital investment programme.

Contractors are being invited to bid for a £50m-£100m contract award in spring 2019 at RAF Lossiemouth.to resurface and extend existing runways and taxiways and build new aircraft standing areas.

Cadent is the new name for National Grid's gas distribution business. Its investment programme through to 2021 remains at £457m per annum on its mains replacement programme and £56m a year on other network capital investments in 2009/10 prices. It also includes the £100m project to replace the gas pipeline across the Humber estuary, where tunnel drilling started in April 2018 for completion during 2019. Its largest civil engineering project is the 330-metre long tunnel under the River Thames between Battersea and Chelsea where installation of the pipeline is well underway ahead of project completion in 2021.

Northern Gas Networks is investing £1bn over the next eight years to upgrade its gas network. Wales and West Utilities is spending £100m per annum on maintenance and replacement of its network. A £9m contract to replace a Scottish Gas Networks pipeline at Erskine commenced in February.

In communications, further technological change, increases in the use of applications and the number of users will continue to drive growth. However, the lower construction intensity of investment is not forecast to change, with construction output unlikely to improve significantly from current lower levels.

Investments include the £900m three-year extension to the contract for the maintenance, extension and repair of the telephone and data networks in a number of English regions.

Outlook

The pattern of decline evident in this sub-sector since 2012 is forecast to continue in 2018 with a further double-digit reduction in output. Following this a recovery touching double digits is forecast for 2018 before a further single digit decline in 2020.

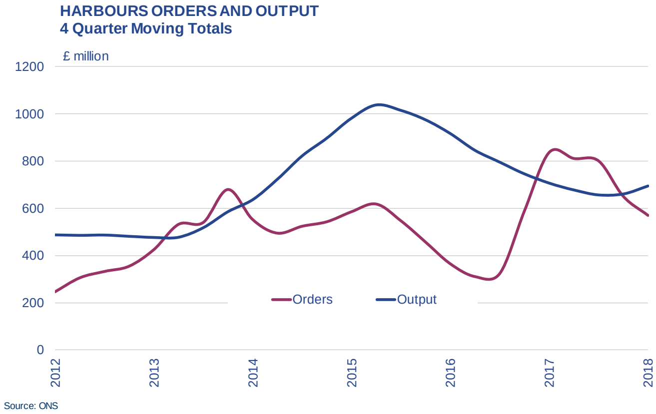
Harbours and waterways

Orders & output

Following the high of £679m in the four-quarter total in fourth quarter of 2013, new orders fell away to a low of £311m in the four quarters to June 2016. Since then they have recovered strongly to record £588m for calendar year 2016, and reach a peak of £836m in the four quarters to March 2017. Orders in calendar year 2017 totalled £650m, 11% higher than 2016. For the four quarters to March 2018 orders totalled £570m, a 32% fall from the preceding period.

Output in 2015 benefitted from the earlier increased order intake, breaking through the £1bn barrier in mid-year, before falling to £746m in calendar year 2016. In calendar year 2017 output was 11% lower than 2016 at £661m. In the four quarters to March 2018 output was £695m, 2% lower than the preceding four quarters.

The recent movements in order and output values are given in the chart below.



Projects and market intelligence

Private investment continues to be the main driver of harbour development in the UK. The private sector operates 15 of the largest 20 ports by tonnage and handles 68% of the UK major ports' traffic.

The Port of Felixstowe continues to develop with construction of 13 hectares of paved container yard directly behind Berth 9 and new ship-to-shore cranes which have been ordered for installation in 2018. The civils contract was valued at £32m and 3.2 hectares of seabed will be reclaimed. The overall 15-month programme is scheduled to complete in early 2019.

Following completion of piling, excavation, dredging and reclaim work the £250m Dover Western Docks Revival (DWDR) project will regenerate the waterfront and provide a new cargo terminal and distribution centre. Contracts awarded in recent months include £15m for a refrigerated warehouse and £21m for paving, utilities and infrastructure work. The full project is now due to be delivered in 2019.

Associated British Ports is half way through a £1bn investment programme across its estate of 21 ports between 2016 and 2020. Current projects include a further £50m phased investment in export vehicle handing facilities at Southampton, £50m to double the capacity of its two Humber container terminals and further investment at Garston, near Liverpool.

Construction of Peel Ports Phase 2 of the £400m Liverpool2 project was due to start in spring 2018, with equipment and port infrastructure works completing in 2019. Work continues on the Peel Ports Sheerness £37m contract to redevelop the former Thames Steel site at Wellmarsh. Site preparation for the new £50m Liverpool cruise liner terminal at the Princes Jetty site is due to start in October 2018.

Work in 2018 on the £350m expansion of the Aberdeen port into Nigg Bay includes a second season of dredging work, construction of the North Breakwater and piling for the Open Quays. The first of 9,000 acropoles was produced in May 2018. The first operational quay is due to be available by October 2019 with project completion by May 2020.

The initial tenders for the new Tilbury 2 terminal, have been issued. They cover £65m for terrestrial work and £25m for marine works. Final planning approval is expected in February 2019. A total of £1bn will have been spent from 2012 to 2020 on port expansion.

The Environment Agency has gone out to tender with a contract for a programme of capital investment and improvement works for flood defence assets to replace the current national Water and Environment Management Frameworks. With an initial term of four years and a four-year extension option, the estimated value is £1.5bn over the 8 years from 2019,

The latest National Infrastructure and Construction Pipeline, published in December 2017, forecasts annual expenditure on flood projects to remain in the range £0.5bn to £0.6bn through to 2020/21.

Examples of projects in the programme include £95m on the Derby flood defence scheme from 2016 to 2023; £18m on the Fylde coast between Fairhaven and Church Scar due to complete in 2020; £19m on River Medway defences over the next 5 years; and the £18m Newhaven flood defence project due to complete in autumn 2019. Work is also progressing on implementing the £45m York five-year flood plan through to 2021 and £72m is being spent on several small projects in Cumbria through to 2021.

The £37m scheme to deliver new and upgraded flood defences on the River Hull commenced in April 2017 for completion in 2019, with a further £12m scheme to follow on from 2019. Funding is now also in place for the £42m Humber Hull Frontages project to improve a 19km stretch of tidal flood defences. Subject to planning approval work was due to start mid-2018 for completion in 2020.

The Environment Agency is spending £221m from 2018 to 2021 on the Lincolnshire Beach Management Scheme to better protect more than 49,000 additional homes and businesses, including the £100m Boston Barrier where work started in January 2018.

Funding of £120m has been secured for the design and build of the Oxford flood alleviation scheme which will have a three-year construction programme. The full business case will go the Treasury later in 2018.

In Yorkshire, the business case for the £50m Leeds Flood Alleviation Phase 2 Scheme was submitted in January 2018 and the planning application was due to be submitted in mid-2018. Work started in April 2018 on the £30m Mytholmroyd flood alleviation scheme in West Yorkshire for completion in winter 2019/20.

£10.5m will be spent from April 2017 to October 2018 on Phase 3 of the North Portsea Island Coastal Flood Defence Scheme, Later phases, worth up to £40m through to 2022 are subject to a design review.

The £308m Phase 1 of the Thames Estuary Asset Management 2100 Programme in the 10 years to 2025 will reduce the risk of tidal flooding by asset refurbishment and replacement works along 175km of the tidal Thames, from Teddington in West London to Sheerness in Kent and Southend-on-Sea, Essex.

Partners continue to seek to secure the balance of funding for the £476m River Thames Datchet to Teddington flood defence scheme. Subject to planning and HM Treasury approval construction could commence in 2020/21.

In Scotland, the Government and local authorities are half way through delivering 42 identified schemes from 2016 to 2021, part of the commitment to spend £42m per annum through to 2025.

The Welsh Government plans to allocate £151m to its Coastal Risk management from 2018/19 to 2020/21 and has provided £56m, including eight major schemes, under the flood and coastal erosion risk management programme, taking the total investment to £263m over the five-year term of the government.

Outlook

The ongoing spend on flood protection and the strength of the development programme for harbour projects provides the basis for forecast growth to reach upper teens in percentages in 2017 before stabilising for the remainder of the review period.

Value Of New Infrastructure Orders By Contractors — £ million *% change*

	2013	2014	2015	2016	2017	2016 Q3	Q4	2016 Q1	Q2	Q3	Q4	2018 Q1
Water	515	211	561	983	631	288	27	137	344	107	43	176
	-65.6	*-59.0*	*165.9*	*75.2*	*-35.8*	*-23.4*	*-90.6*	*407.4*	*151.1*	*-68.9*	*-59.8*	*309.3*
Sewerage	251	321	2270	175	192	72	46	12	83	29	68	94
	-21.8	*27.9*	*607.2*	*-92.3*	*9.7*	*620.0*	*-36.1*	*-73.9*	*591.7*	*-65.1*	*134.5*	*38.2*
Electricity	3873	4234	6039	6499	4634	1671	1409	1881	1442	246	1065	557
	56.7	*9.3*	*42.6*	*7.6*	*-28.7*	*34.9*	*-15.7*	*33.5*	*-23.3*	*-82.9*	*332.9*	*-47.7*
Roads	2181	2742	3795	3476	2120	1148	904	544	445	600	531	431
	9.5	*25.7*	*38.4*	*-8.4*	*-39.0*	*50.3*	*-21.3*	*-39.8*	*-18.2*	*34.8*	*-11.5*	*-18.8*
Railways	2440	1328	1455	2930	12293	791	1100	661	334	8736	2562	835
	-28.1	*-45.6*	*9.6*	*101.4*	*319.6*	*50.1*	*39.1*	*-39.9*	*-49.5*	*2515.6*	*-70.7*	*-67.4*
Harbours	679	543	457	588	650	80	386	260	84	70	236	180
	91.3	*-20.0*	*-15.8*	*28.7*	*10.5*	*-27.3*	*382.5*	*-32.6*	*-67.7*	*-16.7*	*237.1*	*-23.7*
Gas, Air & Comms	879	289	242	770	470	471	174	134	105	42	189	118
	-64.6	*-67.1*	*-16.3*	*218.2*	*-39.0*	*344.3*	*-63.1*	*-23.0*	*-21.6*	*-60.0*	*350.0*	*-37.6*
Total	10818	9666	14819	15422	20992	4522	4046	3630	2837	9830	4695	2392

Source: ONS.

Value Of New Infrastructure Output By Contractors — £ million *% change*

	2013	2014	2015	2016	2017	2016 Q3	Q4	2017 Q1	Q2	Q3	Q4	2018 Q1
Water	1248	691	652	761	1305	195	255	288	328	351	338	285
	-31.6	*-44.6*	*-5.6*	*16.7*	*71.5*	*30.0*	*30.8*	*12.9*	*13.9*	*7.0*	*-3.7*	*-15.7*
Sewerage	*480*	*366*	*448*	*651*	*982*	177	172	216	249	260	257	231
	-32.4	*-23.8*	*22.4*	*45.3*	*50.8*	*14.2*	*-2.8*	*25.6*	*15.3*	*4.4*	*-1.2*	*-10.1*
Electricity	3453	4829	8114	7979	8840	2030	2181	2177	2292	2303	2068	1728
	44.9	*39.8*	*68.0*	*-1.7*	*10.8*	*8.8*	*7.4*	*-0.2*	*5.3*	*0.5*	*-10.2*	*-16.4*
Roads	*2583*	*2762*	*4036*	*4516*	*4188*	1181	1170	1069	1020	1033	1066	1080
	13.3	*6.9*	*46.1*	*11.9*	*-7.3*	*6.8*	*-0.9*	*-8.6*	*-4.6*	*1.3*	*3.2*	*1.3*
Railways	5002	4066	2999	2655	2854	689	647	584	646	742	882	886
	20.9	*-18.7*	*-26.2*	*-11.5*	*7.5*	*0.3*	*-6.1*	*-9.7*	*10.6*	*14.9*	*18.9*	*0.5*
Harbours	*586*	*897*	*975*	*746*	*661*	189	175	154	160	168	179	188
	21.6	*53.1*	*8.7*	*-23.5*	*-11.4*	*0.0*	*-7.4*	*-12.0*	*3.9*	*5.0*	*6.5*	*5.0*
Gas, Air & Comms	1981	1715	1589	1086	749	264	226	192	187	180	190	143
	-24.0	*-13.4*	*-7.3*	*-31.7*	*-31.0*	*-6.4*	*-14.4*	*-15.0*	*-2.6*	*-3.7*	*5.6*	*-24.7*
Total	*15332*	*15325*	*18812*	*18394*	*19580*	4724	4826	4681	4881	5037	4981	4541

Source: ONS.

5 Public non-residential construction

Public Non-Residential Construction Output						Forecasts		
	2013	2014	2015	2016	2017	2018	2019	2020
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: ONS and Experian

Summary

Total public non-residential output experienced a modest drop in 2017, posting a 2% decrease to £10.54bn (2015 prices). Output declined by a further 6% to £2.41bn in the first quarter of 2018 on a quarter-on-quarter basis, which was a 14% decline compared to the same period of 2017. The four-quarter moving totals exhibited four consecutive quarters of decline to date, at a gradually increasing rate.

After experiencing a slight recovery in 2016, orders also faltered in 2017, dropping 14% to a total value of £5.62bn (2005 prices). In the first quarter of 2018, however, orders totalled £1.55bn, up 8% on the preceding quarter and 31% on an annual basis. The four-quarter moving total showed a 6% rise in the first quarter, after a marginal decline in the previous period.

The outturn remained fairly mixed at the sub-sector level in the first quarter of 2018, with the entertainment sub-sector being the only one to record (current price) an output increase on both a quarterly and annual basis. The health and education sub-sectors posted declines on both measures, while the offices and miscellaneous sub-sectors both experienced a quarter-on-quarter decrease but a year-on-year increase.

Orders at the sub-sector level exhibited more consistent trends as of the first quarter of 2018, with the health and offices sub-sectors both posting sizeable gains on a quarterly and annual basis. In contrast, the entertainment and miscellaneous sub-sectors both declined in quarterly and annual terms. Results were more mixed for the education sub-sector, which exhibited a year-on-year increase but a quarter-on-quarter decrease of similar magnitude.

The health sub-sector is expected to perform worst over the forecast period as the final projects under the ProCure21+ framework wind down and Procure22 remains slow to pick up the slack. The education sub-sector as a whole should see a marginal recovery by the end of the forecast period, with a number of university expansion projects balancing out the fairly bleak outlook for the schools sub-sector. Prospects remain weak for offices output, with declines expected throughout the forecast period. Despite strong double digit growth in 2017, output in the miscellaneous sub-sector is expected to moderate slightly by 2019, before posting a sizeable decline in 2020 as works conclude on the Ministry of Defence’s Basing plan. After two consecutive years of decline to date, the entertainment sub-sector is expected to exhibit moderate average expansion throughout the forecast, albeit inconsistently, as a number of different projects start and complete.

Sector Overview

Output & orders

Output in the public non-residential sector experienced a modest decline in 2017, posting a 2% decrease to £10.54bn (2015 prices).

After moderating close to no change in quarterly terms in the final three months of 2017, output declined by 6% to £2.41bn in the first quarter of 2018 and was down 14% compared to the same period of 2017. The four-quarter moving total exhibited four consecutive quarters of decline to date, at a gradually increasing rate, culminating in a 4% fall in the first quarter of this year.

After experiencing a slight recovery in 2016, orders faltered again in 2017, dropping 14% to a total value of £5.62bn (2005 prices).

In the first quarter of 2018 orders totalled £1.55bn, up 8% on the preceding quarter and 31% on an annual basis. In four-quarter moving total terms orders also posted a 6% rise in the three months to March 2018, after a marginal decline in the previous period.

Public Non-Residential Orders And Output				
	Orders		Output	
	£ million (2005 prices)	*% change y-on-y*	£ million (2015 prices)	*% change y-on-y*
2013	7827	*8.5*	10438	*-9.6*
2014	8112	*3.6*	10350	*-0.8*
2015	6166	*-24.0*	10374	*0.2*
2016	6548	*6.2*	10771	*3.8*
2017	5616	*-14.2*	10536	*-2.2*
2016 Q3	1448	*-13.8*	2720	*3.6*
Q4	1832	*20.2*	2730	*3.5*
2017 Q1	1185	*-13.1*	2802	*8.1*
Q2	1492	*-28.4*	2620	*-4.0*
Q3	1500	*3.6*	2555	*-6.1*
Q4	1439	*-21.5*	2559	*-6.3*
2018 Q1	1547	*30.5*	2407	*-14.1*

Source: ONS.

Drivers

According to the OBR's March 2018 report, public sector net borrowing fell more quickly than expected in 2017/18, but despite that the average forecast for borrowing in 2018/19 is somewhat higher than their latest central forecast at £38.2 billion. The average of the smaller sample of medium-term forecasts suggests that borrowing will continue to fall year-on-year, reaching £19.9 billion in 2022/23. This would give a similar medium-term path for the deficit as in their forecast.

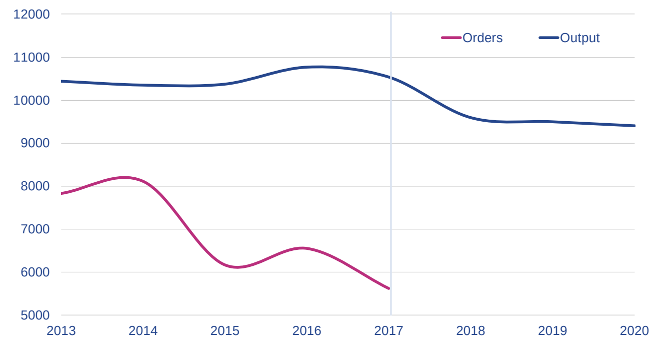
One of the most significant aspects of the Autumn 2017 Budget was the announcement of £6.3bn of additional funding for the NHS, comprising £3.5bn in capital investment by 2022/23 and £2.8bn of resource funding. As of the Spring 2018 Statement, the chancellor acknowledged the funding pressures faced by the NHS but seemed to hold back from any further details or funding until the autumn.

Outlook

We still expect public non-residential output to decline throughout the forecast period, albeit at a gradually moderating pace. This is largely due to expected declines in the sizeable schools and health sub-sectors, as well as the smaller offices sub-sector. Further contraction is expected to be mitigated somewhat this year and next by growth in the miscellaneous sub-sectors, with the universities sector providing some upward pressure through 2019 and 2020.

The trend in the miscellaneous sub-sector largely hinges on the Army Basing Plan, which is due for completion in 2019. From that point, a few large university projects are likely to be the main sources of growth in the sector, while prospects for the health sector remain little changed.

PUBLIC NON-RESIDENTIAL ORDERS (2005 PRICES, £M) AND OUTPUT (2015 PRICES, £M)



Source: ONS, Experian

Health

Output & orders

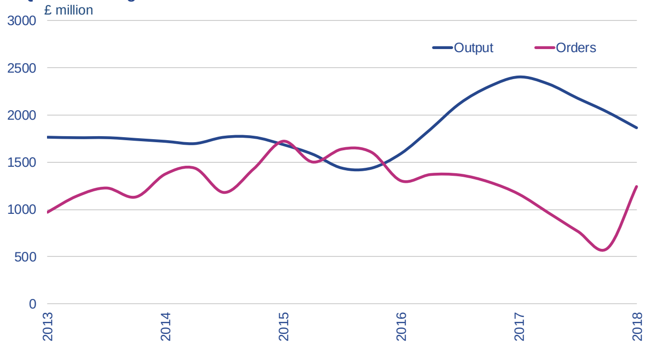
Following on from their highest year-on-year percentage increase on record in 2016, output on a current price basis in the health sub-sector fell by 12% to £2.03bn in 2017.

In the first quarter of 2018 output contracted by 17% on a quarterly basis to £384m, which was also 30% below its level for the same period of the previous year. On a four-quarter moving total basis output fell for a fourth consecutive quarter, at a gradually worsening rate throughout.

After contracting by 20% in 2016, orders fell by a further 55% in 2017 to £586m.

In the first quarter of 2018 orders did see a sizeable recovery, increasing threefold, albeit following four relatively weak quarters. This trend was reflected in the four-quarter moving total, with five consecutive quarters of escalating declines giving way to a positive first quarter of this year.

HEALTH ORDERS AND OUTPUT
4 Quarter Moving Totals



Source: ONS

Projects and market intelligence

As work under the ProCure21+ framework winds down over the current forecast period, focus will move to the Procure22 programme, which kicked off in October 2016. So far under this programme, 31 schemes have been registered with a total value of just £256.25m. All but one of these projects are due for completion within the current forecast period.

The Welsh Government's final 2018/19 budget shows capital expenditure on core NHS allocations rising from £284m in 2018/19 to £317.7m in 2019/20 before dropping to £299.6m in 2020/21.

Public Health England recently selected three contractors to build its new £400m science campus and headquarters in Harlow, Essex. Construction on the scheme will get fully under way in 2019, with the first occupants moving in during 2021. PHE Harlow, as the campus will be known, is expected to employ up to 2,750 people by 2024, with scope for further expansion.

Funding of £107m for the Midland Metropolitan Hospital has been "terminated" by banks following the collapse of the lead contractor, Carillion. The European Investment Bank (EIB) had pledged the cash to co-finance the £350m project. Sandwell and West Birmingham NHS Trust said the announcement "wasn't a surprise" and pledged it would work with the government to get the hospital finished and opened by 2022.

The collapse of Carillion has also led to work being stopped on Royal Liverpool Hospital. The £335m development has suffered a series of delays and the project has missed its March 2017 completion deadline. At present Laing O'Rourke has been tipped to take over the scheme which is 'unlikely to finish before the end of 2018'.

University College London (UCL) Hospitals NHS foundation Trust new cancer hospital is now scheduled for completion in 2020 instead of 2019 as previously anticipated.

Despite receiving outline planning application approval in December 2017, plans for the new state-of-the-art £210m Velindre Cancer Centre in Cardiff remain uncertain after a major supermarket allegedly raised objections relating to the site access put forward in the proposal.

Sir Robert McAlpine has been chosen as a preferred bidder for a £160m scheme which will see the construction of two new mental hospitals for South West London and St George's Mental Health NHS Trust. The new facilities will be located at Tolworth Hospital in Surbiton and at Springfield Hospital in Tooting. Work on the latter is set to begin this year.

Despite delays the Edinburgh Royal Hospital for Sick Children and the Dumfries & Galloway Royal Hospital, should complete this year. There are two reasonably sizeable projects in the pipeline due to start this year, phase 2 of the redevelopment of the Royal Edinburgh Hospital, valued at around £96m, and the £156m Aberdeen Baird Family Hospital and ANCHOR Centre, but nothing of any size scheduled for construction in 2019 or 2020 at present.

The Royal Borough of Windsor and Maidenhead granted approval in December 2017 for Heatherwood Hospital in Ascot to be demolished and relocated to nearby woodland, at an estimated cost of £90m. The building of the new hospital, which will be used for planned procedures and feature six operating theatres and 70 beds, is expected to start in 2018 and end in 2021.

Outlook

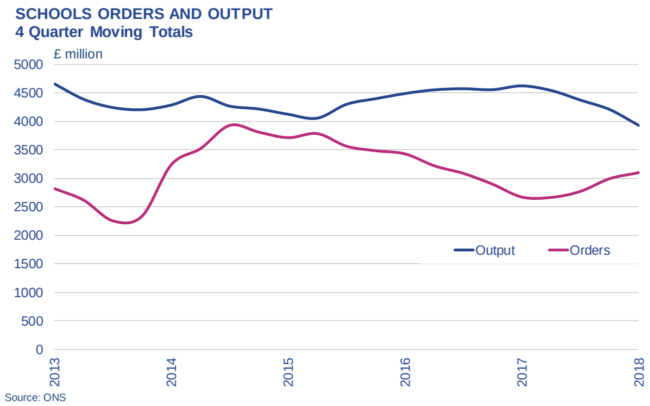
Activity in the health sub-sector is expected to perform weakly over the forecast period as the final projects that fall under the ProCure21+ framework wind down and Procure22 remains slow to pick up the slack. Compared with our spring forecasts we expect this year to be slightly worse owing to delays in a number of major health projects. The declines should moderate somewhat thereafter as these and other major schemes, such as Public Health England's headquarters, get underway.

Education

Output & orders

After falling in 2016 education construction output contracted by a further 6% in 2017 to a total of £5.64bn.

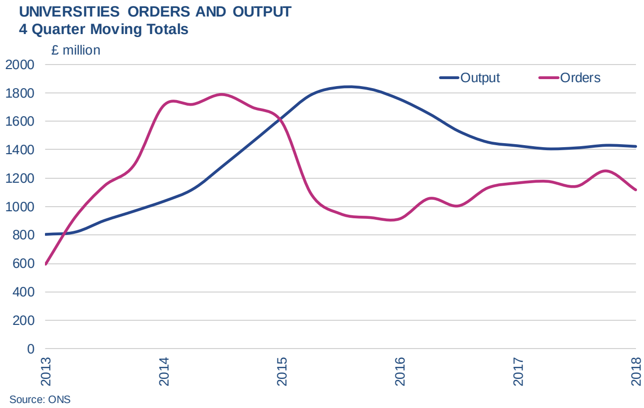
In the first quarter of 2018 output declined by 14% on the previous quarter and by 20% on the same period a year earlier. On a four-quarter moving total basis activity declined for a fourth consecutive period as of the latest quarter, at an increasing rate throughout.



After falling by 9% in 2016, new education orders recovered by 5% to £4.24bn in 2017.

In the three months to March 2018, however, orders contracted to £841m, down 33% on a quarterly basis and 3% compared to the same three months of 2017. This first quarter fall is attributable to both the schools & colleges and universities sub-sectors with similar nominal declines in each case, albeit slightly greater for the latter one, which saw a greater quarter-on-quarter percentage drop.

On a four-quarter moving total basis overall education orders actually picked up throughout most of 2017, before ticking down slightly in the latest quarter.



Projects and market intelligence

The first tranche of the Welsh 21st Century Schools programme (Band A) is due to complete in 2018/19, with an investment of £1.4bn across more than 150 schools and colleges. Band B of the programme is due to start in 2019, with a proposed £2.3bn of projects.

The same pattern as the Welsh Government's health expenditure plan is evident in their scheduled expenditure for the education sub-sector, which is planned to rise from £168.6m in 2018/19 to £176.7m in 2019/2020 and then to fall to £154.7m in 2020/21.

The University of Wales Trinity St David's £300m campus development on Swansea Waterfront (SA1) continues apace. It includes new homes for the Faculties of Architecture, Computing and Engineering, Education and Communities, as well as housing and a new library and is due to open this September.

Leaving aside the University of Glasgow's £1bn 10-year campus expansion, the two other large projects in the education sub-sector in Scotland are the £93m Fife College in Dunfermline, although funding and a start date have yet to be confirmed, and the £82m Forth Valley College in Falkirk, on which work started last November and is due to last two years.

The University of Wolverhampton regeneration scheme is seemingly still on track, despite a recently approved change to the project specification. The plans for the School of Architecture, which forms the largest part of the first phase of the £100m redevelopment, are still due to be completed in the 2019/20 academic year as planned.

Liverpool John Moores University is set to revive the old Royal Mail sorting office site near Liverpool Lime Street with a £64m scheme. Phase 1, subject to planning approval, will see new student life and sports buildings. The former will house the students' union as well as allowing the running of student facing services. The latter will have indoor facilities along with an eight-court sports hall and gymnasium. This will allow research into sports studies as well as supporting teaching. Both buildings should be complete by summer 2020.

Outline planning approval for a £60m civic square and student support centre has been gained by the University of Central Lancashire, part of a wider £200m development. Work is expected to start early next year with the student support centre and civic square completed before 2020.

In April Durham University unveiled plans for a new £42m mathematical and computer science building. The site will be situated on the institute's Upper Mountjoy campus and will allow for the doubling of student numbers. Work on the two-year project is anticipated to start in September. The project is part of the university's ten-year strategy.

Carillion going into administration has meant that Robertson Construction Group will now finish off the £37m Vision Tameside project in Ashton-under-Lyne, Greater Manchester. The development includes a new 7,000 square metre skills centre for Tameside college.

Work has commenced on the £30m Barbara Hepworth Building as part of Huddersfield University's £260m expansion programme. The five storey 80,000 square foot development is expected to be complete by autumn next year and will house the University's School of Art, Design and Architecture.

Kier has been appointed to design and build a new teaching block for University College Birmingham. The £29m project is the latest phase of the university's £100m redevelopment of its Jewellery Quarter campus in the centre of Birmingham. Phase 2 of the scheme is scheduled to be completed by July 2019.

The new UCL East campus project that is due to be located on the Queen Elizabeth Olympic Park has seen further slippage with construction now expected to start in 2019. The first building at Pool Street West should be ready for September 2021 with the building on Marshgate Lane seeing a phased opening from September 2022.

Plans have been submitted for the University of Bristol's new Temple Quarter Enterprise Campus. Work is due to begin on site in 2019, with a target completion date of 2021/22.

Outlook

The outlook for the education sub-sector is not particularly positive, with a marginal decline this year giving way to a very gradual, but weak, recovery thereafter. The largest education sub-sector, schools & colleges, is expected to experience contraction this year and next and will have the largest negative influence on overall output. Despite a weak outlook for this year, the universities sub-sector should see enough of a recovery thereafter to support an overall uplift. Sub-sector growth should be driven by projects at the University of Glasgow, Manchester and University College Birmingham, among others.

Other sub-sectors

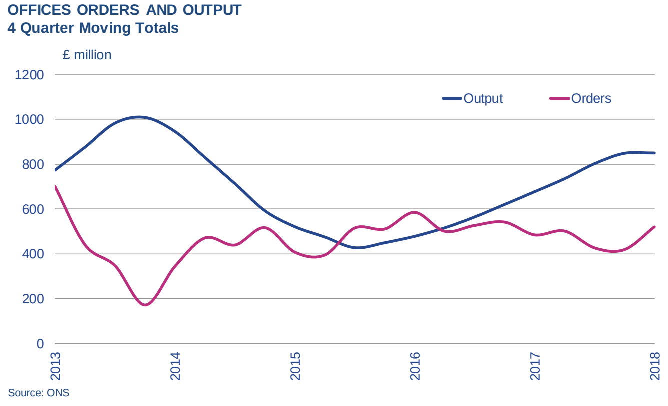
Output & orders

After experiencing a strong recovery in 2016 output in the offices sub-sector experienced a further rise of 37% in 2017 to a total of £849m.

In contrast, in the first quarter of 2018 output saw a 20% quarter-on-quarter drop to £179m. On a four-quarter moving total basis, the first quarter of this year exhibited no change after nine consecutive quarters of expansion.

On a current price basis, offices orders fell by 23% year-on-year in 2017 to £418m. The annual decline in orders was concentrated in the first quarter of last year, however, with output increasing in each subsequent quarter.

Sub-sector output exhibited a 34% rise in the first quarter of this year compared with the previous quarter. The four-quarter moving total presented more

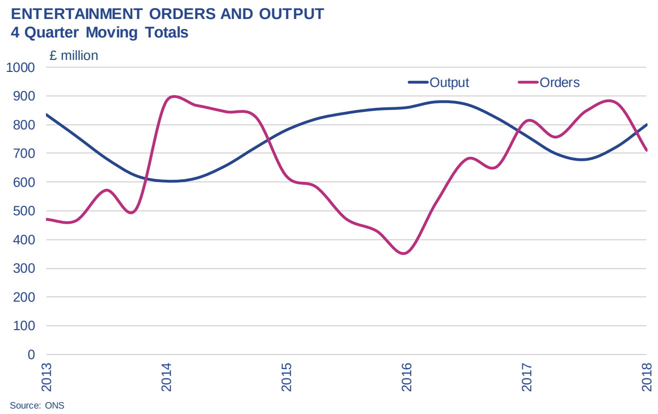


mixed results, with declines in the second half of 2017 being followed by a sizeable uplift in the first quarter of 2018.

The entertainment sub-sector experienced a second consecutive year of decline in 2017, with output dropping 12% to a total of £723m, falling behind the offices sub-sector in terms of size.

However, output grew strongly in three out of the four quarters of last year and it was only the poor first quarter on top of a low final quarter of 2016 that pulled the annual figure down. However, quarter-on-quarter expansion fell to a marginal 1% rise in the first three months of this year. On a four-quarter moving total basis output experienced a second consecutive quarter of expansion in the three months to March 2018.

After falling to their lowest total since 1996 in 2015, orders in the entertainment sub-sector picked up significantly in 2016 before rising by a further 34% to £875m in 2017.



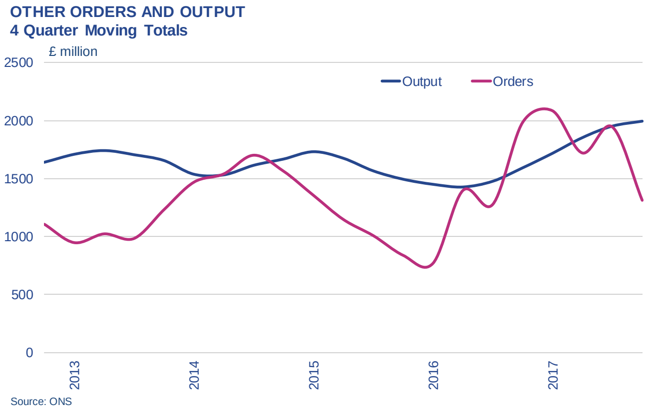
Orders were strongest in the first and third quarters of 2017, cooling rapidly thereafter to the first quarter of this year. The four quarter moving total for the entertainment sub-sector exhibited a double digit decline in the first quarter of 2018 after two positive quarters in the second half of 2017.

The 'other' sub-sector includes factories, warehouses, oil, steel, coal, garages, shops, agriculture and miscellaneous building. Output in this sector increased by 32% in 2017 to £1.95bn.

In contrast, output decreased by 7% quarter-on-quarter in the first three months of 2018, after an initial quarterly decline in the final quarter of 2017. On a four-quarter moving total basis output has recorded six consecutive quarters of expansion to date.

New orders in the 'other' sub-sector remained volatile, decreasing by 34% in 2017 to £1.31bn, after 2016 saw an even stronger recovery from the record low seen in 2015.

At £209m in the first quarter of 2018, new orders were down 12% compared to the previous quarter and 13% compared to the same period of 2017. On a four-quarter moving total basis orders fell for a second consecutive quarter as of the first three months of this year, albeit at a more moderate rate compared with the preceding quarter.



Projects and market intelligence

Some £377m is due to be spent upgrading three of Scotland's prisons and building a new national facility for women over the next five years. Work on the first of these facilities is due to start towards the end of this year. Work also started on the new £30m Inverness

Justice Centre towards the end of last year and is due to complete in the third quarter of 2019.

Over twenty firms have been selected for a new £300m building framework for the North East Procurement Organisation. Work is due to take place across the North East and will include the construction and refurbishment of public buildings such as libraries, police stations, fire stations, primary and secondary schools as well as social housing projects. Eighteen local authorities and public sector bodies in the region will have access to the framework which is due to run for four years with the option of a two-year extension.

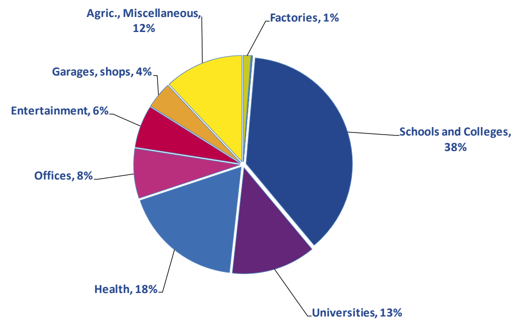
In February Bouygues UK was named as a preferred contractor for Tower Hamlets Council's £105m civic centre. The site, a former Royal London Hospital building, will see a new part-refurbished town hall. All council services will be provided on site. The council hopes the majority of the funding for the project will come through the sale of old council buildings, once staff have moved to the new location. Construction work on the scheme is due to commence later this year with completion in autumn 2021.

Bristol City Council is planning to invest over £90m to build a Bristol Arena, with capacity of 12,000. The arena is currently scheduled to open in 2020, although a contractor is not yet in place and therefore the exact date of opening is unknown.

Dartford Borough Council and Homes England signed an agreement, in March 2018, with urban regeneration specialist Muse to take forward the £75m regeneration of the town's Westgate area. The scheme aims to harness arts, hospitality and leisure to provide a mixed-use development.

Bradford District Council has chosen ISG to build its new sports and leisure facility. The 55,660 square foot centre will include an eight-court sports hall, 25 metre swimming pool, dance studios, fitness suite, café and outdoor pitches for rugby and football. The project is expected to be complete by mid-2019.

SHARE OF PUBLIC NON-RESIDENTIAL OUTPUT BY SUB SECTOR, 2017



Source: ONS

Outlook

Prospects for the offices sub-sector remain somewhat weak, with declines expected throughout the forecast period, at a gradually increasing rate. Despite strong double digit growth in 2017, output growth in the miscellaneous sub-sector is expected to moderate throughout 2018 and 2019, before activity goes into decline in 2020 as works conclude on the Ministry of Defence's Basing plan. After two consecutive years of decline to date, the entertainment sub-sector is expected to exhibit moderate average expansion throughout the forecast period, albeit inconsistently as a number of different projects start and complete.

Value Of Output Obtained By Contractors – New Work For The Public Sector — £ million current prices

	2013	2014	2015	2016	2017	2016 Q3	Q4	2017 Q1	Q2	Q3	Q4	2018 Q1
Factories	87	121	89	102	132	28	32	35	35	33	29	31
Warehouses	27	36	15	15	22	3	4	6	7	6	3	2
Oil, Steel & Coal	50	26	11	3	0	1	0	0	0	0	0	0
Schools and Colleges	4206	4217	4396	4551	4207	1247	1129	1094	1066	1083	964	820
Universities	969	1453	1827	1453	1431	384	346	330	347	390	364	323
Health	1739	1764	1437	2300	2031	671	608	551	498	518	464	384
Offices	1009	592	449	620	849	175	178	178	204	242	225	179
Entertainment	622	722	854	824	723	222	171	141	164	203	215	218
Garages, shops	84	179	223	217	454	52	63	79	107	136	132	139
Agric., Miscellaneous	1457	1251	1227	1138	1345	312	315	314	324	357	350	304
Total	10250	10364	10529	11225	11194	3094	2847	2728	2752	2968	2746	2400

Note: These figures do not include work undertaken by Direct Labour Organisations (DLOs).

Source: ONS.

Value Of Orders Obtained By Contractors – New Work For The Public Sector — £ million current prices

	2013	2014	2015	2016	2017	2016 Q3	Q4	2017 Q1	Q2	Q3	Q4	2018 Q1
Factories, warehouses, oil, st	211	53	73	100	122	7	11	33	47	28	14	30
Schools and Colleges	2340	3805	3480	2893	2991	707	579	525	852	814	800	631
Universities	1293	1699	924	1134	1252	264	347	343	225	229	455	210
Health	1134	1432	1609	1293	586	323	372	108	165	125	188	767
Offices	171	516	510	541	418	195	144	81	81	120	136	182
Entertainment	506	825	431	653	875	218	86	254	199	310	112	90
Garages, Shops	135	232	143	499	380	45	45	41	130	195	14	114
Agric., Miscellaneous	887	1280	625	1385	812	123	813	167	259	176	210	65
Total	9061	9841	7793	8500	7436	1884	2397	1553	1958	1997	1928	2090

Source: ONS.

6 Industrial construction

	Private Industrial Construction Output					Forecasts		
	2013	2014	2015	2016	2017	2018	2019	2020
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: ONS and Experian.

Summary

After contracting in 2017 industrial construction output is expected to recover slightly this year and remain stable throughout the forecast period, with a relatively buoyant outlook for the warehousing sub-sector marginally outweighing an expected downturn in the factories sub-sector.

Despite the Markit/CIPS UK Manufacturing Index seeing a mild improvement in May to 54.4, manufacturing output growth is expected to slow down over the next three years, averaging just over 1% per annum, limiting prospects for the factories sub-sector in particular. On a four-quarter moving total basis, factories output has exhibited a largely stable trend since early 2014, with only a couple of exceptions. Prospects going forward are much less promising, with Jaguar Land Rover's proposed new £500m factory in Coventry, previously expected to support output from this year onwards, now uncertain. If work were to start on the project, as well as on Bentley motors new £800m scheme, growth could be much higher than our baseline forecast suggests.

After experiencing a modest 2% recovery in 2017, warehouse output is expected to continue to grow over the next three years. Expansion is likely to be strongest this year, off the back of relatively strong orders figures for 2017 as a whole and a few ongoing projects. Thereafter, growth is expected to moderate slightly, given the drop off in orders seen in the final quarter of 2017 and completion of a few current warehouse projects.

Sector Overview

Output & orders

Industrial construction output declined by 2% to £4.37bn (2015 prices) in 2017. In the first three months of 2018 output increased by 2% quarter-on-quarter and 6% year-on-year. On a four-quarter moving total basis, output ticked up by 1% in the first quarter of 2018 after falling by the same margin in the preceding quarter.

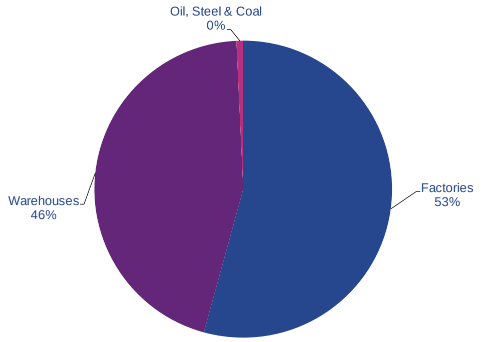
Private Industrial Construction Orders & Output

	Orders		Output	
	£ million (2005 prices)	*% change y-on-y*	£ million (2015 prices)	*% change y-on-y*
2013	3257	31	3657	-9
2014	3419	5	4244	16
2015	4223	24	4733	12
2016	3777	-11	4439	-6
2017	3884	3	4369	-2
2016 Q3	1076	-9	1084	-13
Q4	827	-9	1125	-4
2017 Q1	962	2	1053	-2
Q2	1079	16	1081	-6
Q3	1236	15	1142	5
Q4	607	-27	1093	-3
2018 Q1	1062	10	1114	6

Source: ONS.

In 2017 industrial orders partially recovered from the 11% fall in in the previous year, rising by 3% to £3.88bn (2005 prices). Between January and March this year they grew by 75% compared with the previous quarter, to £1.06bn, albeit the outturn for the final quarter of 2017 was the lowest since the third quarter of 2014. On a four-quarter moving total basis, orders picked up by 3% in the latest quarter.

SHARE OF PRIVATE INDUSTRIAL OUTPUT BY SUB SECTOR, 2017



Source: ONS

Drivers

The latest figures released by the Office for National Statistics (ONS) showed that UK GDP growth fell to a five-year low of just 0.1% (q-on-q) in the first quarter of 2018. On a per-capita basis, the economy shrunk by 0.1%.

The services industries remained the largest contributor to rising GDP, increasing by 0.3% in the first quarter of 2018, although the longer-term trend continues to show a weakening. The slowdown in services output growth over the last year has been underlined by anaemic gains in consumer spending. In final quarter of 2016 the consumer facing industries grew by 5.9% compared to the same period the previous year, outstripping the rises in total services output of 2.5%. However, by quarter one of 2018 the gains had slowed to just 0.4%, acting as a drag on total services outturns, which rose by 1.2%.

Value Of New Industrial Output			£ million current prices	
	Factories	Warehouses	Oil, Steel & Coal	Total Industrial
2013	2043	1203	312	3558
2014	2309	1765	125	4202
2015	2705	1955	73	4734
2016	2475	2060	63	4597
2017	2536	2104	34	4675
2016 Q3	649	513	13	1175
Q4	643	525	13	1181
2017 Q1	563	478	10	1052
Q2	617	524	9	1150
Q3	714	571	8	1293
Q4	642	531	7	1180
2018 Q1	597	519	9	1124

Source: ONS.

An uptick in the increases in production output to 0.7% in the first quarter of 2018, from 0.4% in the previous quarter represented a rare bit of good news in the latest data. However, manufacturing output growth slowed to 0.2%, with the slowdown spread across a number of manufacturing industries.

Value Of New Industrial Orders Obtained By Contractors			£ million current prices	
	Factories	Warehouses	Oil, Steel & Coal	Total Industrial
2013	1372	1389	239	3605
2014	2365	1567	2	3934
2015	2766	2208	20	4993
2016	2602	1968	50	4620
2017	2464	2426	16	4905
2016 Q3	812	513	0	1325
Q4	617	361	50	1028
2017 Q1	713	489	0	1201
Q2	672	672	11	1355
Q3	653	916	0	1569
Q4	426	349	5	780
2018 Q1	563	806	5	1374

Source: ONS.

Some of the weakness in the latest data can likely be attributable to the exceptionally bad weather in March, particularly in the construction sector, although according to the ONS the impact was generally small. The services industries were stated to have been broadly unaffected and there was little evidence to show that the decline in the manufacturing sector was due to the effects of the snow.

In the coming quarter we may see a slight bounce back in growth as the extent of the impact the poor weather had on output unwinds. But the underlying weaknesses in the economy is set to persist.

In the final quarter of 2017 real household disposable income growth slowed to 0.1%, compared with 0.3% in the previous quarter, as the impact of inflation on income intensified. This led to a 0.1% decline in real incomes on a per-head basis.

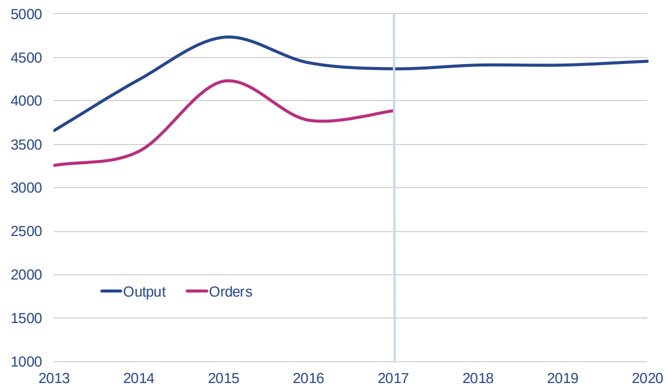
Household spending grew by 0.3% unrevised from the previous estimate. However, the annual rate of growth for 2017 is now 1.7%, the lowest it has been since 2011. The reduced increases were broad-based across the categories of household spending, and can, in part, be explained by the rise in prices faced by consumers.

At 55.5, May's Final IHS Markit Eurozone Manufacturing PMI was at a 15-month low. The upturn in the eurozone manufacturing sector showed further signs of cooling in May. Rates of expansion in output and new orders both slowed, with increases in employment and backlogs of work also losing momentum. Input cost inflation rose for the first time in four months, whereas the rate of increase in output charges slowed further.

The Markit/CIPS UK Manufacturing Index saw a mild improvement in May to 54.4, up slightly from April's 17-month low of 53.9, to signal growth for the twenty-second straight month. Although growth of production accelerated to its best showing of the year-so-far, this was mainly achieved through the steepest build-up of finished goods inventories in the 26-year survey history and a sharp reduction in backlogs of work. Growth of incoming new business remained solid in May, but the pace of expansion eased to an 11-month low, reflecting a softer increase in new work from the domestic market. The pace of job creation in the manufacturing sector also lost momentum in May, while UK manufacturers also faced rising cost inflation and supply-chain pressures.

According to JLL's latest UK *Big Box Industrial and Logistics Market January 2018* report, occupier take-up in 2017 was 36% down on 2016 and 11% down on the 10-year average (2008-2017). Retailers were the most active source of demand in 2017 accounting for 37% of take-up. Grade A availability at the end of 2017 was 3% lower than mid-2017 but 21% higher than the end of 2016.

PRIVATE INDUSTRIAL ORDERS (2005 PRICES, £M) AND OUTPUT (2015 PRICES, £M)



Source: ONS, Experian

Outlook

Despite declining for a second consecutive year as of 2017, sector output did so at a more moderate rate. The fall was entirely attributable to the factories sub-sector, which is expected to place downward pressure on the overall sector forecast over the coming years. A reasonably buoyant forecast for the warehouses sub-sector, supported by a number of small and medium sized developments, is expected to outweigh this, however, staving off overall declines. More modest expansion is predicted for 2019 and 2020 as the number of projects starting on site decline. However, should work commence on Bentley Motor Ltd's £800m extension of its Crewe headquarters or Jaguar Land Rover's Coventry factory, output could grow at a much faster pace post 2018. Further potential upside risks are that the declines that we are seeing in traditional retail with the rise of online retailers could lead to a greater need for new distribution facilities, and a much more stringent system of import/export checks post-Brexit could force companies to hold a larger stock of components and goods than is currently the case.

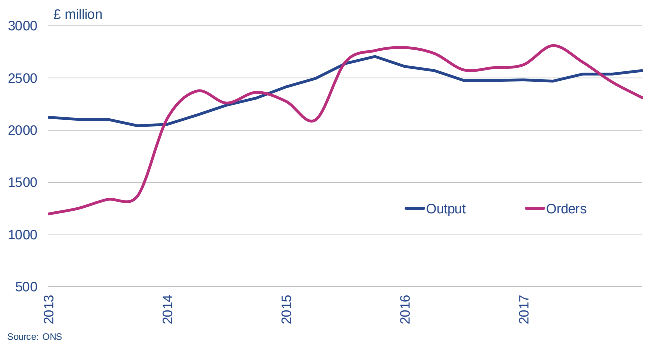
Factories

Output & orders

In 2017 factories output grew by 2% to £2.54bn (current prices), after experiencing a decline in 2016. In the first three months of this year, however, quarter-on-quarter output fell for a second consecutive period, dropping 7% to £597m. After a quarter of no change at the end of 2017, the four-quarter moving total for the factories sub-sector ticked up by 1% in the three months to March 2018.

Factory orders decreased by 5% to £2.46bn (current prices) in 2017. Orders have since experienced a recovery in quarter-on-quarter terms, with a 32% rise to £563m in the first quarter of 2018 following on from three preceding quarters of decline. On a four-quarter moving total basis, however, orders decreased slightly for a third consecutive period as of the latest figures.

FACTORIES ORDERS AND OUTPUT
4 Quarter Moving Totals



Projects and market intelligence

According to Experian Economics manufacturing output growth is expected to slow over the next three years, averaging just over 1% per annum and falling close to 0.5% year-on-year by 2020. This suggests that general demand for factory space will be weak.

Siemens have released plans to create a £200m state-of-the-art train factory on a site in Goole, just off M62 motorway.

After the collapse of the Circuit of Wales scheme at Ebbw Vale, a £100m 'Tech Park' has been proposed for the area, to be built out over 10 years. The first project on the site is likely to be the conversion of the former Techboard building to house a manufacturing facility for car maker TVR, which should complete in 2019.

In November work began on Peel Logistics Property's and Progroup's new £75m manufacturing facility in Ellesmere Port. The site is adjacent to the M53 motorway and the 328,000 square feet plant is on the former Cabot Carbon grounds. The facility is likely to be fully operational by the end of this year and it will have the ability to generate up to 500 million square metres of corrugated cardboard per year.

Outlook

After experiencing a second consecutive year of decline in 2017, the factories sub-sector is expected to contract throughout the forecast period, undermined by the recent drop-off in new orders, an expected slowdown in manufacturing output growth and apparent uncertainty over the status of Jaguar Land Rover's proposed new factory in Coventry. The forecast declines are expected to moderate slightly over the forecast period, however, as UK GDP growth gradually accelerates. By the end of 2020, factories output is predicted to be around £2.25bn, accounting for around 50% of total industrial output.

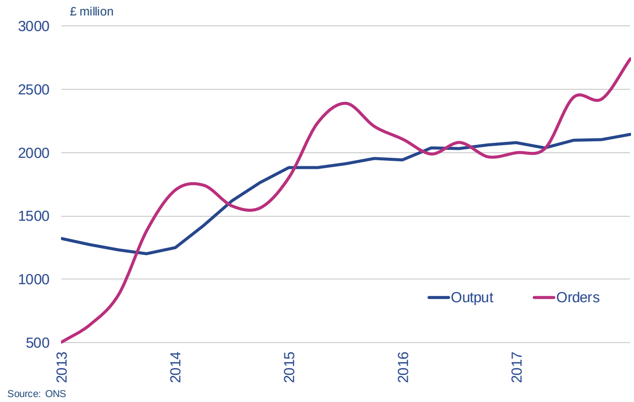
Warehouses

Output & orders

Warehouse output experienced a 2% rise to £2.1bn (current prices) in 2017. This was the fourth consecutive year of expansion, albeit at a gradually slowing rate, with the 2017 output figures only making up 68% of their 2007 peak. In the first quarter of this year, output edged down by 2% to £519m compared with the preceding quarter. On a four-quarter moving total basis, output increased slightly in the first quarter of this year, given the relatively weak output figure seen in the first quarter of 2017.

Warehouse orders also experienced a recovery in 2017, rising 23% to £2.43bn. In the first quarter of this year they jumped by 131%, albeit from a low outturn in the previous quarter.

WAREHOUSES ORDERS AND OUTPUT
4 Quarter Moving Totals



Projects and market intelligence

Following the completion of the speculative 90,000 square feet urban logistics unit at Segro Park Bracknell, Segro have also been granted planning consent for two light industrial or logistics units of 60,000 and 31,000 square feet, with the next phases of construction imminent. The 2018 development pipeline is skewed towards units under 200,000 square feet. The outlier was Altitude in Milton Keynes

- a 574,000 square foot unit - which was completed in early 2018.

Despite receiving earlier approval by Harborough District Council's planning committee, the proposal to double the size of Magna Park near Lutterworth, Leicestershire – Europe's largest distribution centre - were rejected by 12 votes to 10. Developer Gazeley said it would "reassess" its application and would continue to work with the council.

Demolition work has just completed on Lynefield Park in Northumberland. Once construction work is complete the park will provide up to 1.3 million square feet of warehouse, manufacturing and local start up space.

A 110,000 square foot multi-let industrial development is underway at Vertex Park, Bristol, after detailed planning consent was granted. Completion is due in late 2018. Ten speculative new industrial units are also under construction at Bridgwater Gateway business park in Somerset, Meanwhile, the go-ahead for the £18m upgrade to an M5 junction could prove the catalyst for the new business park in Taunton, Nexus 25.

At the beginning of this year the green light was given for a £25m extension to Arco's warehouse in Hull. The 220,000 square foot development will allow Arco to double its warehouse and logistics capacity.

Outlook

After experiencing a modest recovery in 2017, warehouse output is currently forecast to continue expanding over the next three years. Growth is likely to be strongest this year, off the back of relatively strong orders figures for 2017 as a whole. Sub-sector output is expected to moderate slightly thereafter, with the drop in orders seen in the final quarter of 2017 and the winding down of a few current warehouse projects placing downward pressure on the forecast. By the end of 2020, warehouse output is predicted to be around £2.18bn, accounting for around 49% of total industrial output.

A possible upside risk to the warehouse forecasts is the uncertainty surrounding the UK's future customs system. If it takes longer for businesses to import goods, they may decide to hold more stock, potentially leading to a rise in the number of new warehouse developments, especially around major ports.

7 Private Commercial Construction

Private Commercial Construction Output						Forecasts		
	2013	2014	2015	2016	2017	2018	2019	2020
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: ONS and Experian.

Summary

Latest commercial output data indicates that the uncertainty surrounding Brexit is beginning to take its toll on sector with output down by 2% and 7% on a quarterly and annual basis respectively.

Our commercial construction forecasts have seen minor changes since the spring edition. Heavy falls in activity are expected this year before a smaller decline in output in 2019. The sector is anticipated to stabilise by 2020.

The largest sub-sector, offices, is expected to be the hardest hit by the on-going uncertainty around Brexit negotiations. This is anticipated to make investors and developers less likely to bring forward new projects in the immediate future. Thus, over the next two years, office output is predicted to see heavy declines. However, anecdotal evidence suggests there are projects ready to hit the ground running once there is more clarity on Brexit, therefore we do expect some modest expansion in office output towards the end of the forecast period.

The next biggest sub-sector, leisure, is projected to see a small fall in output this year before steady growth returns thereafter. The London Resort £3.2bn theme park planned for Swanscombe in Kent has been excluded from our projections as the latest news indicates work will start outside our forecast period.

Recently the headlines have been dominated by the announcement of retail store closures with the latest victim being House of Fraser. With more and more vacant retail units on the market there is little incentive to build new ones. Consequently, we have predicted a moderate fall for retail output in 2018 with more modest declines for 2019 and 2020.

It is difficult to be positive about the education and health sub sectors due to a dearth of projects on the ground and in the pipeline. In our previous reports, we mentioned that there were only three English hospital projects that were currently under construction. Unfortunately, this has now dropped to two as the government has recently decided it does not want to use the current Private Finance Initiative (PFI) contract to fund the completion of the £350m Midland Metropolitan Hospital. It is not clear yet on whether the government will issue a new PFI contract or it will fund the completion itself.

Sector Overview

Output & orders

Private Commercial Orders and Output				
	Orders		Output	
	£ million (2005 prices)	*% change y-on-y*	£ million (2015 prices)	*% change y-on-y*
2013	12462	*8.5*	24023	*0.0*
2014	14405	*15.6*	25540	*6.3*
2015	13621	*-5.4*	26219	*2.7*
2016	14110	*3.6*	28183	*7.5*
2017	12991	*-7.9*	29743	*5.5*
2016 Q3	3531	*6.0*	7104	*9.5*
Q4	2945	*-24.5*	7283	*8.2*
2017 Q1	3741	*-2.9*	7569	*10.9*
Q2	3006	*-20.5*	7573	*8.6*
Q3	3200	*-9.4*	7414	*4.4*
Q4	3044	*3.4*	7187	*-1.3*
2018 Q1	2676	*-28.5*	7053	*-6.8*

Source: ONS.

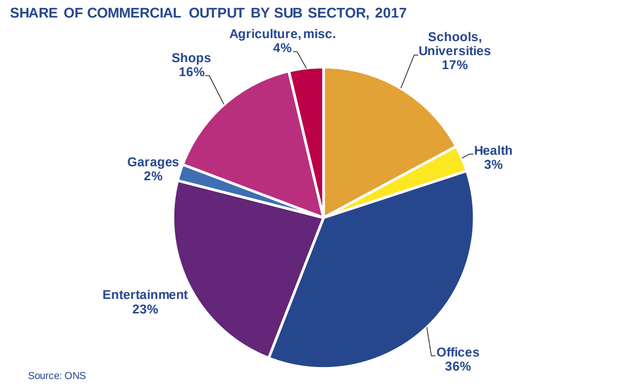
The latest output data suggests that overall activity in the sector is beginning to decline, largely due to the uncertainty surrounding Brexit. Output increased for the fourth consecutive year in 2017, by 6% to

£29.74bn (2015 prices). However, in the first three months of this year, on a quarterly basis, it declined by 2% to £7.05bn and by 7% year-on-year. On a four-quarter moving total basis, output decreased for the second successive quarter between January and March 2018.

On a current price basis, in the first quarter of 2018 commercial output (£7.4bn) was 6% down on the previous quarter. The largest sub-sector, offices, experienced a decline of 7% to £2.67bn. The leisure and education ones also saw output fall, by 2% and 10% respectively.

New orders declined by 8% to £12.99bn (2005 prices) in 2017, around 43% of their 2006 peak. Between January and March 2018, orders fell by 12% to £2.68bn compared with three months earlier and were around 28% lower year-on-year.

On a current price basis, they were down by 6% to £16.66bn last year. In the three months to March 2018, heavy falls were registered in the leisure, retail and agriculture and miscellaneous sub-sectors on a quarterly basis. However, offices orders recovered a little from their fourth quarter of 2017 low, when they sunk below £1bn for the first time since the first quarter of 2013.



Drivers

Office, retail and leisure construction are driven in the main by the wider economic environment, corporate profitability and levels of consumer confidence and spending. Public capital investment, and the share delivered through privately-financed routes, is the primary driver of the health, education and miscellaneous sub-sectors.

The latest figures released by the Office for National Statistics (ONS) showed that UK GDP grew by 0.1% on a quarterly basis in the first three months of this year, unrevised from the preliminary estimate. This is the smallest increase in over 5 years and represents a 0.1% contraction on a per-head basis.

The slowdown in GDP growth continues to be driven largely by an easing in the gains in the consumer-facing industries. The services industries grew by

Value of New Commercial Orders Obtained by Contractors — £ million current prices

	Schools, Universities	Health	Offices	Entertain-ment	Garages	Shops	Agriculture, Misc.	Total Commercial
2013	1795	360	3323	2372	89	2271	278	13563
2014	2599	663	5877	3489	129	3506	653	16916
2015	2846	611	6255	3541	214	2660	561	16690
2016	2948	622	6458	3953	310	2782	664	17736
2017	2788	580	4938	4899	311	2581	560	16657
2016 Q3	609	150	1394	1283	100	738	179	4452
Q4	531	71	1420	925	62	553	173	3734
2017 Q1	755	150	1622	1642	44	397	138	4748
Q2	778	131	1186	939	85	564	143	3825
Q3	691	185	1181	897	107	981	88	4130
Q4	564	114	949	1421	75	639	191	3954
2018 Q1	625	155	1070	914	98	490	153	3503

Source: ONS.

0.3% quarter-on-quarter and by 1.2% in the year to the first quarter of 2018. This compares unfavourably to average annual gains of 1.5% last year, and 2.5% in 2016.

Weakening service sector output growth in the first quarter of the year was underlined by a tepid 0.2% increase in household spending, the shallowest rise in three years.

Business investment also disappointed, contracting by 0.2%. Brexit related uncertainty appears to be holding back UK firms from investing as freely as they otherwise would. Furthermore, there was a 0.6% contraction in total exports, with manufacturing once more failing to capitalise on the weakness in sterling, growing by just 0.2%.

Real household disposable income data showed an easing in growth to 0.1% quarter-on-quarter between October and December 2017, compared with 0.3% in the previous quarter, as the impact of inflation on income intensified. This led to a 0.1% decline in real incomes on a per-head basis, and underlined a weak increase in household spending, of 0.3%. The annual rate of household spending growth for 2017 as a whole came in at 1.7%, the lowest it has been since 2011.

The pressures facing household budgets eased somewhat in the first quarter of 2018, with real incomes now growing. Inflation was 2.4% in May, unchanged from the previous month but down from 3% at the beginning of the year. At the same time employee pay growth has been accelerating, coming in at 2.9% excluding bonuses and 2.6% including bonuses in the year to January-March.

Overall, accelerating pay growth will offer consumers some welcome relief. However, with household budgets being constrained for some time, the savings rate near historic lows and borrowing remaining relatively high there is little room for a spending splurge. Thus, we expect consumption to experience negligible growth this year with small improvements in 2019 and 2020.

Employment gains remain strong, however, a slightly less reassuring message relates to productivity. Output per hour, a measure of productivity, declined by 0.5% during the first quarter following two quarters of strong growth at the end of last year.

Consumer price inflation (CPI) remained at a one-year low of 2.4% in May, unchanged from April. Core inflation, which strips out the most volatile components of the index also held steady, at 2.1%. Rising motor fuel prices produced the largest upward contribution to the change in the 12-month rate between April and May. There was also a large upward effect from air and sea fares, partly reflecting the timing of Easter. Partially offsetting downward effects came from price changes for games, domestic

Value of New Commercial Output by Contractors — £ million current prices

	Schools, Universities	Health	Offices	Entertain-ment	Garages	Shops	Agriculture, Misc.	Total Commercial
2013	2626	1471	6578	4687	352	4542	3374	23630
2014	3943	1250	7483	5181	361	5565	2159	25943
2015	4506	1051	8561	5346	299	5798	1431	26991
2016	5018	1227	10610	6044	392	5129	1374	29793
2017	5500	902	11527	7386	568	4984	1187	32055
2016 Q3	1334	327	2859	1605	98	1298	323	7844
Q4	1379	291	2805	1644	110	1295	292	7815
2017 Q1	1386	252	2770	1688	129	1269	277	7772
Q2	1415	231	2895	1783	153	1279	302	8058
Q3	1412	218	2996	1951	154	1284	313	8327
Q4	1287	201	2866	1964	132	1152	295	7898
2018 Q1	1159	213	2671	1919	117	1066	257	7402

Source: ONS.

electricity, food and non-alcoholic beverages, furniture and furnishings.

While our forecasts only go out to 2020 it is probably worth mentioning there has been a long-term shift in Experian's macroeconomic forecasts. This is due to the ONS' downgrade in its population projections and various data sources indicating a productivity downgrade. This has led to slower GDP growth compared to six months ago. Thus, the GDP long-term average growth rate is now 1.7%, lagging the annual average expansion rate of 2% between 1991-2016.

GDP growth is expected to slow to 1.3% this year before it increases to 1.5% in 2019 and 2020. If inflation undershoots or comes off faster, consumption could rise at a faster rate providing an upside risk. Quicker wage increases could also lead to higher consumption levels. However, the uncertainty surrounding the current Brexit negotiations leave the UK vulnerable to a further fall in sterling, which would lead to higher inflation than initially anticipated.

Recent indicators for the commercial sector remain largely downbeat. The Royal Institution of Chartered Surveyors' (RICS) *Commercial Property Market Survey* for the first quarter of 2018 indicates that tenant enquiries in the offices sub-sector went up for the first time since the first quarter of 2016, albeit only marginally. In contrast, demand for retail units dropped at an accelerating rate. With a net balance of -43%, this is the weakest reading since 2009.

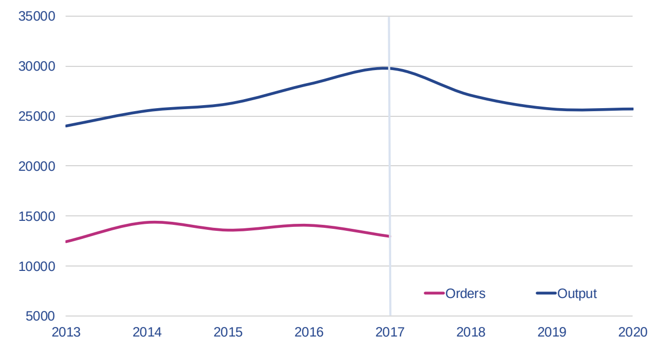
According to RICS's *Construction and Infrastructure Market Survey* for the first quarter of 2018, at +19%, private commercial workloads were broadly unchanged compared to the previous three months. This growth in activity is in line with the average of the past two years.

Outlook

Our commercial construction forecasts have seen minor changes since the spring with slightly weaker projections in 2018 and 2020 and a mild improvement for 2019.

The biggest sub sector, offices, is proving, as expected, to be most vulnerable to Brexit related uncertainties resulting in a more cautious attitude by investors and developers in bringing new projects forward. Thus, output for office construction is now on a general downward trend while office orders started falling from 2017. Retail construction continues to be negatively impacted by changes in consumer habits, and the recent spate of store closures provides little impetus to build more retail units. Output in the leisure sub-sector has been running at record high levels, but we are predicting a small decline in activity this year before modest expansion returns in the following two years. In the education field there is little in the way of school work coming through under privately funded initiatives, leading to declines in output throughout the forecast period.

COMMERCIAL ORDERS (2005 PRICE, £M) AND OUTPUT (2015 PRICES, £M)



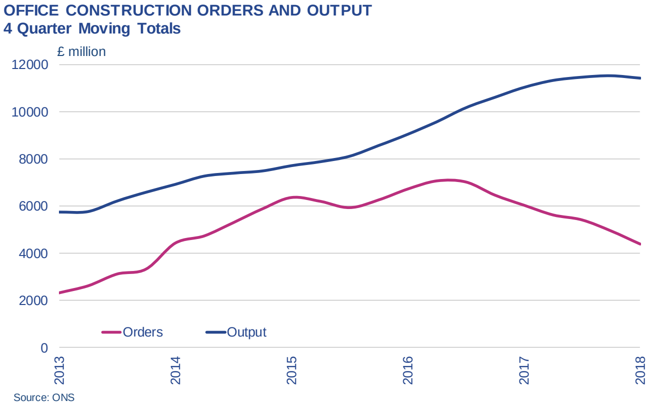
Source: ONS, Experian

Offices

Output & orders

Office construction output increased for the fifth year running in 2017, by 9% to £11.53bn (current prices). However, this growth rate is much smaller compared to that of the past few years. In the first quarter of 2018, output declined by 7% to £2.67bn compared to three months earlier and by 4% on an annual basis. After rising for nineteen consecutive quarters, on a four-quarter moving total basis, output decreased in the three months to March this year.

New orders dropped by 24% to £4.94bn in 2017. Between January and March this year orders went up by 13% to £1.07bn on a quarterly basis but went down by 34% year-on-year. On a four-quarter moving total basis, orders declined for the seventh successive quarter in the three months to March 2018.



Projects and market intelligence

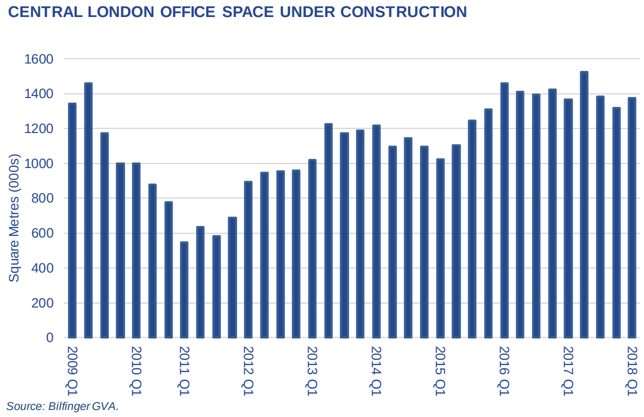
The main engine of office growth is the professional & other private services sector. However, the information & communication and finance & insurance ones also play a key role. Historically the information & communication sector has always been the smallest of the three, however this year it is estimated to experience growth of 3.4%, surpassing the finance & insurance one to become the second largest sector. Smaller expansion is anticipated for the professional & other private services (2%) and finance & insurance (0.3%) ones.

Over the next three years, the information & communication industry is projected to see the largest average yearly increases of 2.5% while the corresponding rates for professional & other private services and finance & insurance sectors are 1.8% and 1.3% respectively.

As expected, majority of the evidence suggests there is going to be a lack of office space under construction over the short term. JLL's *Central London office market report Q1 2018* suggests the current new build stock under construction and deliverable this year is around 1.4 million square feet. This is 0.4 million square feet below the ten-year average. There is potential for a lack of new build stock over the next two years. Pre-leasing has been a key feature of the central London market over the last few years and it is expected to continue, exacerbating this shortage, unless new schemes start on site.

According to the first quarter 2018 *Central London Office Analysis* from Bilfinger GVA, take-up totalled 2.5 million square feet during the first three months of this year. This is 21% higher year-on-year but down by 11% compared to the previous quarter. In terms of availability, in central London there was 11 million square feet available in the three months to March 2018, 9% higher on an annual basis. There were seven buildings totalling 1 million square feet that were also completed, which include four buildings over 100,000 square feet. Of the total space delivered, 50% was let either before or immediately after completion.

There was around 2.5 million square feet of construction work that started in the first quarter of this year with around 14.8 million square feet currently under construction. Last year 6.8 million square feet of offices were completed and this is expected to fall to 6.5 million square feet in 2018. However, completions are expected to rise to 7.1 million square feet in 2019.



One of the largest current London office development projects on the ground is Google's new £1bn head office in Kings Cross. Once complete, the building, along with other existing ones on site, will house approximately 7,000 employees.

According to Bilfinger GVA's latest *Big Nine* report for the first quarter of 2018, demand is similar to last year with major deals for the Government Property Unit (GPU), professional service occupiers and co-working.

GPU's pre-lets in Glasgow and Manchester were the top two deals within city centre take-up and they were the final GPU deals for the initial phase of the Government's relocation strategy. Professional services also made key deals with engineers WSP pre-letting The Mailbox in Birmingham. The co-working sector saw a few medium-sized deals in the first three months of this year.

There are speculative developments in the pipeline such as Cadworks and Atlantic Square in Glasgow and 100 Embankment in Manchester. Going forward, the lack of grade A supply is likely to lead to continued interest in quality secondary units.

Property developer Salmon Harvester received planning permission for a 210,000 square foot office development, 4 Glass Wharf, in Bristol at the start of 2018.

Carillion had been working on the site of the Vaux brewery in Sunderland until it collapsed at the beginning of the year. The project includes new retail, office and residential buildings. Tender documents have been released to secure a new contractor to continue with the development.

Plans for the next phase of Leeds city centre's Wellington Place development have been unveiled, with a view to commence work during the second half of 2018 and complete in 2020. The plans include 130,000 square feet of Grade A office accommodation, 17,000 square feet of retail and leisure space, a basement car park and landscape works.

Outlook

The on-going uncertainty around Brexit negotiations has made investors and developers warier of taking new projects forward. Thus, heavy declines are projected for commercial construction output over the next two years. However, anecdotal evidence suggests there is a pipeline of projects that are 'shovel ready' i.e. they have already gone through the design and planning stages. Hence, there is an expectation that once confidence returns to the market, we could see development starting on the ground much quicker than would otherwise be the case, leading to modest expansion in 2020.

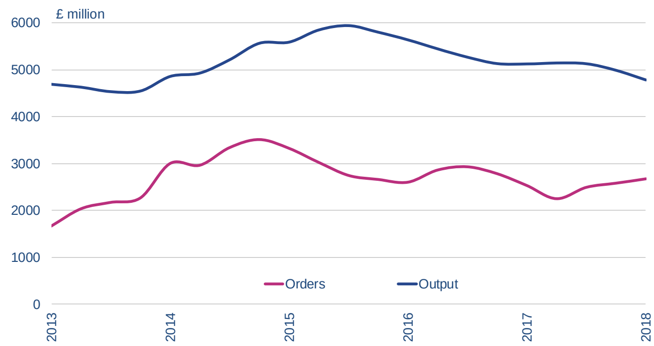
Retail

Output & orders

Retail construction output fell for the second consecutive year in 2017, by 3% to £4.98bn.In the year to March 2018 activity fell by 16% to £1.07bn compared with the corresponding period in the preceding year. On a four-quarter moving total basis, output decreased for the tenth successive quarter between January and March 2018.

New orders for retail construction fell by 7% to £2.58bn in 2017, around 38% of their 2006 peak. In the first three months of this year they grew by 23% to £490m year-on-year but decreased by 23% compared to three months earlier. On a four-quarter moving total basis, orders went up for the third quarter running in the first quarter of 2018.

RETAIL CONSTRUCTION ORDERS AND OUTPUT
4 Quarter Moving Totals



Source: ONS

Projects and market intelligence

Retail construction activity is driven by the health of the retail sector, which in turn depends on the level of consumer spending and the general state of the economy.

Consumer spending is driven by incomes, confidence, inflation, credit and savings.

Comparing January-March with a year earlier, pay for employees in Great Britain increased by 2.9% excluding bonuses, and 2.6% including bonuses. This is the first time pay gains have outstripped Consumer price inflation (CPI) inflation since the first three months of 2017.

CPI remained at its one-year low of 2.4% in May, unchanged from April. Over the next few months, petrol prices should continue to make an upward contribution to CPI, although global oil price movements are volatile and in June so far there has been a retrenchment from the May high. Offsetting any upward impact from petrol prices will be the increasingly downward impact of import cost pressures linked to sterling's weakness. We expect inflation to gently fall this year, though linger above the Bank of England's 2% target.

In the coming months, the continued pricing out of the devaluation of sterling following the EU referendum vote is anticipated to underline an easing in goods prices. However, the impact on overall CPI is expected to be tempered by a continued modest rise in services inflation, as pay growth picks-up.

Accelerating gains in pay will be underlined by tight labour market conditions. The unemployment rate is near an historic low, the flow of overseas workers into the UK is slowing, job vacancies are rising and competition for workers is intense.

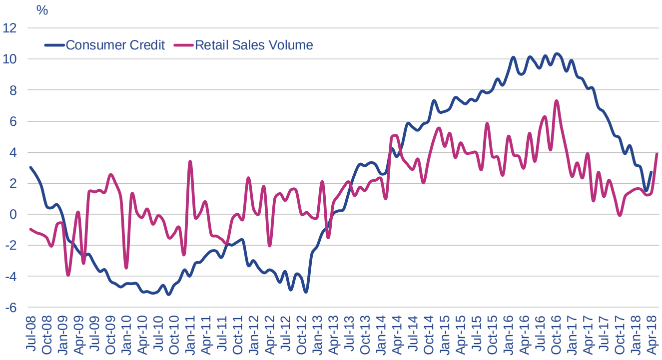
GFK's consumer confidence index rose by 2 points to -7 in May. Consumers were mildly positive about their personal financial situation, but remain resolutely downbeat about the general state of the economy. The index has been in negative territory for 29 months now, and there appears to be little motivation to spend, with the major purchase index dropping by 2 points.

Net lending for consumer credit was £1.8 billion in April, up from £0.4 billion in March, and higher than the six-month average of £1.3 billion. In the 12–months to April consumer credit grew by 8.8%, up from 8.6% a month earlier. The uptick in growth was underlined by a 0.2 percentage point acceleration in other loans and advances growth, to 8.7%, while the gains in credit card lending were unchanged at 8.9%.

The household saving ratio fell slightly to 5.3% in the final quarter of last year but dropped to an annual record low of 4.9% in 2017 as a whole (since comparable records began in 1963) as growth in households' spending exceeded the growth of households' income.

In May, retail sales volumes increased by 1.3% on a monthly basis. This underlined growth in volumes in the year to March-May of 2.1%, the largest increase since June last year. While the latest set of retail sales data is encouraging, underlying conditions for UK retailers remain challenging. Household budgets remain significantly constrained. These pressures should slowly ease through the reminder of the year, however there is little scope for a spending splurge as the savings rate hovers just above historic lows and consumer credit growth is near all-time highs. Furthermore, the exceptionally good weather, and in the case of the food sector the royal wedding, undoubtedly played some part in boosting sales in May. This is expected to unwind to some degree in the coming months. Given this backdrop, a more sustained return to buoyancy in sales volumes is unlikely to materialise this year.

ANNUAL GROWTH IN RETAIL SALES AND CONSUMER CREDIT



Source: ONS, Bank of England.

In recent months, there has been a spate of retail store closure announcements. The latest one comes from House of Fraser (HoF) which plans to close 31 of its 59 stores. Some towns are more likely to be affected by this than others but an example of one that is hard hit is Darlington. Its high street has already seen the closure of BHS with upcoming closures of Binns (a HoF outlet) and Marks & Spencer. With an increasing amount of retail space coming on to the market there is little incentive to build new units.

The green light has been given to build London's largest Boxpark in Wembley Park. Boxpark Wembley, a new 50,000 square foot pop-up mall is a joint venture between Boxpark and Quintain. The mall will incorporate 27 food and drink businesses as well as 20,000 square feet of events space.

Preliminary work commenced recently on the £160m McArthurGlen Designer Outlet Village, formerly known as Mill Green, in Staffordshire. The 26,500 square metre retail park is predicted to create more than 1,000 jobs, with 100 shops expected to open by spring 2020.

Firms have been shortlisted for the delivery of a 130,000 square foot retail development in Kirby town centre, Merseyside. The scheme will include 76,000 square feet of retail units, a Morrisons supermarket, two fast food outlets and a car park. Demolition work is currently underway on the site with construction work expected to commence in the autumn.

Outlook

The retail sector is going through turbulent times with a number of issues leading to adverse effects on the high street. One of the key reasons is a shift towards online shopping. The rise in inflation post the EU referendum result, which led to a fall in real incomes only added to the woes of the sector. Going forwards there is no sign of any demand for new large scale retail units. This has led us to forecast moderate falls for retail output this year with more modest declines for 2019 and 2020. There is on-going work on both Aldi and Lidl's expansion plans but they are not large enough to stop a decline in activity elsewhere in the sector. Indeed, the sector accounted for around 27% of total commercial output at its peak in 2004 (on a constant price basis). This share is expected to fall to 16% by 2020.

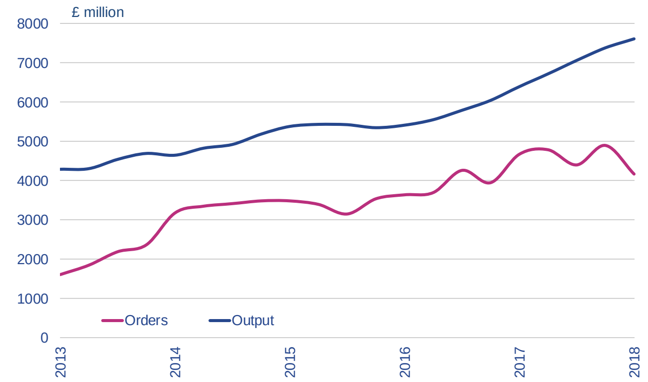
Leisure

Orders & output

Leisure construction output increased for the fifth successive year, by 22% to £7.39bn, a new high. In the three months to March 2018, activity edged down by 2% to £1.92bn compared with the previous quarter but rose by 14% on an annual basis.

In 2017 leisure orders went up for the fifth year running, by 24% to £4.9bn – a new peak. In contrast, orders plummeted by 36% to £914m in the first quarter of 2018 compared with three months earlier and they were also down by 44% year-on-year.

LEISURE CONSTRUCTION ORDERS AND OUTPUT
4 Quarter Moving Totals



Source: ONS

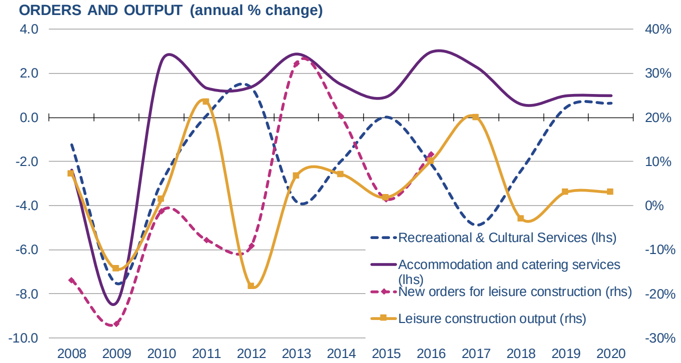
Projects and market intelligence

Like the retail sub-sector, leisure construction is heavily reliant on the health or otherwise of consumer spending.

Expenditure on recreational & cultural services fell by 2.1 percent in 2016. The decline is estimated to have accelerated in 2017, to just under 5% as disposable incomes and thus consumer spending came under increasing pressure. A smaller decrease is projected for this year as pay growth begins to rise with a flatter spending profile for 2019 and 2020.

In contrast, spending in the accommodation & catering sector has performed better, with expansion of 3% in 2016 and an estimated growth rate of 2.3% in 2017. However, over the next three years, growth is expected to slow considerably.

GROWTH IN CONSUMER EXPENDITURE ON LEISURE ITEMS v LEISURE CONSTRUCTION ORDERS AND OUTPUT (annual % change)



Source: ONS, Experian.

As has been mentioned in previous reports, the main reason for the differential in growth rates between the two sectors is down to the relative expenditure patterns of overseas tourists compared with domestic day visitors, with the former spending proportionally more on accommodation & catering and the latter on recreational & cultural services.

According to the latest Office for National Statistics' *Overseas travel and tourism* data, on a non-seasonally adjusted basis the number of overseas visitors to the UK grew by 3% between January and December 2017 compared to the corresponding period in the preceding year. Respondents stating they visited the UK for holiday purposes increased by 9% while those visiting friends or relatives went up by 3%. In contrast, those on business visits declined by 5%.

A rise in tourism should provide demand for increased hotel space. In March, Travelodge announced plans for twenty new hotels in the UK. Around £240m will be invested into this expansion.

Work on the new Hilton hotel in Stockton is underway with the first steelworks going up in February. The site is located on an old dairy car park on Church Road. Construction work on the six-storey building should be complete by next year.

There are also several hotels in London that should see completion this year such as Hotel Indigo in Aldgate, MOXY at Heathrow Airport and Lincoln Plaza in Canary Wharf.

In January work started on a new cinema in Eltham, south east London. As well as a six-screen cinema, which will be run by Vue, the complex will also include Nando's and Pizza Express. Main construction work is expected to be complete by the end of this year before Vue fit-out the cinema, for opening in March 2019. This development is part of a larger regeneration of the high street.

A £55m scheme to transform Wolverhampton city centre, which will see a new cinema and restaurants built, has been approved. A multiplex cinema, 50,000 square feet of additional leisure space, new restaurants covering 40,000 square feet, a 100-plus bed hotel, and a multi-storey car park are lined up for phase one of the project. Construction on this phase is due to start this year and is expected to be complete in 2020, with phase two finishing in 2022.

Premier league club Chelsea has announced that its redevelopment at Stamford Bridge is on hold due to 'the current unfavourable investment climate'.

Outlook

Leisure output is estimated to see a small decline this year before modest growth returns for 2019 and 2020. By the end of the forecast period, output is likely to reach a new high of £7.05bn (2015 prices). We have excluded The London Resort's £3.2bn theme park planned for Swanscombe in Kent as latest news suggests construction on the park will not start during the current forecast period.

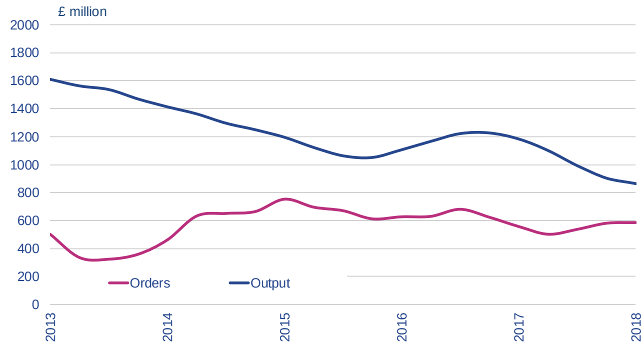
Health & education

Output & Orders

Privately-funded health construction output dropped by 26% to £902m in 2017, around 21% of its 2008 peak. Between January and March this year, while output climbed by 6% to £213m compared to three months earlier it was still down by 15% year-on-year. On a four-quarter moving total basis, output declined for the fifth consecutive quarter in the first quarter of 2018.

New orders decreased by 7% to £580m last year and they were just 12% of their 2006 peak. In the first three months of 2018, orders went up by 36% to £155m on a quarterly basis and by 3% compared with the same period in the preceding year. On a four-quarter moving total basis, orders rose for the third successive quarter in the three months to March this year.

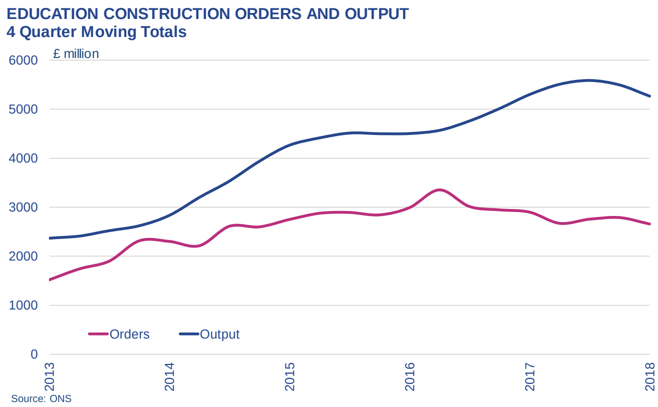
HEALTH CONSTRUCTION ORDERS AND OUTPUT
4 Quarter Moving Totals



Source: ONS

Privately-financed education construction output increased for the sixth consecutive year, by 10% to £5.5bn, a new high. However, in the first three months of this year it declined by 16% to £1.16bn compared to the corresponding period in the preceding year. On a four-quarter moving total basis, output fell for the second consecutive quarter between January and March 2018.

New orders for education construction went down by 5% to £2.79bn in 2017. In the three months to March this year, on a yearly basis, they decreased by a 17% to £625m. However, they increased by 11% quarter-on-quarter.



Projects and market intelligence

The latest autumn 2017 government *National Infrastructure and Construction Pipeline* (NICP) lists a total of 46 projects under the health and education sub-sectors. However, over 90% of these are funded from central government alone with the remaining seeing part central government part private investment.

Banks will no longer be funding the £350m Midland Metropolitan Hospital as the government has recently decided it does not want to use the current PFI contract to fund the completion of the scheme. The project is due to be handed over to the National Health Service (NHS) over the next few weeks. Given this further delay, a completion date of 2022 is expected instead of 2020. However, if the government decides to fund the remainder of the development itself instead of issuing a new (PFI contract, output for the project will show up in the public non-residential sector.

In England, the only two hospitals to see major works being carried out are the new Royal Papworth cardiothoracic centre and Royal Liverpool hospital.

Both Scotland and Wales have their own private financing initiatives, however, as mentioned in previous reports, there is some doubt as to whether projects under these schemes will be reported under the public or private sector.

As there is very little in the way of PFI work coming through the Priority School Building Programme it is difficult to see what is driving activity in private education construction. One explanation is that some university work is finding its way into the sector

Outlook

Declines are expected for both sub-sectors throughout the forecast period, although the fall in health activity is projected to come to a halt in 2020. As long as there are a lack of sizeable developments entering the pipeline, both sub-sectors are likely to suffer. By the end of the forecast period, at £640m, the health one is anticipated to be just around 16% of its 2008 peak while education is predicted to be around 77% of its 2017 peak.

8 Non-residential repair & maintenance

Non-Residential Repair And Maintenance Output						Forecasts		
	2013	2014	2015	2016	2017	2018	2019	2020
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Source: ONS and Experian

Summary

Non-residential repair & maintenance (R&M) output totalled £6.3bn (2015 prices) in the first quarter of 2018, nearly 3% down on the previous one and the second consecutive quarterly decline. The four-quarter moving total has also started to slide after five quarters of growth to the final quarter of 2017.

While infrastructure R&M was relatively stable in the first quarter of the year on a quarter-on-quarter basis, output in the public sector fell by 9% and in the private one by 3%.

Looking forward, there is not expected to be a great deal of cheer for the sector overall, with output projected to decline modestly in 2018 and then expand modestly thereafter.

With local authority budgets still under significant financial constraints it is difficult to see what would drive growth in the public non-residential R&M sector, although the very poor first quarter of the year is something of a surprise given that output is already at a historic low. There could be some remediation work on the public estate in the aftermath of the Grenfell Tower tragedy, although at this stage only a small number of buildings have been identified with similar problems.

Output in the private non-residential sector reached its highest level in 2017 since the disaggregation of infrastructure work from building activity and growth has been running at an annual average rate of nearly 5% since 2011. However, annualised output in the first quarter of this year displayed its first fall since the first quarter of 2013 and it could be that the sector sees more modest growth over the next two to three years as the corporate sector pulls in its horns a little.

Yet more funds have recently been announced to help local authorities deal with the effects of recent winter and early spring weather on the state of our roads, although surveys suggest that it is a very small drop in a very big ocean. However, it is likely to be the main driver of marginal growth in infrastructure R&M over the next couple of years. The focus in Network Rail's Control Period 6 (CP6), which will start in 2019, will be much more on the maintenance of the existing rail network than on major new projects and this could be an upside risk to the 2020 forecast if the work is delivered by contractors rather than Network Rail itself.

Public non-residential R&M

Output

Public non-residential R&M output totalled just under £5bn (2015 prices) in 2017, marginally up on the previous year. However, the outturn was very weak in the first quarter of this year at just over £1bn, and the four-quarter moving total dropped by over 4 per cent.

Public Non-Residential Repair And Maintenance Output

	£ million (2015 prices)	*% change y-on-y*
2013	5582	*6.1*
2014	5716	*2.4*
2015	5037	*-11.9*
2016	4973	*-1.3*
2017	4995	*0.4*
2006 Q3	1369	*0.2*
Q4	1188	*-7.7*
2017 Q1	1242	*1.8*
Q2	1208	*0.9*
Q3	1420	*3.7*
Q4	1125	*-5.3*
2018 Q1	1028	*-17.2*

Source: ONS

Projects and market intelligence

Government spending drives this sector, but how this expenditure is shared out among the various sectors – health, education, offices, etc. – is very difficult to ascertain due to the lack of relevant data.

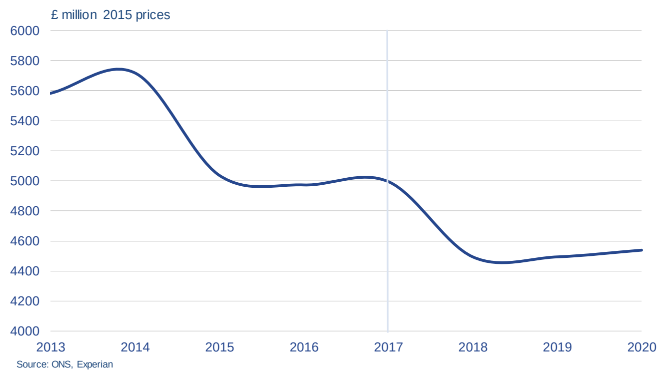
The results from the Federation of Master Builders' (FMB) State of Trade Survey continue to be negative for the public non-residential sector, with negative balances in nine out of the past ten quarters. However, the balance in the two most recent quarters has been only mildly negative at -3 and respondents were modestly optimistic about expected workloads with a balance of +5.

According to the latest Building Safety Programme data release from the Ministry of Housing, Communities and Local Government, 14 public non-residential buildings with aluminium composite material cladding systems have been identified as failing the BRE test as of 22nd May. At this stage it is not known whether remediation works have been started on any of these buildings.

Outlook

The first quarter data suggests that last year's stabilisation of output in the sector may be short-lived, although the recent results from the FMB survey paints a less downbeat picture. That said, it is difficult not to see a sharp fall in output in the sector this year. While it looks like there could be some remediation work on the public non-residential estate in the aftermath of the Grenfell fire, the amount is likely to be relatively small.

PUBLIC NON-RESIDENTIAL REPAIR AND MAINTENANCE OUTPUT



Private Non-residential R&M

Output

Having reached a new high of nearly £12.6bn (2015 prices) in 2017, private non-residential output slipped slightly in the first quarter of this year, with the four-quarter moving total subsiding by around half a per cent. This was the first decline on this measure since the first quarter of 2013.

Private Non-Residential Repair And Maintenance Output		
	£ million (2015 prices)	*% change y-on-y*
2013	10199	*3.6*
2014	11041	*8.2*
2015	11482	*4.0*
2016	12014	*4.6*
2017	12558	*4.5*
2016 Q3	2939	*3.6*
Q4	3160	*4.0*
2017 Q1	3149	*7.1*
Q2	3126	*5.1*
Q3	3081	*4.8*
Q4	3201	*1.3*
2018 Q1	3097	*-1.7*

Source: ONS

Projects and market intelligence

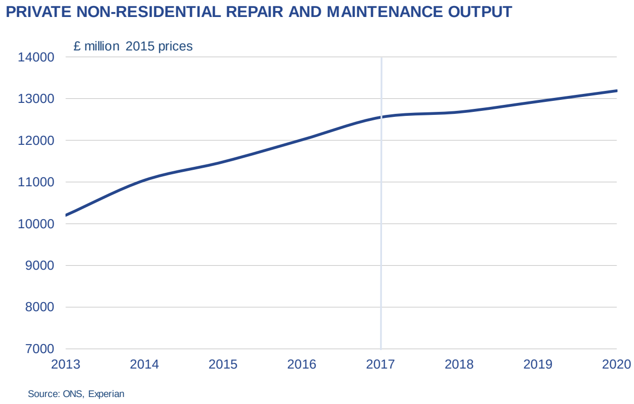
Maintenance of shops and offices are the main drivers of this sector. However, little information is available to provide any sensible breakdown of expenditure. In particular, the requirement for big retail outlets to constantly refresh their offerings can be a major driver of activity.

The FMB State of Trade Survey was moderately positive for the sector during most of last year, and this has carried on into the first quarter of this one, with a balance of +2. The balance on expected workloads is quite a bit more positive at +16, the best result since the first quarter of 2017.

The aftermath of the Grenfell tragedy is also impacting the private sector with the Building Safety Programme highlighting 138 ‘residential’ buildings failing the BRE test. This also includes a number of hotels which in construction statistics would be allocated to the non-residential sector.

Outlook

Since 2011 output in the sector has averaged around 5 per cent growth a year. However, the relative weakness of our economic prognosis suggests that the rate of expansion is likely to slow over the forecast period, to between 1 per cent and 2 per cent a year.



Infrastructure R&M

Output

After two years of contraction the infrastructure R&M sector returned to growth in 2017, with output reaching £8.6bn (2015 prices), a little over 4 per cent higher than in the previous year. Output in the first quarter of this year totalled £2.18bn, with growth in the four-quarter moving total slowing to almost nothing.

Infrastructure Repair And Maintenance Output		
	£ million (2015 prices)	*% change y-on-y*
2013	8452	*3.6*
2014	9138	*8.1*
2015	8827	*-3.4*
2016	8267	*-6.3*
2017	8606	*4.1*
2016 Q3	1942	*-5.1*
Q4	2119	*4.3*
2017 Q1	2166	*8.9*
Q2	2196	*-1.0*
Q3	2089	*7.6*
Q4	2156	*1.7*
2018 Q1	2176	*0.5*

Source: ONS

Projects and market intelligence

The main areas of activity in this sector are believed to be road maintenance, both by Highways England and local authorities, and expenditure by water and sewerage companies. Expenditure by Network Rail on rail maintenance should not appear in these figures unless the work is undertaken by an external provider.

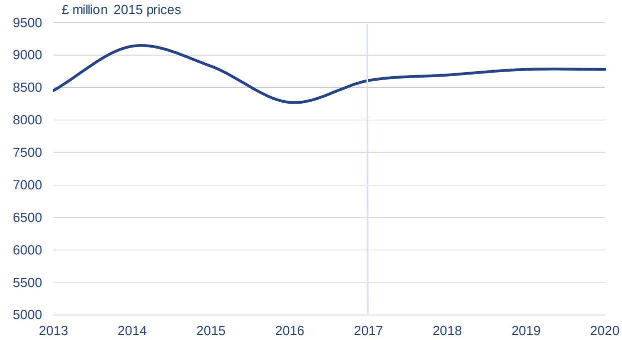
Transport Secretary Chris Grayling announced in March the provision of a further £100m to English local authorities specifically to help repair potholes caused by recent winter weather. This is on top of the £75m in government funding already given to councils from the Pothole Action Fund this year, as well as the additional £46m boost for highways authorities announced just before Christmas. The Department for Transport expects seven million potholes to be patched with this money.

Highways England started the bidding process in April for specialist works on its Area 10 highways and motorways upkeep contract in the north west. The maintenance element is worth £326m. Lincolnshire County Council has also launched the tender process for its £762m highways maintenance framework, the current programme of which is due to finish in March 2020. The framework will run for six years with the opportunity to extend to 12 years.

Outlook

Our view has not changed from the spring of modest growth for the sector this year and next and stagnation in 2020. The extra funding for local road repairs, while welcome, is unlikely to materially affect the overall level of road maintenance across the country, flood protection programmes continue to roll on, as will R&M expenditure by water & sewerage companies until the commencement of the next AMP programme in April 2020.

INFRASTRUCTURE REPAIR AND MAINTENANCE OUTPUT



Source: ONS, Experian

Appendix A

Health and Education Orders and Output

£ million current prices

	Health Orders	*annual % change*	Health Output	*annual % change*	*Education Orders*	*annual % change*	Education Output	*annual % change*
2008	5074	*0*	5883	*52*	9496	*2*	8704	*8*
2009	3735	*-26*	4927	*-16*	9210	*-3*	8910	*2*
2010	3312	*-11*	4132	*-16*	8722	*-5*	11113	*25*
2011	2128	*-36*	4398	*6*	6408	*-27*	9471	*-15*
2012	2089	*-2*	3459	*-21*	5533	*-14*	8179	*-14*
2013	2451	*17*	3210	*-7*	7139	*29*	7801	*-5*
2014	2095	*-15*	3014	*-6*	8103	*14*	9613	*23*
2015	2220	*6*	2488	*-17*	7250	*-11*	10729	*12*
2016	1915	*-14*	3527	*42*	6975	*-4*	11022	*3*
2017	1166	*-39*	2933	*-17*	7031	*1*	11138	*1*

Source: ONS.

Forecast Health & Education Growth Rates

estimated annual % change in constant prices

	2013	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Note: public non-residential and private commercial deflators are applied to the current price health & education data to provide an estimate of constant prices

Source: Experian.

Appendix B

Construction Output in Current Prices						
						£ million
						annual percentage change
	2012	**2013**	**2014**	**2015**	**2016**	**2017**
Public Housing	4049	4344	5788	4892	4841	5703
	-18	*7*	*33*	*-15*	*-1*	*18*
Private Housing	16384	18379	23619	26298	30555	34479
	0	*12*	*29*	*11*	*16*	*13*
Infrastructure	14425	15332	15325	18812	18394	19580
	-6	*6*	*0*	*23*	*-2*	*6*
Public Non-housing	10877	10250	10364	10529	11225	11194
	-18	*-6*	*1*	*2*	*7*	*0*
Private Industrial	3810	3558	4202	4734	4597	4675
	13	*-7*	*18*	*13*	*-3*	*2*
Private Commercial	22628	23630	25943	26991	29793	32055
	-7	*4*	*10*	*4*	*10*	*8*
TOTAL NEW WORK	**72171**	**75492**	**85241**	**92257**	**99404**	**107687**
	-7	*5*	*13*	*8*	*8*	*8*
Repair and Maintenance	44665	46911	50709	50861	52286	55875
	1	*5*	*8*	*0*	*3*	*7*
TOTAL ALL WORK	**116837**	**122403**	**135950**	**143118**	**151690**	**163561**
	-4	*5*	*11*	*5*	*6*	*8*

Construction Output, Quarterly Data														
							£m current prices							**£m 2015 prices**
	2016		**2017**				**2018**	**2016**		**2017**				**2018**
	Q3	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**
Public Housing	1219	1340	1319	1453	1466	1465	1256	1214	1320	1364	1378	1409	1390	1267
Private Housing	7784	8134	7734	8634	8699	9412	8513	7433	7741	7955	7811	8084	8575	8435
Infrastructure	4724	4826	4681	4881	5037	4981	4541	4536	4584	4768	4769	4747	4651	4527
Public Non-residential	3094	2847	2728	2752	2968	2746	2400	2720	2730	2802	2620	2555	2559	2407
Private Industrial	1175	1181	1052	1150	1293	1180	1124	1084	1125	1053	1081	1142	1093	1114
Private Commercial	7844	7815	7772	8058	8327	7898	7402	7104	7283	7569	7573	7414	7187	7053
TOTAL NEW WORK	**25840**	**26142**	**25285**	**26929**	**27791**	**27682**	**25236**	**24091**	**24784**	**25512**	**25232**	**25351**	**25456**	**24804**
Public Housing R&M	1813	1827	1946	1818	1830	1774	1840	1851	1908	1852	1880	1840	1816	1739
Private Housing R&M	5222	5486	5209	5637	5844	5908	5184	5058	5271	5416	5546	5571	5554	5420
Infrastructure R&M	1996	2062	2107	2118	2164	2130	2111	1942	2119	2166	2196	2089	2156	2176
Public Non-residential R&M	1407	1156	1208	1165	1471	1112	997	1369	1188	1242	1208	1420	1125	1028
Private Non-residential R&M	3021	3075	3064	3015	3192	3163	3005	2939	3160	3149	3126	3081	3201	3097
TOTAL R&M	**13459**	**13607**	**13535**	**13753**	**14500**	**14087**	**13137**	**13159**	**13645**	**13826**	**13957**	**14001**	**13852**	**13460**
TOTAL ALL WORK	**39299**	**39749**	**38820**	**40681**	**42291**	**41769**	**38373**	**37250**	**38428**	**39338**	**39188**	**39352**	**39307**	**38264**

Source: ONS.

Appendix C

Definitions: Types and Examples of Construction Work

Public Sector Housing - Local Authorities and Housing Associations, New Towns and Government Departments

Housing schemes, old people's homes and the provision within housing sites of roads and services for gas, water, electricity, sewage and drainage.

Private Sector Housing

All privately owned buildings for residential use, such as houses, flats and maisonettes, bungalows, cottages and the provision of services to new developments.

Infrastructure - public and private

Water - Reservoirs, purification plants, dams, water works, pumping stations, water mains, hydraulic works etc.

Sewerage - Sewage disposal works, laying of sewers and surface drains.

Electricity - Building and civil engineering work for electrical undertakings such as power stations, dams and other works on hydroelectric schemes, and decommissioning of nuclear power stations, onshore wind farms.

Gas, communications, air transport - Gas works, gas mains and gas storage; post offices, sorting offices, telephone exchanges, switching centres etc.; air terminals, runways, hangars, reception halls, radar installations.

Railways - Permanent way, tunnels, bridges, cuttings, stations, engine sheds etc., signalling and other control systems and electrification of both surface and underground railways.

Harbours - All works and buildings directly connected with harbours, wharves, docks, piers, jetties, canals and waterways, sea walls, embankments and water defences.

Roads - Roads, pavements, bridges, footpaths, lighting, tunnels, flyovers, fencing etc.

Public Non-residential Construction[1]

Factories and warehouses - Publicly owned factories, warehouses, skill centres.

Oil, steel, coal - Now restricted to remedial works for public sector residual bodies.

Schools, colleges, universities - State schools and colleges (including technical colleges and institutes of agriculture); universities including halls of residence, research establishments etc.

Health - Hospitals including medical schools, clinics, welfare centres, adult training centres.

Offices - Local and central government offices, including town halls, offices for all public bodies except the armed services, police headquarters.

Entertainment - Theatres, restaurants, public swimming baths, caravan sites at holiday resorts, works and buildings at sports grounds, stadiums, racecourses etc. owned by local authorities or other public bodies.

Garages - Buildings for storage, repair and maintenance of road vehicles, transport workshops, bus depots, road goods transport depots and car parks.

Shops - Municipal shopping developments for which the contract has been let by a Local Authority.

Agriculture - Buildings and work on publicly financed horticultural establishments; fen drainage and agricultural drainage; veterinary clinics.

Miscellaneous - All work not clearly covered by any other headings, such as fire stations, police stations, prisons, reformatories, remand homes, civil defence work, UK Atomic Energy Authority work, council depots, museums, libraries.

Private Industrial Work

Factories, warehouses, wholesale depots, all other works and buildings for the purpose of industrial production or processing, oil refineries, pipelines & terminals, concrete fixed leg oil production platforms (not rigs); private steel work; all new coal mine construction such as sinking shafts, tunnelling, etc.

Private Commercial Work[1]

Schools and universities - Schools and colleges in the private sector, financed wholly from private funds.

Health - Private hospitals, nursing homes, clinics.

Offices - Office buildings, banks.

Entertainment - Privately owned theatres, concert halls, cinemas, hotels, public houses, restaurants, cafés, holiday camps, swimming pools, works and buildings at sports grounds, stadiums and other places of sport or recreation, youth hostels.

Garages - Repair garages, petrol filling stations, bus depots, goods transport depots and any other works or buildings for the storage, repair or maintenance of road vehicles, car parks.

Shops - All buildings for retail distribution such as shops, department stores, retail markets, showrooms, etc.

Agriculture - All buildings and work on farms, horticultural establishments.

Miscellaneous - All work not clearly covered by any other heading, e.g. exhibitions, caravan sites, churches, church halls.

New Work

New housing - Construction of new houses, flats, bungalows only.

All other types of work - All new construction work and all work that can be referred to as improvement, renovation or refurbishment and which adds to the value of the property[2].

Notes:

1 Where contracts for the construction or improvement of non-residential buildings used for public service provision, such as hospitals, are awarded by private sector holders of contracts awarded under the Private Finance Initiative or its successors, the work is classified as 'private commercial'.

2 Contractors reporting work may not always be aware of the distinction between improvement or renovation work and repair and maintenance work in the non-residential sectors.

Appendix D

Membership of the Forecasting Committees

The Forecasting Committee for the Construction Industries

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Mr Mike Napier	Costain Ltd
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