

Statistical bulletin

Output in the Construction Industry: August 2015

A short-term measure of output by the private sector and public corporations in the construction industry in Great Britain.

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13 November 2015

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1 . Main points

- In August 2015, output in the construction industry was estimated to have decreased by 4.3% compared with July 2015 and decreased by 1.3% compared with August 2014. This was the first year-on-year fall since May 2013
- All new work decreased in August 2015 compared with July 2015 by 3.6%, repair and maintenance (R&M) decreased by 5.6% over the same period. All work types reported decreases
- Comparing the 3 months, June 2015 to August 2015, with the previous 3 months, March 2015 to May 2015, construction output fell by 0.8%. Repair and maintenance decreased by 3.6% while all new work increased by 0.7%
- When comparing the 3 months, June 2015 to August 2015, with the same 3 months a year ago, construction output was estimated to have increased by 1.8%. All new work increased by 5.6% while repair and maintenance decreased by 4.6%
- The Quarterly National Accounts (QNA) published on 30 September 2015 included an estimate of construction output for Quarter 2 (Apr to June) 2015 of 1.4%, this was an upwards revision to the estimate included in the second estimate of GDP for Quarter 2 (Apr to June) 2015 which showed an increase of 0.2%
- These estimates are consistent with the Quarter 2 (Apr to June) 2015 QNA consistent with Blue Book 2015. Revisions in the data are due to several factors, re-weighting and re-referencing the indices to 2012 = 100 to align with the National Accounts outputs and the incorporation of late data
- Each component of GDP has a weight within GDP based on its value in 2012. Construction has a weight of 59 in 2012 and contributes 5.9% to GDP; this is lower than the 2011 contribution of 6.4%

2 . About this release

Output is defined as the amount charged by construction companies to customers for the value of work (produced during the reporting period) excluding VAT and payments to sub-contractors.

Construction output estimates are a short-term indicator of construction output by the private sector and public corporations within Great Britain and are produced from a monthly survey of 8,000 businesses in Great Britain. The estimates are produced and published at current prices (including inflationary price effects) and at chained volume estimates (with inflationary effects removed) both seasonally adjusted and non-seasonally adjusted.

Chained volume measures are also described as volume. Construction output is used in the compilation of the output approach to measuring [gross domestic product \(GDP\)](#).

Detailed estimates along with a longer run of time series data are available to download in the Output in the Construction Industry, August 2015 reference tables. In these tables, users will find chained volume estimates back to Quarter 1 (Jan to Mar) 1997, and monthly estimates back to January 2010. Current price non-seasonally adjusted data are available back to Quarter 1 (Jan to Mar) 1955. More information on these statistics can be found in the "[Definitions and explanations \(39 Kb Word document\)](#) (39 Kb Word document)" article.

The data published in this release cover construction estimates for Great Britain. Construction output estimates for Northern Ireland can be obtained from the [Central Survey Unit](#).

National Statistics status

On 11 December 2014 the UK Statistics Authority announced its decision to suspend the designation of [Construction Price and Cost Indices](#) due to concerns about the quality of these deflators. As a result the UK Statistics Authority announced its decision to suspend the designation of Output and New Orders as National Statistics in respect of the Code of Practice for Official Statistics.

ONS took responsibility for the publication of the Construction Price and Cost indices from the Department of Business Innovation and Skills (BIS) on 1 April 2015. Since this point we have worked towards creating an interim solution to measure output prices and replace the statistical models that had been used in the production of chained volume measures (CVMs) for output in the construction industry since Quarter 3 (July to Sept) 2014 and to provide an ongoing source of data from Quarter 1 (Jan to Mar) 2014 onwards. This [interim solution](#) was included in the data published in June 2015 for all periods from January 2014 onwards.

A [consultation \(167.4 Kb Pdf\)](#) was held regarding this interim solution, the results of which can be found on our website along with information on the [initial plans \(457.3 Kb Pdf\)](#) for development of a longer-term solution for construction price statistics.

3 . Output in the Construction Industry, August 2015

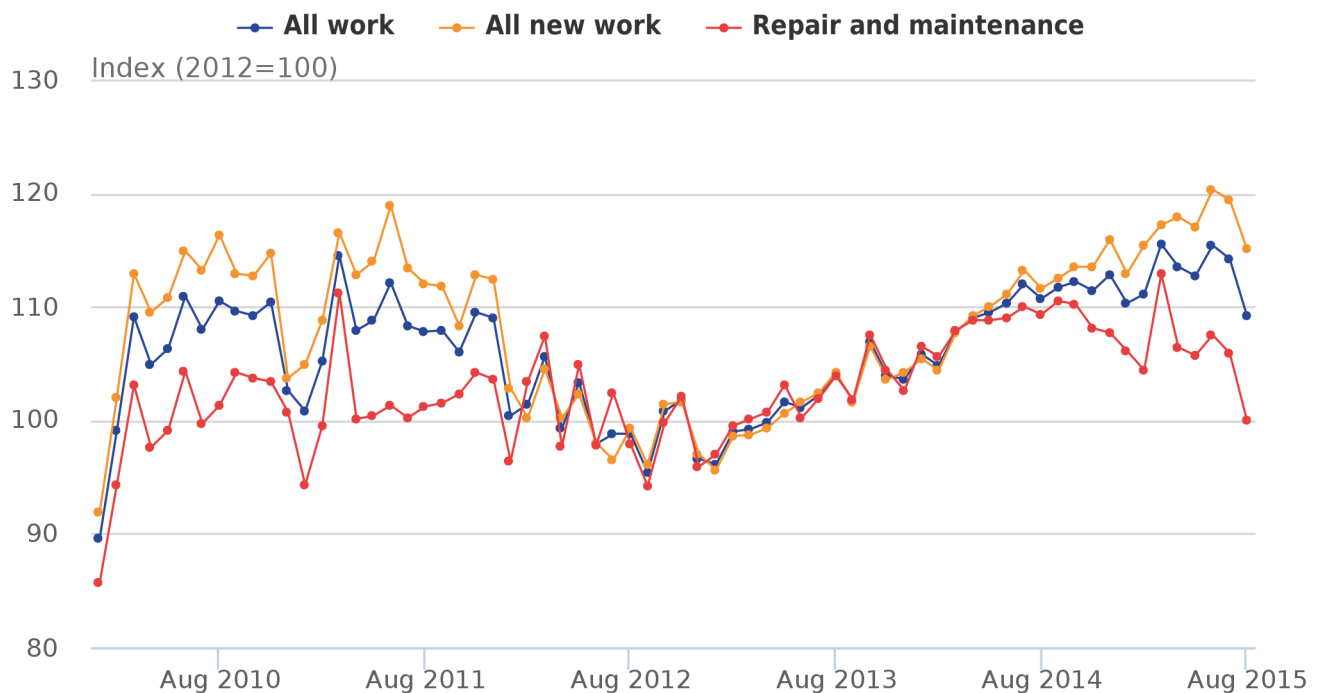
All work

In August 2015 all work:

- decreased by 4.3% compared with July 2015
- decreased by 1.3% compared with August 2014
- in the 3 months (June 2015, July 2015, August 2015) compared with the previous 3 months (March 2015, April 2015, May 2015) construction output fell by 0.8%

Figure 1: All Work – monthly time series chained volume measures, seasonally adjusted (SA) Index (2012 = 100)

Great Britain, August 2015



Source: Construction: Output & Employment - Office for National Statistics

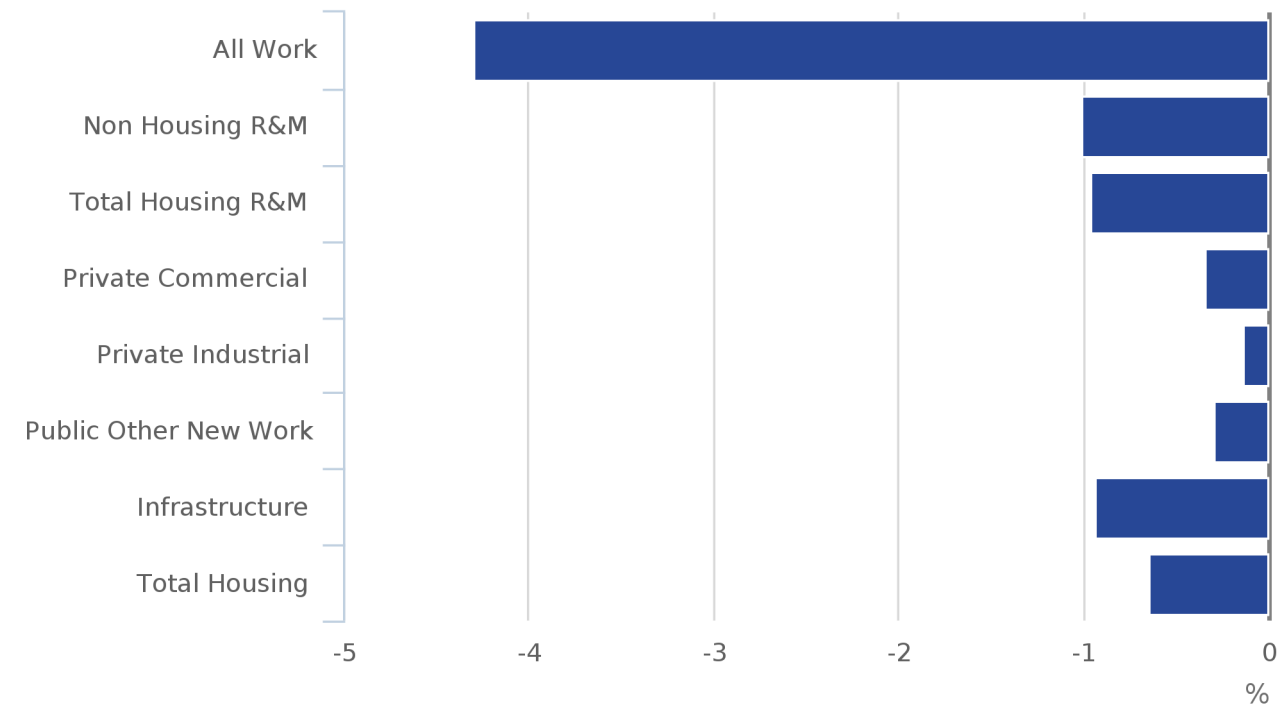
Figure 1 shows the 2 main components of all work. The monthly path for construction output is a volatile one and can be split into several distinct periods. In the early part of the time series output increased and stayed at a fairly constant level until the end of 2011 where it started to fall. During the middle part of the time series output increased gradually to a level similar to that in 2011. In more recent months output has flattened and has experienced a contraction in August 2015.

Contributions to growth

Figure 2 shows the contribution of each sector to output growth in the construction industry between August 2015 and July 2015.

Figure 2: Contributions to month-on-month volume growth from the main construction sectors (August 2015 compared with July 2015)

Great Britain, August 2015



Source: Construction: Output & Employment - Office for National Statistics

Summary of growth rates for all work types

Table 1 provides a summary of growth rates across the different types of construction work in August 2015. Some main points from this table are as follows:

- all work types saw a decrease in the month-on-month growth rate; the main contribution to the fall was repair and maintenance
- the year-on-year decrease in all work was due to all repair and maintenance; all work types within repair and maintenance reported decreases
- all work types except public housing and public corporations contributed to the increase in the year-on-year growth rate for all new work

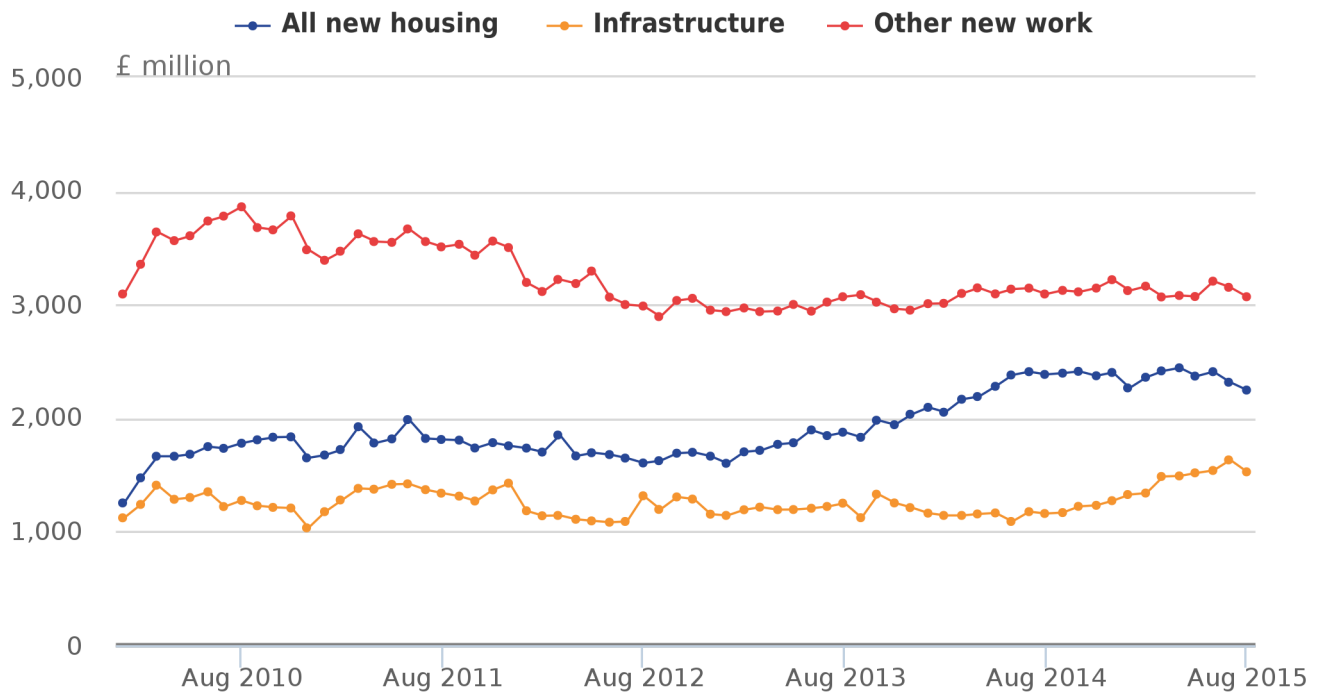
Table 1: Construction output summary tables, chained volume measures, seasonally adjusted

	Percentage change (%)				
	Most recent 3 months on a year earlier	Most recent 3 months on 3 months earlier	Most recent month on the same month a year ago	Most recent month on the previous month	Most recent level (£m)
Total all work	1.8	-0.8	-1.3 -4.3		10,562
Total all new work	5.6	0.7	3.1 -3.6		6,842
Total all repair and maintenance	-4.6	-3.6	-8.6 -5.6		3,719
All new work					
Total all new work	5.6	0.7	3.1 -3.6		6,842
New housing					
Public corporations	-21.5	-9.8	-28.9 -9.9		350
Private sector	2.0	-2.2	0.2 -1.6		1,897
Other new work					
Infrastructure	37.1	4.5	31.6 -6.5		1,527
Excl infrastructure					
Public corporations	-3.6	-1.3	-7.6 -4.1		748
Private sector					
Private sector - industrial	5.3	6.2	4.8 -4.1		357
Private sector - commercial	1.4	3.0	1.1 -1.8		1,964
Repair and maintenance					
Total all repair and maintenance	-4.6	-3.6	-8.6 -5.6		3,719
Housing					
Public corporations	-2.0	-3.1	-6.8 -7.0		575
Private sector	0.6	-1.2	-5.2 -4.4		1,367
Non-housing	-8.9	-5.4	-11.6 -6.0		1,777

Figure 3 looks at all new work. There have been falls in all work types in August 2015 with infrastructure reporting the largest decrease. The longer-term picture shows that while other new work has remained fairly static since early 2012, there have been increases in both infrastructure and all new housing with housing being the main source of underlying growth.

Figure 3: Components of all new work, monthly time series, seasonally adjusted chained volume measure, £ millions

Great Britain, August 2015



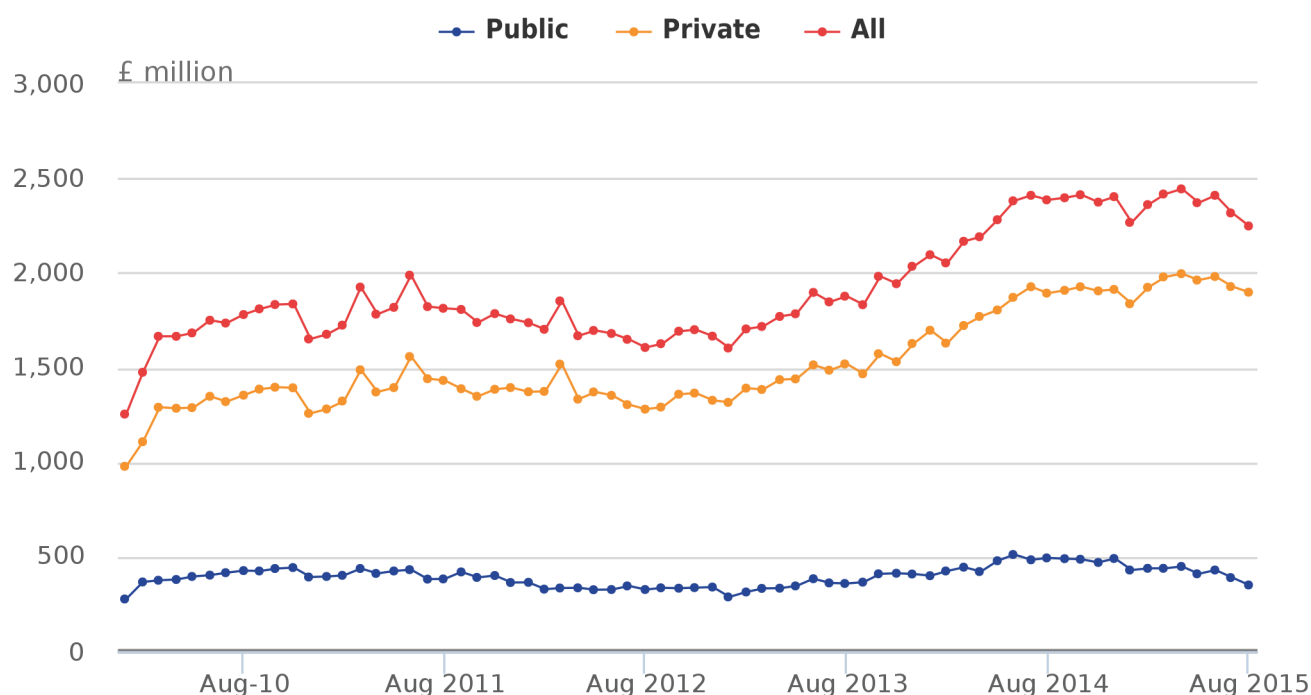
Source: Construction: Output & Employment - Office for National Statistics

Focus on new housing

In August 2015, new housing output fell by 3.0% compared with July 2015. Both private and public new housing output fell by 1.6% and 9.9% respectively over the same period. In comparison with August 2014, new housing output fell by 5.8%, with public housing providing all of the fall, down 28.9%, while private housing increased by 0.2%.

Figure 4: Output in the construction industry for housing new work, seasonally adjusted, £ million

Great Britain, August 2015



Source: Construction: Output & Employment - Office for National Statistics

Figure 4 shows the level of housing output since the monthly series began in 2010. It shows that level of housing output remains high in comparison to earlier years, but that it has fallen by 8.0% from its peak in April 2015.

Other statistics are available on new housing work, namely new orders in the construction industry and housing starts and completions, compiled by the [Department for Communities and Local Government](#).

New orders for housing in Quarter 2 (Apr to June) 2015 showed a decline, falling by 2.3% compared with Quarter 1 (Jan to Mar) 2015. It is estimated that housing new orders will take approximately 3 to 6 months before they become part of construction output. Thus the fall in new housing orders supports a fall in new housing work.

The most recent release for housing starts in England show a 14% fall in Quarter 2 (Apr to June) 2015 compared with Quarter 1 (Jan to Mar) 2015 and in Wales there was a 6.5% increase. Data for Scotland were not available at time of writing. Housing completions in England and Wales increased by 4% and by 29% respectively.

Figure 5 shows the level of housing starts and completions for England and Wales alongside the quarterly path for new housing work.

Figure 5: Level of housing starts and completions and quarterly new housing output

England and Wales, Quarter 1 (Jan to Mar) 2010 to Quarter 2 (Apr to June) 2015

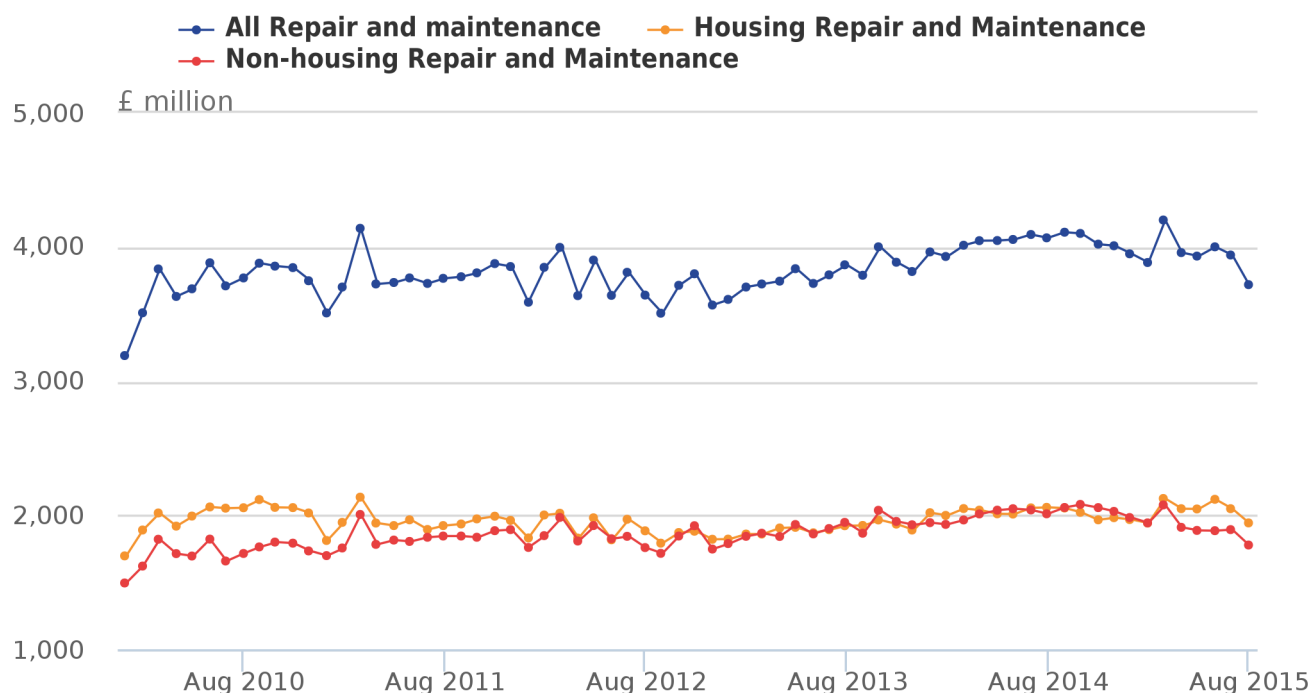
Source: Construction: Output & Employment - Office for National Statistics

Repair and maintenance

Figure 6 looks at the main components of repair and maintenance. In August 2015, all repair and maintenance fell by 5.6%, with housing and non-housing repair and maintenance decreasing by 5.2% and 6.0% respectively.

Figure 6: Components of repair and maintenance, monthly time series, seasonally adjusted (SA) chained volume measures, £ million

Great Britain, August 2015



Source: Construction: Output & Employment - Office for National Statistics

4 . The quality of the estimate of Output in the Construction Industry

Output in the Construction industry estimates are produced from the Monthly Business Survey on the second Friday of the month, 2 months after the reporting month. Revised results, for previously published periods, are published in line with the national accounts revisions policy. More information about the data content for this release can be found in the background notes.

Revisions are an inevitable consequence of the trade-off between timeliness and accuracy. The response rate in August 2015 was 70.0% of questionnaires, accounting for 79.9% of registered turnover in the construction industry. Therefore the estimate is subject to revisions as more data become available.

The monthly output in the construction industry time series now spans 66 months, however, users should note that 60 months is the minimum time span recommended by Eurostat for seasonal adjustment. While the seasonal pattern is generally established after 60 months in a monthly time series, there is still potential for increased revisions until the seasonal pattern has matured.

All estimates, by definition, are subject to statistical uncertainty and for many well-established statistics we measure and publishes the sampling error associated with the estimate, using this as an indicator of accuracy. For construction output we publish sample and non-sample errors in Table 11 of the main reference tables. It should be noted that we are continually working on methodological changes to improve the accuracy of the construction output estimates, progress on these can be found on the [ONS continuous improvement](#) page on our website.

5 . Construction estimates in gross domestic product

Construction estimates are a main component of the output approach to measuring GDP along with the estimates of services, production and agriculture. As an aid to users, the short term economic indicator releases that directly feed into GDP include an additional table of the GDP components. It is anticipated that this table will inform users of the relationship between the individual components which comprise GDP output. The publication dates and the quarterly growths of the individual GDP components are shown below.

Each component of GDP has a weight within GDP based on its value in 2012. Construction has a weight of 59, which means that it is 59 parts of the 1,000 that make up total GDP.

To determine the effect each component has on GDP multiply the component growth by its weight in GDP. An example using Quarter 2 (Apr to June) 2015 data: Construction growth = 1.4 Weight in GDP = 0.059 (59/1000) Effect on GDP = $1.4 * 0.059 = 0.08$ or 0.1 to 1 decimal place (dp). Revisions to components and the effect on GDP can be calculated using the same process. As a general rule there are no revisions to GDP when the component revisions are:

Index of Production (IoP) = between 0.3 and -0.3 Construction = between 0.9 and -0.9 Index of Services (IoS) = 0.0 (all values above or below 0.0 effect GDP due to the high weight of IoS in GDP).

Because;

$\text{IoP} = 0.148 * 0.4 = 0.0592$ or 0.1 to 1 dp

$\text{Construction} = 0.059 * 0.9 = 0.0531$ or 0.1 to 1 dp $\text{IoS} = 0.786 * 0.1 = 0.0786$ or 0.1 to 1 dp

Table 2 shows the latest monthly and revised quarterly output figures that fed into the Quarterly National Accounts release for Quarter 2 (Apr to June) 2015 published on 30 September 2015.

Table 2: GDP component tables, chained volume measures, seasonally adjusted

Publication	Weight in GDP (%)	Publication date	Latest periods	Percentage change (%)	
				Most recent period on a year earlier	Most recent period on the previous period
GDP	100	30 Sep	Q2 2015	2.4	0.7
			Q1 2015	2.7	0.4
Index of Production	14.9	07 Oct	Q2 2015	1.2	0.7
			Q1 2015	0.8	0.3
Construction output	5.9	09 Oct	Q2 2015	3.9	1.4
			Q1 2015	5.8	0.2
Index of Services	78.6	30 Sep	Q2 2015	2.7	0.6
			Q1 2015	3.1	0.4
Agriculture	0.7	30 Sep	Q2 2015	1.1	0.4
			Q1 2015	3.1	-2.4

Source: Office for National Statistics

The Quarterly National Accounts published on 30 September 2015 contained an estimate for quarterly construction of an increase of 1.4%. This estimate has not been revised within this release.

6 . Economic context

Construction output was 1.3% lower in August 2015 than the same month a year earlier – the first contraction in the year-on-year growth rate since May 2013. Construction output contracted by 4.3% on the month, the second successive monthly fall in construction output.

On a monthly basis, both new work and repair and maintenance and its sub-categories contracted. New work fell 3.6% driven by infrastructure which declined by 6.5%. Housing fell by 3.0% which included a fall of 1.6% in private housing and a fall of 9.9% in public housing. The [ONS house price index \(HPI\)](#) showed that UK house prices increased by 5.2% in the year to July 2015. The easing of house price growth may be a factor contributing to the fall in private housing output; new orders for Quarter 2 (Apr to June) 2015 also saw a decrease in housing orders and housing starts were also down for the same period. Repair and maintenance fell by 5.6% driven by both housing and non-housing components.

On an annual basis, the weakness in construction output was due to a softening in repair and maintenance output which contracted by 8.6%. Repair and maintenance of housing and non-housing components weakened sharply. However, all new work increased by 3.1%, supported by infrastructure and private industrial and commercial.

The [Agents' Summary of Business Conditions for Quarter 3 \(Jul to Sept\) 2015](#) reported that rising demand for office and industrial space had encouraged more commercial development, including some speculative projects in prime locations. Construction may also be driven by firms' desire to expand capacity in response to an increase in aggregate demand. The [Inflation Report for August 2015](#) noted that the proportion of respondents that are investing to expand capacity has risen back to around its pre-crisis level. This was reflected by the Agents' Summary, which noted that occupier demand for commercial property had continued to strengthen overall. [HMRC's Monthly Property transactions](#) also showed that UK non-residential transactions were 15.0% higher in August 2015 than on the same month a year earlier.

7 . International perspective

Output in the construction industry follows the [Eurostat Short Term Statistics \(STS\)](#) regulation for production in construction. Before any comparisons are made with the euro area or EU28, it is worth noting that the UK is the only Member State to follow the A method for compiling [production in construction statistics](#).

The latest release of [production in construction](#) showed that construction output in the euro area (EA19) increased by 1.0% and by 0.7% in the EU28 in July 2015 compared with June 2015. The GB estimate for July 2015 showed that construction output decreased 1.0%. It should be noted that an accurate comparison cannot be made as Eurostat data are calculated on a 2010 = 100 basis, while GB data are calculated on a 2012 = 100 basis.

Outside of the EU, the US Census Bureau release [Value of construction put in place](#) showed provisional estimates of construction output increased by 0.7% in August 2015 compared with July 2015 and increased by 13.7% compared with August 2014.

International comparisons

International construction comparisons are compiled by Eurostat. The estimates produced in this bulletin are included in these comparisons. Further information can be found on the [Eurostat](#) web page.

8. Background notes

1. What's new

Estimates in this release have incorporated the re-basing and re-referencing of the indices to 2012 = 100 to align with National Accounts outputs consistent with Blue Book 2015 published on 30 September 2015.

2. Statistical continuous improvement

In March 2012, as part of its Statistical [Continuous Improvement programme](#), we published a [Review of Sample Design and Estimation Methodology for Construction Output](#). This report evaluated the sample design and estimation methods used on the Construction Output Survey. The conclusions of the review were that the current sample is performing well and that the current methodology for estimation within the survey produces the smallest standard error.

In response to user feedback and in line with the announcement made in the article '[Improvements to the methods used to compile Output in the Construction Industry statistics](#)', this statistical bulletin now contains monthly seasonally adjusted chained volume estimates. Due to the potential for confusion when comparing constant price (volume) and chained volume measures, all references to constant price series for construction output have been removed from this, and future bulletins.

A work plan for construction output statistics will be published shortly and will align with the [National Accounts and related statistics work plan](#).

3. Understanding the data

1. Interpreting the data

When making comparisons it is recommended that users focus on chained volume measures or constant price (volume), seasonally adjusted estimates as these show underlying movements rather than seasonal movements.

Construction output estimates are subject to revision because of:

- late responses to the Construction Output Survey
- revisions to seasonally adjusted factors which are re-estimated every quarter

- annual updating of the Inter-Departmental Business Register (IDBR) that forms the basis of the sampling for the Construction Output Survey - this occurs in April and can have an effect on the results published in May

2. Definitions and explanation

[Definitions of terminology \(39 Kb Word document\)](#) found within the main statistical bulletin are available.

4. Use of the data

Output in the Construction Industry estimates are widely used both internally and externally and have been identified by legal requirement and user engagement surveys.

The main users of data from the Output of the Construction Industry dataset are:

- United Kingdom National Accounts
- Eurostat, the statistical office of the European Union, in order to comply with statutory legislation on short-term business statistics (STS) - short-term business statistics provide information on the economic development of four major domains: industry, construction, retail trade and other services
- industry analysts requiring estimates of the construction industry output of Great Britain
- trade associations making UK and international comparisons and to forecast trends in the construction industry
- other government departments including; the Department for Business, Innovation and Skills (BIS), HM Treasury (HMT), Department for Communities and Local Government (DCLG) and the Office for Budgetary Responsibility (OBR)

As well as being a main indicator of the performance of construction companies, the results of the survey also contribute to the estimate of the gross domestic product of the UK, contributing approximately 5.9% of GDP.

More information on the uses made of [short-term economic statistics](#) is available.

5. Methods

Our Monthly Construction output survey measures output from the construction industry in Great Britain. It samples 8,000 businesses, with all businesses employing over 100 people or with an annual turnover of more than £60m receiving a questionnaire by post every month.

Estimates are based on output data collected through the monthly construction output survey. Response rates at the time of publication are included for the current month, and the 3 months prior. The response rates for those historical periods are updated to reflect the current level of response, incorporating data from late returns. There are 2 response rates included, with 1 percentage for the amount of turnover returned, and the other percentage for the amount of questionnaire forms.

Table 3: Overall response rates (%)

Year Period	Turnover	Questionnaire
2015 August	79.9	70.0
July	88.7	76.8
June	92.7	78.7
May	95.4	79.3

Source: Office for National Statistics

6. Quality

The latest [Quality and Methodology report for the Output of the Construction Industry estimates](#) can be found on our website.

7. Revision policy

Construction output conforms to the standard [National Accounts revision policy](#), which can be found on our website. In line with this, the construction output release for August 2015 has a revision period back to July 2015, however, data for earlier periods have been revised consistent with the data introduced in the Quarter 2 (Apr to June) 2015 QNA consistent with Blue Book 2015.

Figures for the most recent months are provisional and subject to revision in light of (a) late responses to the Monthly Business Survey MBS and (b) revisions to seasonal adjustment factors which are re-estimated every period.

8. Revisions

One indication of the reliability of the main indicators can be obtained by monitoring the size of revisions. Analysis of the previously published quarterly seasonally adjusted chained volume measure series has shown that revisions to construction data are small. Generally these quarterly revisions are less than 1 percentage point when compared with the final revised period 5 quarters after initial publication. This indicates that the published estimates are a reliable snapshot of the output in the industry at the date of publication.

The size and pattern of revisions for both output and new orders data which have occurred in the open period can be found in the new revision triangles on the construction web page. Please note that these indicators only report summary measures for revisions. The revised data may be subject to sampling or other sources of error. Details about this revisions material can be found in the document "Revisions information in ONS First Release".

It should be noted that due to seasonal adjustment taking place on a short span of data points used to interpret the seasonal effects, there is potential for increased revisions until the seasonal pattern is established within the time series. The seasonal pattern is generally established after 60 months in a monthly time series.

Please note that a monthly seasonally adjusted chained volume series is not available pre-2010. This is due to monthly data not being available for this period. These data are a requirement for creating previous year's prices from which chain linked volume measures are created.

9. Relevant links

[Modelling construction statistics deflators \(84.5 Kb Pdf\)](#)

[Impact of quarterly employment question on monthly survey response \(163.7 Kb Pdf\)](#)

[Government Statistical Service \(GSS\) uncertainty guidance](#)

[Annual construction publication construction Statistics, No. 16, 2015 Edition](#)

[Analysis of the construction industry](#)

[UK Statistics Authority assessment](#)

[Disclosure control policy \(121.5 Kb Word document\)](#)

[The circular flow of income](#)

[Types of Construction Work \(75.5 Kb Pdf\)](#)

10. Further information

Releases on construction output and employment prior to the transfer to ONS can be found on the [BIS website](#).

11. User engagement

The [user engagement](#) section of our website contains preliminary results of the survey held in regarding users' satisfaction and use of the new orders and construction output surveys.

We published a summary of [initial responses](#) to the Short-term indicators National Accounts survey on 9 February 2015.

12. Code of Practice for Official Statistics

National Statistics are produced to high professional standards which are set out in the [Code of Practice for Official Statistics](#). They undergo regular quality assurance reviews to ensure that they meet customer needs and are produced free from any political interference.

13. Publication policy

Details of the [policy governing the release of new data](#) are available. Or contact our [Media Relations Office](#).

Also available is a list of the organisations given pre-publication access to the contents of this bulletin.

14. Accessing data

The Output in the Construction Industry statistical bulletin and relevant time series datasets are available to download free from our [website](#) at 9.30 am on the day of publication.

15. Further information and user feedback

As a user of our statistics, we would welcome feedback on this release, in particular on the content, format and structure. For further information about this release, or to send feedback on our publications, please contact us using the following information.

Next publication: Output in the construction industry: 13 November 2015 New orders and output in the construction industry: 11 December 2015

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16. Details of the policy governing the release of new data are available by visiting www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html or from the Media Relations Office email: media.relations@ons.gsi.gov.uk