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An error was found in table 3 of this article. The error concerns the GDP quarter on same quarter a year ago growth rates that were misquoted as a result of a spreadsheet error. The implied GDP quarter on same quarter a year ago growth rates are also affected. All data regarding construction are correct, the sizes of the revisions to GDP are unaffected.

Impact of interim solution for OPIs on ONS outputs

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1. Introduction

This article sets out how the interim solution for Construction Price and Cost Indices launched by ONS on the 12 June 2015 impacts Output in the Construction Industry and Gross Domestic Product (GDP) when measured from the output approach.

2. Background

In December 2014, the Department for Business, Innovation and Skills (BIS) announced the [suspension of its publication of Construction Price and Cost Indices](#) (CPCIs). These price statistics were used in the production of output and new orders in the construction industry, and to maintain production, ONS created a statistical model of the quarter 3 (July to Sept) 2014 output price indices (OPIs) to deflate the current price series. More information on how these models were created can be found in the article '[Modelling construction statistics deflators](#)'.

In using these statistical models as a substitute for these deflators, ONS has been conscious of the statistical uncertainty that surrounds their results. When the models were carried forward for the quarter 4 (Oct to Dec) output price indices (OPIs), this uncertainty increased and ONS advised caution when interpreting the resulting volume of construction output.

On 1 April 2015, responsibility for the production of the deflators was transferred from BIS to ONS, and ONS have been working to develop an interim solution to replace these statistical models. A proposed [interim solution](#) was presented to members of the Consultative Committee on Construction Industry Statistics (CCCIS) and stakeholders and was judged to be a better alternative to the statistical models.

After further refinement the interim solution was published on 12 June 2015, along with an article describing the methodology used, and ONS has launched a consultation to consider whether this interim solution could be improved further.

ONS recognises the need for a longer term solution for CPCIs and will, by the end of 2015 provide users with its plans for this development.

3. Implementation

The interim solution for CPCIs has been implemented from January 2014 onwards. In doing so the results have been spliced on the existing OPIs previously supplied by Aecom. This removes any step change that would be associated with the change in price statistics and ensure a more consistent dataset.

4. Seasonal adjustment

As the new price indices have caused changes to the seasonal patterns in some series, a seasonal adjustment review was conducted by ONS time-series analysis experts, and the results have been implemented in this dataset. This seasonal adjustment review will also help to improve the seasonal adjustment of the monthly series and should help to minimise future revisions as a result of this process.

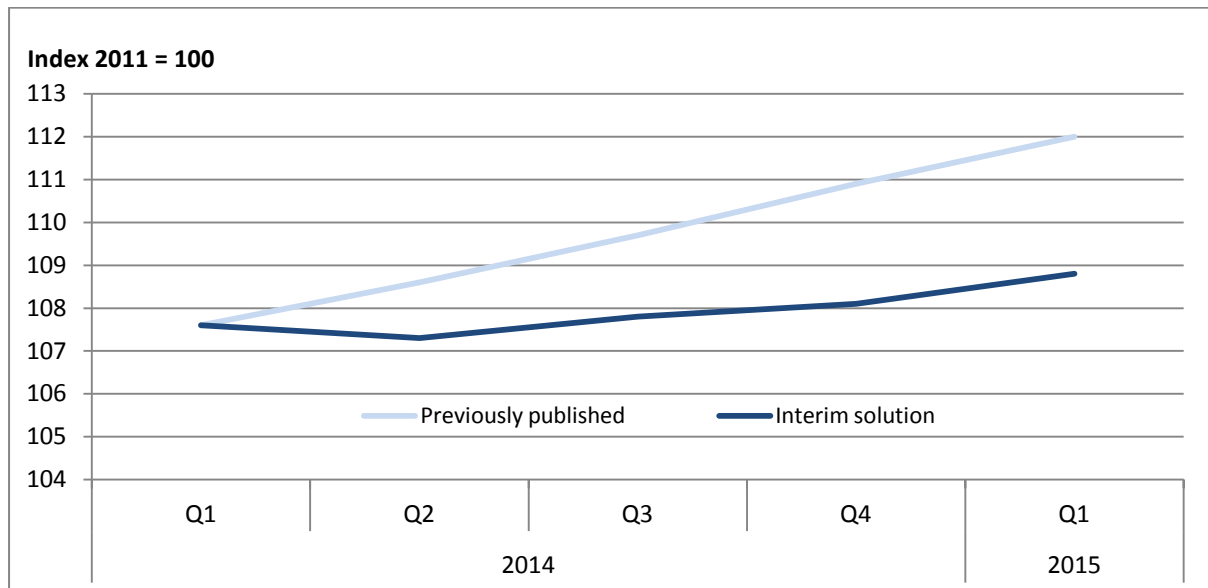
5. Impact on outputs

The change to the construction implied deflator provides the best means to assess the impact on outputs of replacing the statistically modelled deflators and OPs provided by Aecom.

5.1 Change to the implied deflator

Using data from the output in the construction industry release, we are able to compare the previously published implied deflator with the implied deflator using the interim solution. This is shown in figure 1.

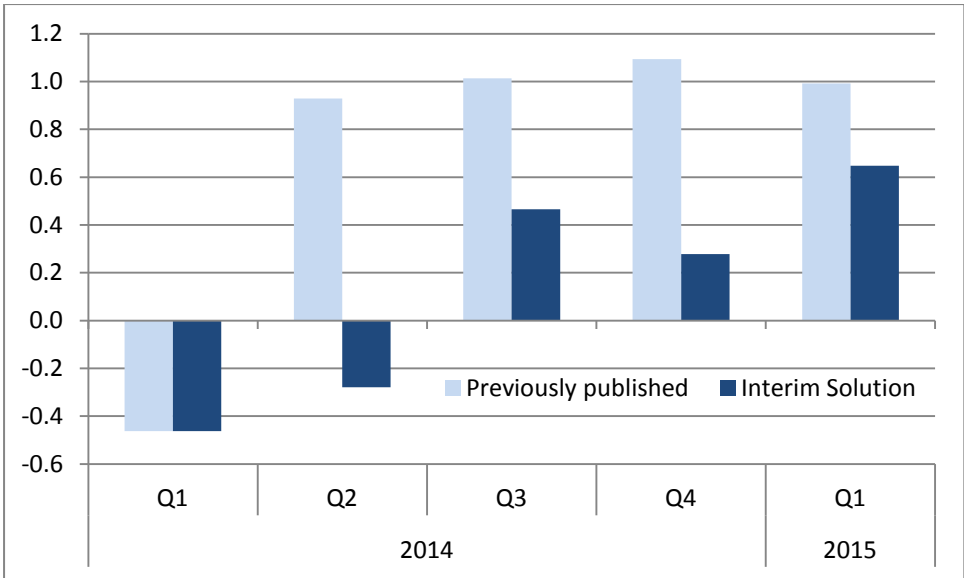
Figure 1: implied deflator for all work, non-seasonally adjusted (Index points 2011=100)



There is a clear difference between the two data series. In the previously published data, the implied deflator continued to increase throughout 2014 and 2015. Figure 2 shows the rate of this change was similar in each quarter, suggesting that prices in the construction industry rose at almost the same rate each quarter.

In contrast, the implied deflator using the interim solution paints a different picture suggesting prices fell into quarter 2 (Apr to June) 2014, and while they rose thereafter it was at a lower rate than previously published.

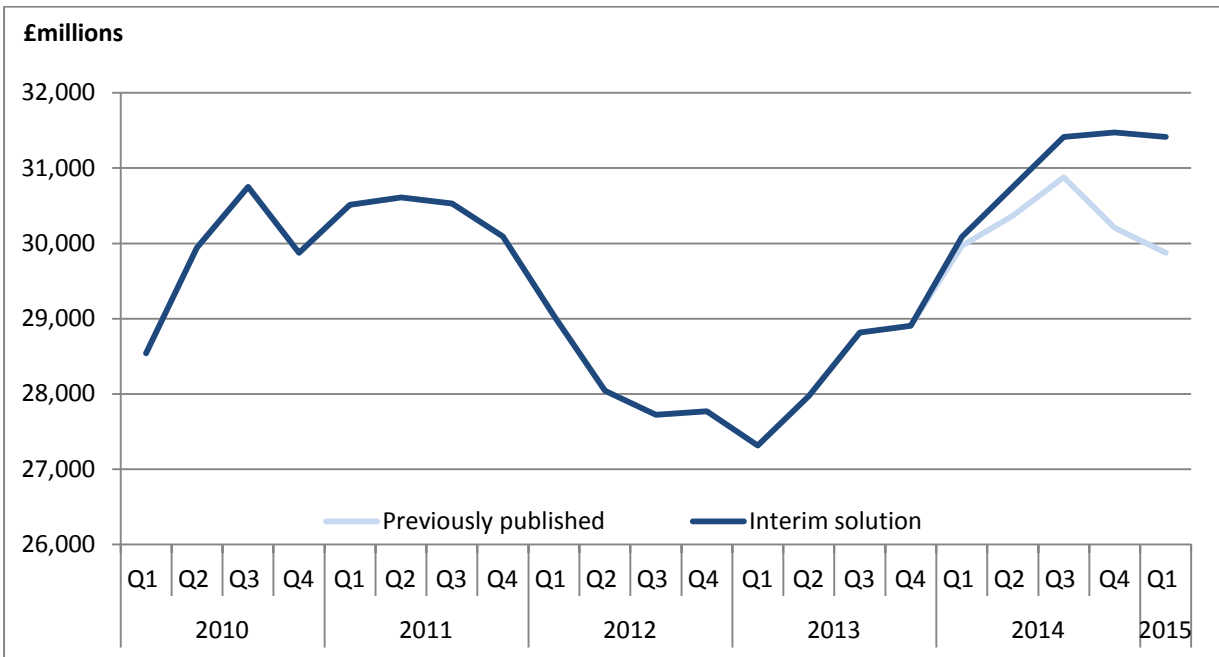
Figure 2: quarter on quarter change in the implied deflator, non-seasonally adjusted



5.2 Change to output in the construction industry

As the chained volume measure (CVM) of output is calculated by deflating a nominal figure, a revision to the deflator from moving to the interim solution will, all else equal, result in a change in the CVM. Figure 3 provides a comparison of the previously published quarterly path for the CVM of output in the construction industry with the CVM for the interim solution.

Figure 3: Quarterly path for output in the construction industry, all work, seasonally adjusted, CVM £m



As the level of the interim solution for OPIs is lower than that previously provided or statistically modelled, the level of output in the construction industry after deflation is higher than that previously published. There is also a change in growth rates as shown in table 1.

Table 1: chained volume measures of output in the construction industry, seasonally adjusted growth rates

	Period on period			Period on same period a year ago		
	Previously published	Interim solution	Revision	Previously published	Interim solution	Revision
2014 Q1	3.7	4.1	0.4	9.7	10.2	0.5
2014 Q2	1.3	2.2	0.9	8.6	9.9	1.4
2014 Q3	1.7	2.2	0.5	7.2	9.0	1.9
2014 Q4	-2.2	0.2	2.4	4.5	8.9	4.4
2015 Q1	-1.1	-0.2	0.9	-0.3	4.4	4.7

However, these revisions are not solely the result of the new deflators. New seasonal adjustment parameters and the incorporation of late data have also played a part. Table 3 provides the percentage point contribution from these three sources to the total revision to both quarterly and annual growth rates.

Table 2: contributions to growth rate revisions from late data, deflators and seasonal adjustment

	Period on period				Period on same period a year ago			
	New data	Deflator	Seasonal Adjustment	Total revision	New data	Deflator	Seasonal Adjustment	Total revision
2014 Q1	-0.1	0.4	0.1	0.4	-0.1	0.4	0.2	0.5
2014 Q2	0.5	0.7	-0.3	0.9	0.4	1.1	-0.2	1.3
2014 Q3	0.1	0.7	-0.3	0.5	0.5	1.9	-0.6	1.8
2014 Q4	0.5	0.9	1.0	2.4	1.0	2.9	0.5	4.4
2015 Q1	1.0	0.4	-0.5	0.9	2.0	2.9	-0.2	4.7

5.3 Impact on Gross Domestic Product

Output in the construction industry acts as data source for GDP when measured from the output approach and has a weight of 6.4%. A change in output in the construction industry of 0.8 percentage points will thus revise GDP by 0.0512 percentage points and thus if all other components remain unchanged will result in a revision to GDP of 0.1 percentage points.

The potential revisions to GDP, all else equal, as a result of the introduction of this interim solution are shown in table 3.

Table3: revisions to GDP growth rates to 2 d.p.

	Period on period				Period on same period a year ago			
	Revision to Construction Growth	Revision to GDP growth	Current GDP Growth	Implied GDP Growth	Revision to Construction Growth	Revision to GDP	Current GDP Growth	Implied GDP Growth
2014 Q1	0.42	0.03	0.88	0.91	0.44	0.03	2.67	2.70
2014 Q2	0.87	0.06	0.83	0.89	1.38	0.09	2.87	2.96
2014 Q3	0.47	0.03	0.62	0.65	1.86	0.12	2.77	2.89
2014 Q4	2.36	0.15	0.61	0.76	4.38	0.28	2.97	3.25
2015 Q1	0.92	0.06	0.31	0.37	4.72	0.30	2.39	2.69

Therefore, if all else is equal the revision to 2015 Q1 GDP quarter on quarter growth GDP is 0.3%. However, users should note that this revision would be to GDP when measured from the output approach only and changes to the expenditure or income components may negate this revision.

5.4 Impact on other indicators

The introduction of this new methodology will also have an impact on estimates of gross fixed capital formation, where these deflators are used for dwellings and other buildings. In turn the GFCF estimates are a source for GDP when measured from the expenditure approach. The impact of these deflators on these two outputs will be described in the Quarterly National Accounts Release on June 30 2015.

6. Further information

Further information on the change in methodology for the deflators used in Output in the Construction Industry can be found in the article [Interim solution for construction output price indices](#).

7. User Consultation

The CPCI's are being released for the first time as experimental and are intended as a short-term solution only, while long-term development is ongoing.

ONS has launched a [consultation](#) to collect information on how users plan to use these experimental statistics and any suggestions they may have for short-term improvements that we could make to improve the CPCIs to better meet your needs.