

# Plan of proposed actions to increase the quality and public value of regional gross value added statistics

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# 1 . Introduction

A response on behalf of Jonathan Athrow, Deputy National Statistician and Director General of Economic Statistics, Office for National Statistics (ONS), to the requirements of Phase 2 of the assessment of compliance with the Code of Practice for Statistics ([Assessment Report 337](#), June 2018).

## 2 . Public value

### Findings

Producer prices for goods and services can vary significantly in different parts of the UK. Mostly, real terms statistics in regional gross value added (balanced) are deflated using one uniform all-UK price deflator for each industry in getting to real R-GVA (B) data. Potential might exist to develop the range of deflators to better reflect regional differences in prices.

### Requirement 1

ONS should investigate whether improvements in the quality of deflators by adopting regional price statistics could be achieved technically and cost-effectively taking account of expected use of the statistics and user need.

### Response summary

We have recently been working with Southampton University to investigate the feasibility of producing regional Consumer Price Indices including owner occupiers' housing (CPIH). We published a feasibility report [in November 2017](#), with further research being carried out in 2018 to take forward the recommendations made in the report. Whilst the focus of this research is consumer prices, we expect that many of the difficulties, such as small sample sizes at a sub-national level, will also be encountered for the Producer Price Indices. However, the work to date has provided us with a better understanding of the issues with producing regional price indices, and the 2018 follow-up will look at ways in which the quality of these indices can be improved. We hope the work done to date for Consumer Price Indices could be used to consider the production of regional indices on the producer prices side in due course.

### Why is the production of regional price indices difficult?

There are no regular statistics produced on regional price indices, but they are of interest both in their own right and as deflators for other regional economic statistics. The development of regional price indices has been considered by us previously, but has never progressed primarily due to the likely significant cost needed to produce robust indices but also:

- the current sample sizes for our price indices are designed to produce national estimates and are not deemed to be sufficient in size for the compilation of regional inflation estimates
- there exist a range of conceptual complexities that would require further methodological research (Should items being priced be representative of national or regional baskets? How should regional boundaries be treated, as consumers don't necessarily restrict their shopping to the region where they live?)
- the source data for weights may not be robust enough to ensure regional expenditure categories are weighted appropriately

## How are we taking this agenda forward?

Although these problems are well understood, no work has ever been carried out to try to quantify the standard of regional price indices that could be produced using existing data sources. Therefore, we commissioned a feasibility project with Southampton University, with a focus on consumer prices, to investigate the suitability of using current consumer price data to produce regional price indices. Given consumer prices generally have higher sample sizes than producer prices, this set of data has the most potential to provide regional price indicators. This work took place during 2017 and led to the publication of a [feasibility report](#), which included a rudimentary set of regional consumer price indices. As expected, the report concluded that regional consumer price statistics are not suitably reliable when using current methods and data, with the main limitation being sample sizes (for both the price quote data and expenditure-based weights). The report put forward several recommendations that could potentially improve the reliability of these estimates.

We suggest an investigation into alternative statistical methods to overcome the limitations of the smaller regional sample sizes. Such statistical methods, which may provide improved regional CPIH reliability, would be:

- small area estimation methods
- smoothing methods
- finite population corrections
- aggregating the available data in larger categories to provide more robust (but less sensitive) indices

We commissioned Southampton University to carry out further research in 2018. This second phase of research will investigate the impact of applying small area modelling techniques to improve the expenditure estimates used in the calculation of regional weights and assess the impact this may have on the calculation of regional price indices. The second phase of research will be published in a second article towards the end of 2018.

## Future opportunities

This research work with Southampton University will hopefully lay the methodological and conceptual foundations for ongoing development of robust regional price indices. Our progress with the acquisition of “big data” such as electronic point of sale data (also known as scanner data) could help overcome issues with insufficient price quote samples and provide the basis for regional price estimates without the need for significant investment in additional price collection.

Whilst the focus of the work with Southampton University has been on the consumer side, the issues experienced will be the same for the business prices suite of indices (such as the Producer Price Indices). At this stage, the focus of developing regional price indices will remain on the Consumer Prices Index (including owner occupiers' housing costs).

## 3 . Quality

### Findings

ONS publishes quality metrics used in balancing the estimates. Due to the level of detail, the insights offered by the metrics are obscured which may limit their usefulness.

## Requirement 2

ONS should review the best way of making quality metrics both more useable to a less expert audience and more accessible generally.

## Response

We have considered the presentation of the quality metrics for the income and production measures of regional gross value added (GVA) in terms of what information is useful to users of regional statistics to help them better understand the underlying quality of the estimates.

We have determined that the earlier presentation lacked clarity and, in particular, any distinction between metrics indicating “good”, “medium” and “poor” quality. We have redesigned the presentation to show the quality metrics with a colour coding to indicate those categories, making it much easier to see at a glance which of the two measures, income or production, is generally of the better quality.

We have further split up the quality metrics so that the areas corresponding to each NUTS1 country or region are presented in separate tables, with the income and production metrics for each area shown side-by-side.

The new presentation [is shown in our metrics dataset](#).