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Topic (iv) Managing revisions and version control to maintain credibility

Presenting updates and revisions of statistics to a sceptical audience

Supporting Paper

Submitted by Office for National Statistics, United Kingdom

“ . . . But actually, he thought, as he re-adjusted the Ministry of Plenty’s figures, it was not even forgery. It was merely the substitution of one piece of nonsense for another . . . ”

– George Orwell, Nineteen Eighty-Four

I. INTRODUCTION

1. Revisions are an everyday part of statistical life. There are very few series that are collected where the statistician can say definitively that this is the number and it will never change – particularly where survey data are involved. There are always levels of ‘confidence’ (this might translate in common parlance to ‘degrees of doubt’). Series of data are published in the full knowledge that later and better data may well arrive that change the published number.

2. So there is the age-old headache of the trade-off between timeliness and accuracy. Should you publish what you know at a given point or wait in the expectation that some improved material will arrive? The clamour today is for everything to be available ever more instantly; so the pressure on the statisticians grows greater by the day.

3. There is no surprise to anyone in this. Statistical Institutes the world over will be agonising over this trade-off for aeons to come. The problem is many of the casual users of statistics really have no grasp of the argument. This general lack of sympathy for normal statistical processes is leading to a worse problem – the lack of confidence and trust in statistics over all. In the UK we are serving up our statistics to a very sceptical audience – not just the professionals and the media but the public as a whole. Adding revisions into the mix only serves to increase the acidity.

II. THE BASIS OF FAITH

A. The confrontational media

4. The starting point for the crisis in confidence is very often the media – and, in particular, the written media. In early July 2006, for example, the *Financial Times* published a table showing “Why British statisticians have a PR problem”.

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5. It highlighted a research report by analysts Goldman Sachs which looked at average quarterly growth rate annualised for the period 1999 to 2004. The FT's economics editor took the view, based on this, that British statisticians were more likely to underestimate the strength of their economy than those in the rest of Europe and the United States.
6. Initial estimates of GDP for the period suggested the US economy had grown by a full percentage point more than the UK but revisions showed growth in Britain was identical to the US. Such revisions, the FT argued, were selling Britain short and giving it bad public relations. It was the initial figures (first estimate) which gained the most publicity and formed the opinions of key people about the economy's performance. So the lasting impression was 'bad news' that the UK was lagging behind, and that was not sufficiently balanced when the revised data came out showing a very different picture.
7. *The Business* was less polite: "Britain's official statistics agency is under fire this weekend for producing some of the least accurate growth statistics in the world".
8. This type of criticism is nothing new; a year previously a renowned stockbroker said: "the scale of the revisions to the ONS statistics almost invites nihilism with respect to the possibility of knowing what is happening to the real economy. It is becoming hard to avoid the conclusion that from a methodological perspective, there is a near-zero probability that any particular generation of ONS statistics can say anything useful about the real world – or even future generations of official statistics."
9. Ouch! All this came out at the same time as the results of research into public confidence in official statistics showing six in ten people didn't believe government statistics. Added to that the same proportion didn't believe statistics were produced without political interference.
10. What did we fight back with? One the face of it, not much, but the issue stimulated thought within the organisation and elsewhere and later in the paper I will indicate some of the other ideas that are being developed. Immediately though, a short letter to editors explained the usual line 'revisions are not a result of errors, but instead reflect the availability of later and better data', supported by some comments that Britain actually compared well with other European countries for revisions and also brought out key economic statistics faster than any.
11. This cut little ice and nor did a more technical article written for the FT which explained the issues of re-basing, simplifying assumptions and how an estimate of activity in the construction sector had been based on the early-results of a survey and a forecasting model. More complete findings from the survey had led to an upward revision.
12. The revisions issue attracted the attention of Parliament and former National Statistician, Len Cook, told a Parliamentary Committee: "We have a very early first estimate of GDP; it comes out some 30 days after the end of the quarter. It is some 20 days ahead of any other European Union country, and that is a choice that has been deliberately made in the UK."
13. He pointed out that if the whole of the EU followed the plan to standardise on 46 days the UK would have an extra 16 days to improve its estimate but for the City and the Government there would be less information around for 16 days as to what happened in the previous quarter in wealth creation of the British economy.

B. The professional user

14. Michael Fallon MP is chairman of the sub-committee of the UK Treasury Select Committee which has a scrutiny function for the ONS. He said at a seminar in 2004 that as a businessman he was usually suspicious of 'revisions' because he felt lots of revisions seemed to mean that errors were being corrected. He identified three types of revisions in his view:

- Unplanned and regular – for example, regular revisions that fall outside the expected range (as with the GDP example above);
- Planned and unusual – such as the introduction of methodological changes;

- Unplanned and unusual – including errors. These inevitably get the media attention.

15. He added that the public conflated all types of statistics. There was no public distinction between National Statistics and other types of statistics and changes and revisions of any sort served to fuel further public suspicion.

16. The discussion at the seminar pointed to distrust of government influence on key statistics as the underlying reason for the sometimes aggressive and unreasonable press treatment of statistical revisions.

17. Simon Briscoe, the statistics editor of the Financial Times, is unusual in being both a journalist and a professional user. His view was that planned revisions were well understood, even if they were occasionally large. He was more interested in revisions from new methodology and the occasional ‘statistical howlers’ which were often caused by factors beyond the control of statisticians.

18. He said that statisticians should have a motto of clarity and communication. He called for better warnings and explanations of methodological changes and for statisticians to take journalists more into their confidence. Many journalists covered a wide range of issues and needed ‘spoon-feeding’ by statisticians when the issues are complicated.

III. THE REVISIONS POLICY

C. The protocol on Revisions

19. In the UK, the Office for National Statistics operates within a strict Code of Practice which includes a Protocol on Revisions. Here are the statements of principle concerning revisions:

- Substantial methodological changes will be announced before the release of statistics based on the new methods.

Additional principles embodied in the Protocol

- Each organisation responsible for producing National Statistics will publish and maintain a general statement describing its practice on revisions.
- Key outputs, or groups of key outputs, which are subject to scheduled revisions will have a published policy covering those revisions.
- A statement explaining the effect of revisions will accompany the release of all key outputs subject to scheduled revisions.
- Revisions will be released in compliance with the same principles as other new information.
- Timeliness of release will be balanced with the need to avoid frequent revisions.
- Producers of National Statistics will minimise the possibility of unexpected revisions but, if they occur, they will be released as soon as practicable and in an open and transparent manner.
- Substantial revisions will be accompanied by an explanation of their nature and extent.
- The long-term effects of revisions on key outputs will be monitored with a view to improving the quality of those outputs.

20. Revisions need to be as accurate, robust and freely available as new statistics, and they should be accompanied by the same supporting and explanatory information. For any set of statistics, the risks and causes of revisions should be clear. Users should know when they are due and be aware of them as they

arise. Users need to be confident that revisions applied across National Statistics meet known and agreed principles for handling revisions, and that these principles are applied in a consistent way.

21. Official statistics in the UK are decentralised; so each Government Department is required to publish its own statement describing its practice on revisions which in turn forms part of its Statement of Compliance to the Code of Practice.

22. Departments and divisions within ONS sometimes produce bespoke revisions policies based on the protocol. For example, the ONS Labour Market Statistics Division (LMD) says in its policy about communications: “It is vital that we communicate effectively with our users when dealing with revisions to our data. We must ensure that users are aware of the pattern of regular revisions, their usual time span and likely magnitude. Users should also be confident we will introduce unplanned revisions in a structured and transparent way.”

23. As part of its Revisions Policy LMD publishes a planned cycle of revisions which is available to all users of the data.

24. But as with anything set in stone there are sometimes difficult areas. For example, methodological changes can occur for reasons such as new techniques or in response to developments in the economy – particularly the need to measure new phenomena. ONS aims continually to review and improve procedures for making revisions. Some methodological revisions occur because statistics start to be used for purposes beyond their original design capacity. Equally new investment in statistical series can create revisions where there had been under-investment in the past.

25. ONS has recognised that the biggest challenge is how to improve communication about the likelihood of, and the reasons, for revisions. It is ONS experience that the non-expert view of statistics and revisions is largely determined by information which is filtered by experts, whether they are City analysts or the media’s economics correspondents. Therefore most of the gain is to be achieved through improved communication with analysts and specialist journalists.

26. In 2004, ONS made some innovations to improve communication. These included:

- Introducing information on average past revisions for key variables and details of planned future revisions to First Releases.
- Holding an economic statistics forum at which there were delegates from key users such as the City and the media. The Forum was used to explain how figures were put together and why revisions occur.

27. ONS is also continuously on the look out for estimates that might be unexpected by users which, of course, means having a good understanding of the external context and the use that is made of the figures. Good contacts are an essential part of this ‘horizon scanning’.

IV. WHAT MORE COULD BE DONE

28. Given that the measures described above have been in use by ONS since 2004, it is a shame that we should again have run into criticism for revisions in 2006. Maybe we’ve taken the eye off the ball because of many other things going on, such as re-location of the headquarters, reductions in staff, proposals for ‘independence’. However, this criticism might have happened anyway and we should acknowledge that changing public attitude is a long-haul rather than succumbing to a quick fix.

29. Certainly ONS acknowledges that one of the lessons learned from previous years is “the need to improve communication about revisions continuously.” Other lessons learned could be:

- The need to explain actively the challenges of the job, making judgements more available and not overselling the products.

- Much reporting of economic statistics is well-informed but there is a tendency to pick up peripheral issues in a way that distorts the public's perception of the value of statistics.
- Sometimes standard procedures in the Code of Practice might need to be augmented allowing the message to be repeated.

29. Michael Fallon in 2004 put out a call for UK statistics to be independent by statute and that National Statistics should be properly badged. He thought that breaches of the code should be investigated more thoroughly. He added that ONS should continue to educate the media and that more newspapers should have statistical editors (or experts) on their staff.

30. Certainly since then the UK Government has moved to make ONS 'independent', but how far this move will go to improving public confidence remains to be seen.

31. The seminar in 2004 also suggested looking at language. Instead of using 'revisions' as a cover-all, it would be less confusing to use terms like 'updates' when revisions arose from new information; 'improvements' when they resulted from methodological changes; and, 'corrections' for errors.

32. In addition to the more appropriate language more effort should be made to find out why errors occurred and implementing the lessons learnt.

33. Communication problems should be analysed and minimised and there should be more open communication with the media and ONS should be far less defensive.

34. The criticism of being 'too defensive' is one that resonates from the media. ONS can argue that demonstrably it is open and upfront about its revisions and when it makes a mistake it says so clearly and categorically. This, however, does not always stop the negative media coverage and the constant drip of poor publicity that damages public confidence.

35. It seems that the problem of communicating revisions to a sceptical audience will be an intractable problem until the more basic issues of 'statistical literacy' in the general public and better communication from statisticians have been tackled.