

Revisions to statistics: their role in measuring economic progress

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Introduction

1. During autumn 2003, revisions to key economic series produced by ONS attracted a great deal of comment and criticism. However, this reaction has not always acknowledged the complex statistical framework within which revisions take place. Revisions to official statistics are an expected and inevitable consequence of the explicit trade-off that is made between the reliability of key releases and the need to have statistics available when it is opportune to benefit from them. This paper attempts to place revisions in their proper context, discussing the constraints inherent in statistical processes, and the balance between the demand for comparability over time and the need to ensure that statistics remain relevant in a rapidly changing world.
2. The provision of timely and effective market sensitive statistics enables key users to act decisively and promptly when issues arise. Among others, this aids the Monetary Policy Committee in its setting of interest rates, and investors in currencies, bonds and other instruments in the financial markets. The closer that decisions are made to the most recent statistical report of economic conditions, the greater the likelihood of decisions reflecting the true circumstances. In any area of public policy, there is rarely the luxury of being able to wait until the final statistical measure is available. In the absence of timely measures of known quality, policy-makers can only have a doubtful understanding of the present derived from past forecasts, anecdote or attitudinal surveys rather than official statistics. Furthermore, there could be significant risks to policy if key decisions are delayed as a result of timely information not being available.
3. It is important to acknowledge that the final estimate of any economic measure, calculated once all the relevant data are available, will still retain an inevitable component of statistical uncertainty. Given that we cannot monitor every transaction undertaken in the economy, even our best estimates will only be derived from a sample of economic activity and will only ever approximate the “true” value of the phenomena that they describe. This “true” value is notional and in practice unknown, but it remains an important concept used to compare the relative accuracy of “first release” estimates and their subsequent revisions.
4. In this paper, I examine the simplifying assumptions that underpin official economic statistics. These include the key assumption of stability of economic structures, which we can only periodically measure with the richness needed to fully encapsulate structural changes. I also look at the imbalances that result from statistical practice, and from the rigidities that are necessary to enable timely and consistent measurement of the economy.
5. The paper should also help set the context for the review of revisions being undertaken by the Statistics Commission. I welcome this review as a means of showing the extent to which we are meeting our users’ expectations.

Practical constraints on statistical measurement

6. **Assumptions:** official statistics involve a good number of simplifying assumptions. These are required to approximate in a timely fashion the complexity, richness and interdependencies of the British economy. They can also reflect the need to measure the same economic developments in different ways, measuring change on a current price basis and estimating the underlying volume shifts. Market reactions and policy responses can only be right for the circumstances when timely statistics provide valid inferences about the economy largely based on direct measurement. This is achieved through the rapid operation of highly standardised processes and an understanding of sampling variability. The core process used to calculate many key economic measures is a weighting together of transaction information sampled from large numbers of disparate businesses, using price and product mixings to generate “whole economy” estimates from a sample of economic activity. This relies upon assumptions of continuity for structures and structural relationships for fixed periods. From time to time the underlying structural assumptions are updated, but inevitably only in retrospect, giving rise to potential revisions. The updating of these assumptions incorporate changes to several significant tools and processes, including sector classifications and the business register.
7. **Stability:** the assumption of structural stability is key to the production of timely economic statistics. In the short term, we reduce the variability of our estimates by measuring change while assuming that the underlying economic and industrial structure is stable. In some measures, we assume stability over a twelve-month period and in others we assume stability over several years. Such assumptions are made known to users but are rarely well understood. We strive to reduce the impact of assuming constant structures through continually improving methods and statistical sources. This is an important objective, since when we do move to a new set of assumptions on industry and commodity structure, discontinuities are created in key economic series. These discontinuities are inevitably larger where there has been a lengthy delay in changing to the most recent measure of industry structure.
8. **Structural balances:** an increasing emphasis in economic measurement is on improving the reliability of statistics on structural balances such as the current account, and sectoral net lending and borrowing. This involves taking the difference between large gross flows. The robustness we now seek in such measures is leading us to explore new ways of using both administrative and survey sources. In addition, we are developing practices that ensure we have coherence in the information from our range of business surveys, whose returns are often completed by different parts of the same company. Furthermore, we have had to ensure such coherence in an international context, where large multinational organisations have only partial obligations to report in the UK.
9. **Domains of interest:** we produce economic statistics using a wide range of analytical breakdowns: by discrete time period (months, quarters and years), by region, and by industrial sector. This partitioning of time, place, business activity and organisational form reflects the limitations of measurement processes, as well as the past and present interests of key business and policy users. However, it is rare for any significant business activity to be so neatly or completely characterised for any lengthy period. One recent example of this has been the growth of internet retailing, which necessitated changes to the sampling methods used in the compilation of the Retail Prices Index.

The nature of the "first release"

10. The official statistics published by government reflect the issues where trusted information is needed. The early release of these statistics enables both political and commercial decisions to be firmly based on relevant information, giving the UK a competitive advantage in the world economy. When we produce initial "first releases" of regular economic statistics, we can generally identify the probable cause of any subsequent revisions, as we progressively increase the amount of information that we use to confirm our estimates. Users have the certainty that whenever we publish a statistical measure, it draws on all the relevant source information that is available at the time of release.
11. The revisions to the estimate of gross domestic product (GDP) growth during the second quarter of 2003 provide a useful illustration of this increase in precision, as more data become available. The provisional published growth figure of 0.3 percent incorporated an estimate of activity in the construction industry that was derived from forecasting models and early results from a survey. When the full results of the survey subsequently became available, they gave a markedly different picture of construction activity to that used in the provisional estimate. This unexpectedly large revision to the construction statistics led to a revision of the GDP growth estimate from 0.3 percent to 0.6 percent.
12. Revisions are a necessary consequence of normal statistical processes, with very few of them arising as a result of mistakes or "errors" in the popular sense of the word. All estimates, by definition, are subject to statistical "error", but in this context the word refers to the uncertainty inherent in any process or calculation that uses sampling, estimation or modelling. Statistics can also be subject to non-sampling errors. These can arise from problems with coverage, non-response and measurement error (possible resulting from respondent inaccuracy, or from the use of proxy measures given that we often have to describe phenomena that are difficult to measure directly) [Ruddock, 1999].
13. These non-sampling errors are often more difficult to assess and quantify than sampling errors, which are generally known and understood. Most revisions are planned, and reflect either the adoption of new statistical techniques, or the incorporation of new information which allows the statistical error of previous estimates to be reduced. Only rarely are there avoidable "errors" such as human mistakes or system failures. Where such errors do occur, this is made quite clear. Regional GVA estimates, for example, were withdrawn in November 2002 because there had been processing errors. On the other hand, revisions to historic annual estimates of GDP, to quarterly growth of GDP in 2003, and to monthly estimates of industrial production and of retail sales published in September 2003 were not the result of avoidable errors.
14. Revisions in response to statistical errors in previous estimates will arise naturally as a consequence of the explicit trade-off that is made between timing and reliability. "First release" estimates are the most timely, but most are published prior to the availability of fuller information which subsequent revisions incorporate. The number and frequency of such revisions will depend on the timeliness of the measurement process we use, our capacity to relate our statistical methods to the fundamental structures of the economy and society, and how often and how well we mirror those fundamental structures in our survey methods.

15. This trade-off between timeliness and reliability can be illustrated through a comparison of monthly and quarterly economic indicators with subsequent annual estimates. For example, the source data used in the calculation of most monthly and quarterly economic statistics are taken from the management accounting systems of respondent businesses. Subsequent annual estimates use information from audited full-year company accounts. There are clear differences in the quality of these two information sources, which ONS can only address to a limited extent (via validation checks, etc.). Furthermore, in order to manage the compliance costs to businesses, short-term in-year estimates are calculated from smaller samples of businesses than the annual estimates. Therefore, there are sources of both sampling and non-sampling error which are reduced in the transition from in-year to annual estimation.
16. The magnitude of revisions from one survey period to the next depends on the stability of the business register, and the quality of validation and estimation for non-response. Good procedures imply smaller revisions. Long term revisions are also made via benchmarking using data sources that are more stable. For example, quarterly estimates inferred from a sample can be revised via benchmarking using more stable estimates provided by a corresponding large scale survey of the appropriate population. However, such revisions are not timely.
17. The accuracy of an early estimate should be contrasted not only against the final estimate, but also against the alternative measures that would have been used if the methods and data sources underpinning the estimate had not been available. Some income tax information used in the National Accounts is not finalised for three or more years after the period it refers to, yet it is the most comprehensive way we have of obtaining robust information about some facets of economic activity (including self-employment, rental income and the output of some service industries).
18. A key factor in any assessment of the revisions history of a statistical series is the likelihood that revisions to initial estimates are biased (either positively or negatively). A bias in the first estimates of an economic indicator may have more serious implications for policy and business than an increase in the magnitude or frequency of revisions, particularly when the bias is unknown or unquantified. ONS periodically publishes analyses of the revisions to estimates of GDP. The most recent such analysis [Akritidis, 2003] looked at total revisions between 1993 and 2000, and concluded that although there was a bias to GDP growth estimates of around +0.2 percent on average, the majority of this bias arose from long-run methodology changes made to the National Accounts.
19. It is hard to find comprehensive international comparisons of GDP revisions. However, a recent study carried out by Statistics Sweden (Öller and Hansson, 2002) showed that UK annual absolute revisions over the period 1990 to 1998 were smaller than those of all the other 11 countries included in the study.

Continued comparability in a changing world

20. The methodology and associated systems that produce statistics need to be stable over time. This is necessary because it is quite inefficient to make rapid step-changes to the design of statistical measures even though the economy and society at large are continually evolving. Stable methodology ensures comparability and results in statistics that reflect the same concepts over the life of a statistical series. Nevertheless, the world

around is in a state of continuous change and it may well be that the rate of this change has increased in the last decade. A more rapid rate of change means that revisions are potentially bigger when systems and methods are updated. Globalisation, and the growing use of information and communications technologies to change business practices, have widened the scope of the British economy, as has the acceleration in the growth of new products, whether they be electronic, financial or biotechnic. Markets have expanded in scope as a result of deregulation, which has continued and has influenced trade in goods, financial markets, investment, labour, utilities, standards and occupations.

21. The traditional institutional basis of the public sector is also changing, through privatisation, outsourcing and an increased number of non-departmental agencies. The methods of managing and reporting on the work of the public sector have also evolved, through the adoption of resource accounting methods and an increased use of performance measures. Furthermore there has been a large-scale investment in recent years, which has led to greatly increased scrutiny of official measures on public sector output. There is a heightened awareness of equity issues such as gender, ethnicity, social class and region, and our wider concerns relating to international equity require the effective measurement of key indicators. The scale and variability of demographic change will expand in the coming decades, over a period where there are likely to be greater expectations that public programmes will be tailored to the needs of distinct communities, in contrast to the traditional “one size fits all” universal provision. In many policy areas (pensions being a key example), long term sustainability is critical to contemporary decision-making. At the same time, there is a desire to ensure sustainability in taxation and the other instruments that determine our fiscal position.
22. Users expect, somewhat naively, that official statistics should remain comparable over time in a fast changing world. For official statisticians, the challenge is that not only that what we measure is changing, but so are the sources, systems, standards and methods that we use to obtain our raw data. We have seen rapid change in the target populations of nearly all statistical sources, whether they relate to persons, businesses, products, transactions or life events. Our statistical tools are also changing rapidly, bringing new expectations of what they should deliver in terms of availability, detailed analysis, immediacy of access and measures of statistical reliability. However, there is a limit to which our technology can respond accurately to such demands.

The limitations of direct and indirect measurement

23. The most important and widely used regular National Statistics in the UK are generally founded on direct measurement, where we design and operate the best achievable measures that our budget allows. In the UK, a higher proportion of our statistics is founded on direct measurement than in many other countries. While this brings obvious benefits to the relevance and richness of official statistics, it frequently leads to more revisions as source data are inevitably updated or rebased.
24. In other cases, it is necessary to use indirect measurement techniques. Official statistics that are more specialised to a particular policy may be based on some form of model or estimation process, where the best measure is produced from whatever information is available. In these latter situations, revisions can result from a shift in our judgements on the adequacy and reliability of data sources, even where there is no change to their content. The information used for these measures is often drawn from administrative

systems, which are designed for the main purpose of managing the delivery of a public service rather than providing source information for official statistics. It is important for us to continually assess their reliability and adequacy, evaluating alternative administrative sources where they exist and liaising with officials who maintain source systems to plan for a discontinuity or unavailability of data. The following examples show some of our responses in circumstances where the adequacy or relevance of data sources has been questioned.

- Some years ago we judged that the NHS patient registers had become better than electoral registration changes as a basis for measuring internal migration between censuses.
 - For many years we published a measure of the ratio of the numbers of unemployment benefit claimants resident in local authorities to the number of jobs based in the same areas. This was a simple ratio calculation of two directly measured series taken from different sources. However, publication of this measure was discontinued in 2003 because it was conceptually unsound, and had become untenable as a measure of unemployment in small areas given the significance that is now attached to the reliability of small-area unemployment comparisons. Users who still want to use this measure can easily prepare it for themselves using other published statistics, but the calculation now has no implicit official endorsement.
 - A further example is the publication of industrial disputes statistics. While they do not meet any absolute standards of quality, the proposal to cease publishing them led to a strong reaction that there should be some official figures, which made it difficult to stop publication. The reliability of disputes statistics is not easily quantified, and confidence in them is mainly based on the consistency of methods applied each month, by skilled staff acting objectively. That they are rarely revised is no indication of their quality.
 - The publication of Job-Centre vacancy statistics was suspended from September 2001, because of major changes in the coverage of the administrative systems on which they relied. Survey processes are usually more stable than those using administrative records. Since a survey-based vacancy measure was introduced in 2002, the multiplying factor used previously (which assumed that the actual number of vacancies was 3 times the total recorded by the Department of Work and Pensions) has been found to be an overestimate.
 - Sometimes, we may only have an indirect estimate of activity that our usual data collection methods have missed, as in the recent case of VAT fraud distorting international trade figures. In this instance it is not realistic to expect to capture in statistical surveys transactions undertaken by criminals seeking to trade covertly.
25. In a fast-moving world, we need statistical processes, practices and methods that give us a comparably fast speed of response. If such speed is not available, only more costly processes and a higher degree of expert intervention can produce relevant official statistics. The associated risk is managed by intensive oversight where performance evaluation is not systematised or immediate.

Practical influences on revisions

26. The size and impact of revisions can be influenced by how we operate. Increasing the frequency of regular structural surveys (for re-weighting purposes) results in a smaller discontinuity when a new benchmark is applied. In this light, we expect that annual chain linking of the national accounts and the main supporting series, introduced in 2003, will reduce discontinuities that have been associated with each five-yearly rebasing in the past. Annual chain linking is now in place for the Average Earnings Index, the Index of Production and the Index of Services, among others. In the past three years there have been an unusually high number of major benchmark surveys that have been substantially revised. These particular revisions have inevitably resulted in consequent revisions to statistical series that they support, either as a primary data source or as the basis of industry or regional comparisons. The main revisions have been to the Annual Business Inquiry which was introduced in 2001, and population estimates (September 2002 and October 2003), that have had consequential effects on many series and important relationships and ratios.
27. At the other extreme, we had limited information on migration to and from the UK, especially on the distribution of immigrants within the UK, throughout the whole period between the 1991 and 2001 population censuses. This period spanned a major shift in migration patterns, and resulted in poorer estimates of local authority populations where immigration played a major part in population change during the decade.
28. For regular economic statistics, the ONS initial published estimates are usually very close to the revised estimates, even though they often differ in how they are prepared. Analysis of GDP revisions shows that, over a decade, the difference between the first estimate and third estimates of quarterly growth (irrespective of sign) was under 0.1 percent on average. Users are made aware of these differences.
29. For example, the first published retail sales index statistics are based on about 65 percent of the respondents to the relevant inquiry, which is all that we have available to us in the first ten days after the end of any given month. The first published weekly death statistics are an exact count, but of death registrations rather than deaths actually occurring during the particular week, and late reporting means it is several weeks before we can give a more exact measure. However, this difference is usually negligible, which during the heat wave of summer 2003 allowed us to provide immediate comparisons with summer death rates in other countries.
30. In all of our major economic statistics, we have had instances where a major respondent makes retrospective changes to their past responses, to such an extent that it has a significant impact on key statistics. We publish these revisions at the earliest possible time given our revisions policy. Given their statistical importance, it is quite rare for a major economic indicator to be published with the responses of the largest companies missing.
31. However, in the balance of payments statistics, some very large firms can only provide data on an annual basis even though we need it on a quarterly basis. This implies that their quarterly data must be estimated based on a number of assumptions. A good number of high profile statistics are residuals obtained by subtraction using two large gross flows, particularly in the balance of payments area, where gross credits and debits of over £100

billion a quarter need to change only by a little in order to affect the current balance. Thus, relatively minor revisions of the data provided by large organisations can have a major impact on key economic statistics. By way of illustration, in the December 2003 Balance of Payments release, debits for 2001 were revised upwards by around £1.5 billion a quarter following the correction of an error by an important contributor.

32. There are examples where conforming to international standards is insufficient to provide all the information needed on a national basis, but it enables international corroboration of results. For example, in Foreign Direct Investment, the location of holding companies can complicate regional flows. As another example, the International Labour Organisation definition of “employment” may be too broadly based (all work of at least one hour per week) for some purposes, and we can identify sub-categories of employment from the Labour Force Survey using other information (for example, usual hours of work per week).

Using statistical measures beyond their designed qualities

33. A large number of the goals of government are now expressed and measured as performance targets. The current investment in Neighbourhood Statistics, motivated by a need for more detailed local-level statistical information, was one clear example of the extent of this shift. Performance indicators are an important component, but do not embrace the total needs of performance measurement. They form a key part of the drive to make government outputs more sensitive to people's needs. The statistical corollary is a switch to measuring outputs from the traditional input measures that were in place previously. The review of the measurement of government output to be undertaken by Sir Tony Atkinson will help keep the UK at the forefront of measurement in this area.
34. Official statistics enable the relating of particular performance indicators to wider performance measurement needs. An illustration of the growing demands now placed on UK statistics is the shift from the traditional use in policy evaluation and analysis, towards increased application in measuring and assessing the delivery of public services. As a result, official statistics now relate more explicitly to the outcomes of government, forging a much more direct link between statistical error and “real world” impact. Few long-standing statistics have had this immediate linkage taken into account in managing the reliability of statistics, and the increased cost from their revision.
35. Furthermore, evaluating the delivery of public services almost invariably requires statisticians to produce statistical measures at a level of detail far beyond the design specifications of the surveys from which they were derived. This is much less of an issue when statistical measures are applied to policy design. As a consequence, it is necessary to place almost as much emphasis on measures of the reliability of the resulting statistics and the underlying models that produced them, as is placed on the statistics themselves.
36. Surveys originally designed to produce specific outputs may be used to produce other outputs. For example, the New Earnings Survey was originally designed (in 1970, despite its name) to inform the development of wages and incomes policy. However, among other recent uses, it is now key to allocating central funding for local government. As another example, we increasingly use the Labour Force Survey to provide national and regional economic indicators each month, even though it was originally designed to produce quarterly labour market estimates at national level only. Business surveys have

traditionally served the role of producing economic indicators. However, the use of the Labour Force Survey as the focus for the more coherent monthly reporting of the labour market introduced by ONS in 1998, has created expectations that we strengthen the links between demographic and economic data. This expectation is being sought by data users, even though our traditions have been to operate social and economic statistics separately and differently, in all fundamentals of the statistical system.

37. The expectations of the Monetary Policy Committee have led to a greater emphasis on more exact and robust measurement of the real economy. The Bank of England is aware that revisions are a natural part of the statistical process, and stated in its August Inflation Report that “the MPC takes account of the likelihood that GDP data will be revised when deciding how much weight to put on the latest data”. However, its expectations rightly remain high, and this has resulted in an ongoing programme of updating and extending the scope and detail of business, consumer and trade price indices, and labour cost measures. We have consequently started to obtain information on hours-worked in productivity studies, so that the increasing variability in the length of the working week is reflected in a more exact measure of labour input.
38. A different example of evolving practice is seen in the measurement of bonuses, which has become critical to measuring earnings trends. We initially asked firms to identify where any large bonuses were paid, and now all respondents need to advise all such payments. In November 2003 we introduced a new headline measure of earnings minus bonus payments, which we expect to identify shifting trends with less variability. Performance related elements are also becoming an increasingly common feature of salary arrangements, a development that has spread well beyond the confines of the City.

Obsolescence, improved relevance, increased revision

39. ONS has an ongoing need to replace obsolete systems to allow us to introduce more up-to-date and flexible methods. Such replacement is necessary, otherwise our ability to maintain the relevance of statistical measures through periodic changes in methods is impaired. The inherent inflexibility associated with some existing systems (older ones) is such that we cannot modernise outdated processes within the confines of these systems without incurring a prohibitive cost. As a consequence, necessary changes to methodology take up a disproportionately high share of ONS resources to implement.
40. The compliance costs of business surveys for 2003-2004 will be about the same as in 1995. The demanding obligations of compliance cost constraints are a constraint to extending survey activity in areas of much interest, particularly business investment and an increased range of regional analyses. Much of the compliance costs quota is tied up in surveys the scope of which is difficult to reduce, such as PRODCOM (a survey on PRODUcts of the European COMMunity, a harmonised system across the EU for the collection and publication of product statistics). There are “Osmotherly rules” for rotation and replacement of small businesses within survey samples, as well as limits on total respondent load. However, only four complaints are received for every 10,000 survey forms sent out to the 320,000 businesses covered by surveys, and this might suggest that compliance costs on business do not represent a high risk at their current level. Our manoeuvrability is limited by the ongoing absence of good address registers, and very limited access to administrative data (particularly tax information). Access to tax records for statistical purposes could cut annual compliance costs by some 25%. The

Allsopp Review of the statistical requirements for economic policymaking has recently recommended that “the ONS and the Government should explore the extent to which tax and other administrative sources could replace business survey data”.

41. There is always a question of the scope of official statistics. When a measure is an authoritative official statistic, it is designed to meet high quality standards and there is less need to investigate its reliability continually. Across the statistical system overall, the role of ONS within National Statistics is as a place of trusted sources, complex integration of statistics and measures, and the key statistical infrastructure.
42. There can be an assumption that publication by ONS is, of itself, a sufficient endorsement of the robustness of a statistic, and of its fitness for use in unknown circumstances. This assumption is sometimes made without sufficient understanding or investigation of the limitations on reliability. Practical examples of this include the low pay estimates produced by ONS for the Low Pay Commission, and the Tax and Prices Index. It may well be that the public has unrealistic expectations of the reliability of these sorts of measures, at least in the development stages.
43. In the former case, initial low pay estimates were published using available information not designed for low pay purposes. Following a National Statistics Quality Review, a programme of work to improve low pay estimates is now in train. The Tax and Prices Index (TPI), first produced in 1979, measures how much the average person’s gross income needs to change to purchase a notional “basket “of common goods and services, allowing for the average amount of income tax and national insurance paid on earnings. However, the TPI calculation makes a number of simplifying assumptions, and in particular has no distributional dimension despite the fact that the net impact of changes in incomes, prices and taxes often varies widely across different income groups.
44. Past statistical developments in the UK have placed a strong emphasis on increasing the range and timeliness of available measures. The introduction of National Statistics has been the first major signal of a commitment to developing improved measures of reliability since the Pickford review of economic statistics in 1989. The Pickford review narrowed the focus of many surveys to the needs of National Accounts. Its goals were achieved successfully, but perhaps ultimately had the effect of making the statistical system less robust and flexible for the development of activity outside the established scope of macro-economic statistics. Developing a system to fit the needs of National Accounts leads to strong and comprehensive collections and indices. In achieving this robustness at a national level, we may have diminished the flexibility of economic sources for regional analyses. This is another area which has been addressed by the Allsopp Review

Integrity of the revisions process

45. Revisions within ONS are carried out in context of considerable oversight and scrutiny. The integrity of process rests on:

A number of professional codes, regulations and standards

- The National Statistics code of practice and protocols, including a protocol on revisions
- European Union Law and regulation

- United Nations principles of official statistics
- International Monetary Fund special data dissemination standards
- Civil Service codes of practice

Professional practices

- Training and integrity of Government Statistical Service
- Public access and transparency of methods
- Publication commitments published each month in a schedule for 12 months in advance
- The fact that, of necessity, all appointments in GSS posts are of persons who are statistical professionals. There are no political appointments or political advisors in any GSS post.
- The tradition of appointing a professional statistician or economist to the post responsible for the leadership of official statistics in the UK. The Director of ONS (previously CSO) has been appointed after interview by a panel of civil service commissioners and others. The panel traditionally includes a former president of the Royal Statistical Society, as well as other independent people.

An established programme of external scrutiny

- An extensive programme of quality reviews, carried out by ONS and the GSS, with outside participation, to assess the past performance of official statistics in the UK and make recommendations for the future.
- Regular publication by ONS of analyses of the revisions histories of key economic series in the National Accounts.
- The establishment of the Statistics Commission as a key part of the National Statistics Framework, with its review of revisions as an example of its role.
- International comparisons of statistical performance which report on the revisions to key statistics in the UK. Again, this is particularly relevant to key economic series in the National Accounts.

46. The National Statistics code of practice and the protocols have set us on a strong path to increase the timeliness and relevance of the documentation on statistical practice available to staff who work on particular series. The Protocol on Revisions, to be published later this month (January 2004) will make the revisions process more transparent to users by letting them know about planned revisions well in advance, and producing full explanations of the reasons for revisions when they are made. The details of our approach, include the following key requirements:

- Each organisation responsible for producing National Statistics to publish a statement describing its general practice on revisions, with key outputs that are subject to regular planned revisions having a specific published policy.
- Substantial changes in methodology will be announced in advance of the release of statistics based on that new methodology.
- Timeliness of release will be balanced with the need to avoid frequent revisions.
- Where unplanned revisions occur, they will be released as soon as practicable 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 quality.

For the future, this will reduce the extent to which revisions also reflect on areas where our management or our statistical processes require improvement.

Effective management of change in statistics

47. When methods and practices change, the amount of overlap and “dual running” of systems will depend on resources, the level of pressure to work with new and better measures, and judgement of the likely impact. The time and resources required to pilot new processes will determine start up risk, and the effort then needed to nurse new processes into operation when they are introduced. The operation of obsolete systems requires a heightened degree of vigilance for maintaining normal processes, and increases the risk of failure, particularly where related activity is evolving faster than the documentation to support it.
48. As is usual in developed countries, the National Statistician of the UK has no functions in which success or failure is determined by the outcome of statistics for which he is responsible. Such a clear delineation in the role of the National Statistician might be expected to have reduced any past perceptions or accusations of external influence on the way in which judgements are formed and release practices are set. When a statistic is prepared to inform and service a specific policy need, then the judgements on its fitness for use clearly lie more with those who understand the policy than with those who produce the statistical measures.
49. In the UK, we establish the priorities of statistical work through extensive consultation processes, and major users (particularly the Bank of England and HM Treasury) are closely involved in setting our priorities. I know of no major area in the National Accounts where choices have not been made in consultation with these organisations, with staff who are well aware of the both the strengths and limitations of ONS. Generally, this has given the UK a huge competitive advantage as we develop National Accounts, facing up to the same challenges that other countries face. This is reflected in the fact that we often are in the lead, and always with the lead, in comparisons of timeliness and reliability with our counterparts in other countries.

Conclusion

50. Being decisive when it is opportune has become a critical outcome of the new monetary policy setting of the UK, through the role of the Bank of England’s Monetary Policy Committee. Timely, robust economic statistics underpin the competitive advantage that this gives the UK economy. This paper explains why regular revisions are an expected part of measuring the UK economy. I also hope that this advances commentators’ understanding of how UK economic statistics develop, to ensure that they can have early access to measures that improve in quality over time, in a changing world.

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