

Session Number: 1
Session Title: Measuring non-market output, efficiency and productivity
Session Chair: C. Kastrop

Paper prepared for the joint OECD/ONS/Government of Norway workshop
"Measurement of non-market output in education and health"

London, Brunei Gallery, October 3 – 5, 2006

Measuring government output and productivity: meeting the need
for more timely, detailed and better quality data on government
expenditure

Vanna Aldin
UKCeMGA/ONS

For additional information, please contact:

Vanna ALDIN
UK Centre for the Measurement of Government Activity,
Office for National Statistics, 1 Drummond Gate, London SW1V 2QQ, United Kingdom
E-mail: vanna.aldin@ons.gsi.gov.uk
Telephone: +44 (020) 75335348

This paper is posted on the following website:

http://www.oecd.org/document/34/0,2340,en_2649_33715_36450978_1_1_1_1,00.html

Contents

1. Introduction
2. Why is government expenditure data important?
3. Atkinson Review on UK government expenditure data
4. Recent UK developments on government expenditure data
5. Looking forward: next steps

1. Introduction

This paper outlines the requirement for government expenditure data required for measuring government output and public sector productivity in the UK. It also briefly describes the main recommendations in the Atkinson Review as regards improving government expenditure data and the recent changes in the process for collecting government expenditure data in the UK which have led to more timely, detailed and better quality data on government expenditure. It concludes with a short description of future plans aimed at further improving the quality of the data and an assessment of their likely impact on measuring government output and productivity.

2. Why is government expenditure data important?

Government expenditure data are used in calculating key economic aggregates, such as GDP, the fiscal aggregates, and public sector productivity statistics. These economic statistics are used as key information for economic forecasting and policy making, in both fiscal and monetary policy. It is therefore very important to ensure that the components, for both central and local government, are accurate.

In measuring government output the methodological shift from the national accounts convention “input = output” to a direct measure of output for most of the public services has meant that more attention has been put on the output side, but it is equally important to investigate the measure of inputs.

Government expenditure data are in fact relevant in both measuring government output and productivity. Ideal requirements in the first case are the:

- availability of high and low level of spending categories to be used as weights in the calculations of volume measures of government output;
- consistency between these two levels and accordance with national accounts principles;
- availability of these data quarterly and annually.

In measuring government productivity, expenditure data are entered into the productivity equation as inputs. In this case, the input side is best considered in terms of the three disaggregated input categories identified in the National Accounts: labour, procurement of goods and services and capital consumption. In the case of Education, for example, the labour input consists of the wages and salaries paid to teachers, school secretaries, caretakers, and other employees, together with the costs of employing them such as National Insurance and pension contributions. Goods and services should include expenditure on books, pens, heating, temporary contract teachers, transport services, and items such as data processing services. Capital consumption is the physical depreciation of the stock of fixed assets, which include, in the case of education, buildings, equipment, and computer hardware and software.

It is very important therefore to have an accurate split of government spending into these three categories, possibly at a high level of disaggregation and with the related price information because in the productivity analysis we are interested in the volume of these inputs rather than the spending on them.

Another relevant aspect to be considered is the role of quality. Output may be increasing on account of improvements in the quality of inputs, such as better trained workers, or more reliable equipment. These improvements in inputs need to be taken into account to correctly measure productivity.

3. Atkinson Review on UK government expenditure data

In assessing the availability and supply of data used in the National Accounts, one of the Atkinson Review conclusions was that there was insufficient recognition across government of the importance of data on government spending for producing accurate national accounts.

The Review also identified some significant problems in the way in which public spending data are entered into the National Accounts. Public spending represents over a fifth of Gross Domestic Product (GDP) as measured using the government consumption component of the expenditure measure of GDP, so ensuring the accuracy of the public sector data on which the National Accounts are based is crucial. Some of the main issues identified are listed below.

In the UK, there is a complex data flow involving many suppliers inputting data into a long chain at the end of which sit the national accountants. Not surprisingly, there is a lack of communication and understanding about how the data are used to produce National Accounts. People upstream in the chain are often unaware of what will happen to the data further down the chain. Equally, people down stream often find it difficult to obtain explanations for apparent oddities and strange movements in the data they receive. The lack of documentation contributes to lack of clarity across key players and also constitutes a risk to business continuity in the accurate compilation of the National Accounts.

Another issue is related to data classification: in the compilation of National Accounts the main classification of government expenditure data is to economic categories (based on ESA1995) and functional categories (based on COFOG, the Classification of the Functions of Government). The main problem is with the local government data supplied by local authorities using different versions of economic categories and different breakdowns of public services; but there are still outstanding issues with data provided by central government departments.

A third issue is related to data by country and function: National Accounts show spending figures by government function but only at a UK level, and these functional figures are not disaggregated into the four countries, England, Scotland, Wales and Northern Ireland which are the producers of the services being measured. The source data behind the National Accounts need to be improved in order to estimate a reliable breakdown of spending by both country and government function.

Poor data timeliness and lack of appropriate periodicity, especially for local authority data, mean that National Accounts compilers often have to make assumptions, use forecasts and budget data and, as a result, aggregate data are subject to frequent revisions.

As for capital data the Review supported the measurement of capital input to production (capital services). However, although the UK ONS has published experimental estimates of the growth in capital services, no disaggregation by function between the public and private sectors is available. Until these data become available, the existing capital consumption figures should be improved as well. And the Review supports the ONS decision to move towards use of the accounts of the

departments and other public bodies as a basis for estimating capital consumption, rather than its own Perpetuary Inventory Model.

Finally, the Review recommends that labour inputs should be measured using both direct methods (number of hours worked, with different skill categories being weighted) and indirect methods (deflation of pay by a labour cost index). Further development work is required to construct estimates of public service labour input using the direct approach to make them suitable for analysis of productivity for individual government functions.

In order to tackle the issues presented above, the Review made some recommendations in respect of central government data:

- ONS and Treasury should provide transparency on the content and processing of the data in the data supply chain, to provide a “clear line of sight” up and down the supply chain.
- ONS and Treasury should make the best use of the introduction of COINS¹, the new Treasury database, to improve the quality of this data supply; and departments should take responsibility for the accuracy of the data they feed through into the National Accounts.
- the importance of accurate data on government spending for the National Accounts should be recognised at the highest level, for example, by specifying such responsibilities in the letters of appointment of Accounting Officers and Principal Finance Officers.

And in respect of Local Government data:

- ONS and Treasury should work together with the Department for Communities and Local Government (DCLG) and the Devolved Administrations to improve the accuracy of data classification for government spending on public services in the National Accounts. In particular, ONS should engage actively in the newly created Local Authority Working Group with the aim of collecting data at source in ways consistent with ONS economic categories and to improve timeliness.
- ONS and DCLG should look at the feasibility of local authorities providing expenditure information on a sample basis rather than via a full census.

4. Recent developments in the UK on government expenditure data

Since the launch of UKCeMGA in July 2005 several initiatives have been started with the aim of improving the quality and timeliness of government expenditure.

A dedicated team in the Centre has been set up to take forward the Atkinson Review recommendations on government expenditure data.

Annual action plans have been set up with the Treasury, DCLG and the Devolved Administrations, the main data providers for ONS, in order to agree and monitor a programme of work for both central and local government data and to tackle the issues identified in the Review. Action plans have proved to be a powerful tool as they offer an opportunity to bring together users of data within ONS and the main

¹ Combined On-line Information System

suppliers and to agree on the development work that meets the requirements of all the parties involved.

ONS has been heavily involved in the Treasury plans to replace the three data systems previously used to collect data from central government departments and Devolved Administrations with a single data system, COINS. In recognition that a main purpose of COINS is to produce data for the National Accounts, ONS has been able to specify its requirements from the COINS database. This was introduced early this year and is now fully operational. These requirements have been written to deliver transparency in terms of showing which elements of departments' COINS data are used in the National Accounts.

The introduction of COINS has contributed to an increase in the proportion of central government covered by monthly outturn data and in the consistency between quarterly and monthly data. (Previously the monthly and quarterly in-year data were supplied separately, with the quarterly data being more detailed, and any difference had to be attributed between months. Now all the data is supplied monthly, in much more detail, and the quarterly data are calculated as the sum of the three months.)

ONS has worked to document its processing of the COINS data to achieve transparency, so that Government can understand how the final published central government data relate to the data supplied into COINS. As a result, ONS and Treasury are now able to provide complete transparency on the detailed working of the supply chain for central government expenditure.²

The Treasury in collaboration with ONS has provided training and guidance to departments on the importance of the correct classification of the data that departments supply into COINS.

ONS is also working with the Treasury to ensure that Departments take responsibility at the highest level for the quality of the data they supply into COINS, and which are then used in the National Accounts and to produce public sector productivity estimates. A sign-off proposal has been put forward to the Financial Directors and this proposal envisages that they will be given formal responsibility for the requirement to submit accurate data to ONS via COINS for the National Accounts from the beginning of 2007.

The transparency and the introduction of COINS as a single data system will also enable the relationships between the different measures of expenditure produced from COINS to be completely clarified, which will improve the consistency and integrity of government financial reporting.

In addition to the contribution to COINS implementation, ONS has recently started a programme of work specifically targeted at improving the quantity and quality of government expenditure data on procurement. Although procurement expenditure accounts for almost half of the total government expenditure, data available to ONS for the National Accounts and for measuring public sector productivity is poor in terms of product breakdown detail and price information needed to estimate volume

² Local Authority data is still being supplied to the Treasury by DCLG.

measures. ONS is actively engaged with the Treasury, DCLG and government departments in order to develop short and long term proposals on how to improve data collection on procurement expenditure.

ONS has been engaged in a High Level Working Group together with the Treasury and DCLG to make proposals to improve the supply of expenditure data from Local Authorities for measuring local government expenditure in the National Accounts as recommended in the Atkinson Review Final Report. Some of the proposals have been translated into projects with the following objectives:

- ensure a close match between the expenditure classifications used by Local Authorities in their own accounts, and the economic and functional classifications used by ONS ;
- develop Local Authorities' accounting systems to facilitate the provision of short period expenditure data on an accrued basis and;
- improve the quality and timeliness of data to meet National Accounts requirements.

Most of these projects are still being implemented but some good progress has been made in improving the timeliness of local authority data received by ONS.

The main keys to the successful implementation of the changes described above are:

- the agreement of actions plans with the relevant departments every year;
- the establishing of strong working relationships with the Treasury teams working on COINS and those responsible for delivering public sector data to National Accounts in ONS;
- the strong relations between UKCeMGA and National Accounts in ONS which will be further strengthened by implementing a recent agreement for UKCeMGA output and productivity experts to quality assure government expenditure data used in the National Accounts.

5. Looking forward: next steps

ONS has used the development of the new COINS financial information system as an opportunity to achieve transparency in its use of departments' data, and both the Treasury and ONS have used this transparency as a means to require departments to take formal responsibility for the accuracy of these data. COINS provides the vehicle for this transparency and will also provide the means for departments to achieve quality improvements in aligning the COINS outturn data used for the National Accounts with the audited accounting data

In addition, the audited outturn data held on COINS are being expanded in order to produce the 'Whole of Government Accounts'. These are new, consolidated, GAAP³-based accounts that will cover the whole of the public sector and they have already provided access to a potentially better source of audited central government depreciation data. This is currently being review by ONS to see how and when it could be used in the National Accounts and Public Sector Finance instead of the Perpetuary Inventory Model estimates, as recommended in the Atkinson Review.

³ Generally Accepted Accounting Principles

ONS is working with the Treasury to ensure that central government data will be available by COFOG in COINS by the end of this year. A further development of COINS will look at improving the disaggregation of functional data by country (England, Scotland, Wales and Northern Ireland).

ONS is currently working on completing the documentation processes to achieve transparency of data processing and use, so that DCLG and Local Authorities can understand how the final published data use the information supplied.

Additional areas of work for ONS will be:

- to improve the labour data for the public sector to allow the productivity analysis for each relevant government function to be based on both the direct and indirect methods in calculating labour inputs;
- to take forward with the Treasury and other Departments the work programme on improving the government procurement data;
- to continue with the experimental ONS work on producing capital services data so that a split of private and public sector data might soon become available.