



National Audit Office

MEASURING UP

HOW GOOD ARE THE GOVERNMENT'S
DATA SYSTEMS FOR MONITORING PERFORMANCE
AGAINST PUBLIC SERVICE AGREEMENTS?

JUNE 2010

Comprehensive Spending Review 2007 covering the period 2008-2011

**Review of the data systems for Public Service
Agreement 1 led by the Department for
Business, Innovation and Skills:**

'Raise the productivity of the UK economy'

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Contents

Summary	4
Findings and conclusions for individual data systems	8
Indicator 1.1: Labour productivity (output per hour worked) over the economic cycle	8
Indicator 1.2: International Comparisons of Labour Productivity (per hour worked)	10

The National Audit Office study team consisted of: Gillian Entwistle and Liz Fox under the direction of Helen Dixon. KPMG completed the detailed fieldwork and initial draft report working to the NAO. This report can be found on the National Audit Office website at www.nao.org.uk

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Summary

Introduction

1. This report summarises the results of our examination of the data systems used by the Government in 2009 to monitor and report on progress against PSA 1 “to raise the productivity of the UK economy”.

The PSA and the Departments

2. PSAs are at the centre of Government’s performance measurement system. They are usually three year agreements, set during the spending review process and negotiated between Departments and the Treasury. They set the objectives for the priority areas of Government’s work.
3. This PSA is led by the Department for Business, Innovation and Skills (the Department). The Department was formed on 5 June 2009 following the merger of the Department for Business Enterprise and Regulatory Reform (BERR) and the Department for Innovation, Universities and Skills (DIUS). This PSA was previously led by BERR.
4. Data for the measurement of this PSA is provided by the Office of National Statistics (ONS) and the Organisation for Economic Co-operation and Development (OECD). Each PSA has a Senior Responsible Officer who is responsible for maintaining a sound system of control across Departmental boundaries that supports the achievement of the PSA. The underlying data systems are an important element in this framework of control.
5. At the time of our review, the most recent public statement provided by the Department on progress against this PSA was the Annual Report published in July 2009. Since our review, BIS has published the 2009 Autumn Performance Report¹.

The purpose and scope of this review

6. The Government invited the Comptroller and Auditor General to validate the data systems used by Government to monitor and report its performance. During the period September 2009 to January 2010, the National Audit Office (NAO) carried out an examination of the data systems for all the indicators used to report performance against this PSA. This involved a detailed review of the processes and controls governing:
 - The match between the indicators selected to measure performance and the PSA. The indicators should address all key elements of performance referred to in the PSA;
 - The match between indicators and their data systems. The data system should produce data that allows the Department to accurately measure the relevant element of performance;

¹ Published December 2009 – URN 09/P36 available from www.bis.gov.uk

- For each indicator, the selection, collection, processing and analysis of data. Control procedures should mitigate all known significant risks to data reliability. In addition, system processes and controls should be adequately documented to support consistent application over time; and
 - The reporting of results. Outturn data should be presented fairly for all key aspects of performance referred to in the target. Any significant limitations should be disclosed and the implications for interpreting progress explained.
7. Our conclusions are summarised in the form of traffic lights (see Figure 1). The ratings are based on the extent to which Departments have:
- (i) put in place and operated internal controls over the data systems that are effective and proportionate to the risks involved; and
 - (ii) explained clearly any limitations in the quality of its data systems to Parliament and the public
8. The remaining sections of this report provide an overview of the results of our assessment, followed by a brief description of the findings and conclusions for each individual data system. Our assessment does not provide a conclusion on the accuracy of the outturn figures included in the Department’s public performance statements. This is because the existence of sound data systems reduces but does not eliminate the possibility of error in reported data.

Figure 1: Key to traffic light ratings

Rating	Meaning ...
GREEN (Fit for purpose)	The data system is fit for the purpose of measuring and reporting performance against the indicator
GREEN (Disclosure)	The data system is appropriate for the indicator and the Department has explained fully the implications of limitations that cannot be cost-effectively controlled
AMBER (Systems)	Broadly appropriate, but needs strengthening to ensure that remaining risks are adequately controlled
AMBER (Disclosure)	Broadly appropriate, but includes limitations that cannot be cost-effectively controlled; the Department should explain the implications of these
RED (Systems)	The data system is not fit for the purpose of measuring and reporting performance against the indicator
RED (Not established)	The Department has not yet put in place a system to measure performance against the indicator

Overview

9. The aim of this PSA is to raise the productivity of the UK economy and is supported by two indicators.
10. For this PSA, we have concluded that the indicators selected to measure progress are consistent with the scope of the PSA and afford a reasonable view of progress. Whilst the indicators measure growth in productivity, they do not explicitly measure the role the Department has specifically delivered with respect to raising productivity.
11. At the time of our review, governance arrangements around the control framework were being revised following the creation of the Department in June 2009. The range of governance processes in place over PSAs included:
 - Departmental management board monitoring of PSA performance on a regular basis;
 - PSA programme board led by a senior responsible officer, responsible for risk management on individual PSA indicators with a remit to escalate risks to the management board; and
 - responsibility for data quality residing in the PSA sponsor directorate with a named data owner responsible for data compilation for each indicator, supported by analysts.
12. Overall quality assurance is the responsibility of the sponsor Directorate. While the Department has underlying quality and training measures in place there is no standardised quality control methodology applied across directorates. Quality control processes are generally undertaken by individual data owners and their team, who complete checks on their respective indicator. However in a number of cases reliance is placed on the controls in operation by other government bodies, which are not always reviewed regularly for adequacy.
13. The Department has procedural documentation and manuals in place documenting processes used to quality assure and calculate data, however in some cases procedures for identifying and assessing risks to data reliability, controls, and other processes involved in measuring targets were not always documented.
14. Where these issues have a specific impact on individual indicators, we explore them further in the next section of this report.
15. Figure 2 summarises our assessment of the data systems.

Figure 2: Summary of assessments for indicator data systems

No	Indicator	Rating
1	Labour productivity (output per hour worked) over the economic cycle	GREEN (Fit for purpose)
2	International Comparisons of Labour Productivity (per hour worked)	GREEN (Fit for purpose)

16. Our main conclusions on the PSA are:

- Indicators selected to measure this PSA's progress are consistent with the scope of the PSA and provide a reasonable view of progress;
- Improved disclosures should be provided for both indicators. The Department should make clear disclosures in its formal reporting where National Statistics used to provide additional information are different to those stated in the Measurement Annex. Furthermore, the Department should disclose that the additional information provided for indicator 1 is not related to the measurement of the indicator, but is provided only as additional contextual information;
- The Department has not documented its procedures for assessing indicator 2 achievement when the international productivity comparisons show mixed results, for example, when and/or if the UK productivity gap narrowed against one country but widened against others.

17. We recommend that the Department:

- enhances the formal reporting for both indicators to add clarity to disclosures;
- documents how success for indicator 2 will be measured and defined and establishes the criteria for measuring success against this indicator.

Assessment of indicator set

18. In undertaking the validation we read the documentation associated with the PSA, including the Delivery Agreement and considered whether the indicators selected to measure progress are consistent with the scope of this PSA.

19. For this PSA we have concluded that the indicators selected to measure progress are consistent with the scope of the PSA and afford a reasonable view of progress. We have identified some limitations regarding disclosures in formal reporting for both indicators which need to be addressed to add clarity to disclosures.

Findings and conclusions for individual data systems

20. The following sections summarise the results of the NAO's examination of each data system.

Indicator 1

Labour productivity (output per hour worked) over the economic cycle

Conclusion: GREEN (Fit for purpose)

21. The data system is fit for the purpose of measuring and reporting performance against the indicator.

Characteristics of the data system

22. This indicator measures the trend rate of productivity growth in the UK and uses HM Treasury's estimate of trend labour productivity (output per hour worked) growth over a business cycle. The performance of this indicator can only be measured at the end of an economic cycle; the assessment of the period which constitutes the economic cycle is undertaken by HM Treasury. The previous economic cycle was 1997H1 to 2006H2.

23. The Department has confirmed that information currently reported for the current business cycle so far (HMT's projection of trend productivity growth from 2006H2 onwards, and ONS labour productivity growth figures) are not interim measures of the indicator, but additional interim information on productivity. The indicator is therefore disclosed correctly as 'not yet assessed' in the Department's Annual and Autumn Performance Reports. However, disclosures currently made by the Department are unclear, as it is not made explicitly clear that some, more recent productivity information provided is not directly related to the indicator, but is provided only to illustrate growth in productivity.

24. The indicator, and its Measurement Annex, highlight that trend productivity shall be measured using the 'output per hour worked'. The Department currently reports the ONS short-term productivity growth figures using the 'output per worker' National Statistic. The Department has confirmed that whilst these two indicators are closely aligned, it reports the ONS 'output per worker' figures as this measure is the headline measure in the ONS Productivity statistical release, and a more established National Statistic, and therefore, in the Department's view, the one readers are likely to be more familiar with. The use of the output per worker statistic is not explained. This could be misleading to users of the Annual and Autumn Performance Reports who would reasonably expect the other statistics reported to be expressed in the same terms as the indicator, i.e. 'output per hour worked'.

25. The ONS labour productivity indices use Gross Value Added (GVA) and not Gross Domestic Product (GDP) as the output component in the calculations. The Measurement Annex states that GDP should be used in the measurement of this indicator. GVA and GDP are essentially the same measure of economic output, though GVA is at basic prices, and GDP is at market prices (i.e GDP is equal to GVA plus taxes on production (for example, VAT) minus subsidies. However, the use of GVA in the measurement of productivity growth is not disclosed, neither are the reasons why GVA is deemed to be a more appropriate measure. The Department undertakes regular reviews of GVA and GDP National Statistic data releases to ensure that information published is consistent with expectations and historic comparative data.

Findings

26. The Department should provide further clarification in its Autumn and Annual Reports that additional statistical information provides only contextual information on productivity growth and is not a measurement of the indicator's interim performance. The Department should also disclose that the indicator can only be fully reported against at the end of the economic cycle and that it is not possible to report an interim measure against the indicator specifically. It should also disclose that additional information from ONS reported relates to 'output per worker' (not 'output per hour worked') and also why this is the ONS data set reported.
27. Whilst the indicator cannot be fully reported against until HM Treasury has calculated the end of the economic cycle, the Department should consider the introduction of formal interim reporting against the indicator. This would enable readers of the report to understand interim movements against the baseline.
28. The Department should, at the next available opportunity, update the Measurement Annex for indicator PSA 1.1 to highlight that GVA, and not GDP, is used in the measurement of productivity used for reporting additional information on short-term productivity growth. Until the Measurement Annex can be updated, the Department should disclose that GVA is used in the calculation of productivity and why it is deemed to be a more appropriate measure.

Indicator 2

International Comparisons of Labour Productivity (per hour worked)

Conclusion: Green (Fit for Purpose)

29. We have concluded that the data system underlying this indicator is appropriate having considered that our findings do not indicate that significant uncontrolled risks exist at present within the data system.
30. An improvement could be made to the specification of the system to document the framework for assessing performance were the international productivity comparisons to show mixed results in future.

Characteristics of the data system

31. There is a data system in place for measuring international comparisons of labour productivity and assessing when the United Kingdom (UK) and its major industrial competitors are at similar stages in their economic cycles.
32. This indicator compares the UK's performance against France, Germany and the United States to assess the UK's progress on narrowing the productivity gap with its major industrial competitors as defined in previous CSR periods.
33. International comparisons of labour productivity are affected by different positioning of countries in their current economic cycles. To remove cyclical distortions output gap estimates provided by the Organisation for Economic Co-operation and Development (OECD) are used to enable comparisons to be made. The Department reviews data releases provided by OECD to ensure these are consistent with its expectations and historic comparative data.
34. A valid baseline for international comparison will be selected at the end of the current CSR period. The indicator cannot therefore be assessed until 2011 and hence the Department has reported that the indicator is 'not yet assessed' in its Autumn Performance and Annual Reports to date.
35. The Department's reporting of the quality of the data systems in its Annual and Autumn Performance Reports is sufficiently detailed and includes appropriate commentary about the interpretation of productivity data, in particular that short term movements in labour productivity should be treated with caution as progress can only be finally assessed when countries appear to be at the most similar points in their cycle.
36. Should the UK's productivity gap narrow against one country but widen against another, the Department has advised that progress against the indicator will be assessed by taking into consideration other evidence in order to establish the underlying factors and whether they reflect longer term trends. If outcomes were persistently mixed (for example, if the USA persistently exhibited superior

performance to the UK, which persistently outperformed the other comparator economies), then in-depth research into exceptional factors would be required (for example, whether they are country-specific, how persistent the effects are likely to be, should the UK seek to replicate them).

Findings

37. At the time of our review, the Department had yet to document its procedures for assessing indicator achievement when the international productivity comparisons show mixed results, for example, when and/or if the UK productivity gap narrowed against one country but widened against others. Given the time lag between now and the full indicator assessment in 2011, and the possibility of a change in personnel in the future, the Department should document how success will be measured and defined should such a scenario occur.