



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 7 led by the Department for Business, Innovation and Skills:

'Improve the economic performance of all English regions and reduce the gap in economic growth rates between regions'

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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 7 “improve the economic performance of all English regions and reduce the gap in economic growth rates between regions”.

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 and Eurostat (the Statistical Office of the European Union). 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 in the Annual Report published in July 2009. Since our review the Department has published the 2009 Autumn Performance Report¹ (APR 2009).

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;

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

- 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;
 - 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 improve the economic performance of all English regions and reduce the gap in economic growth rates between regions. Progress towards delivering this PSA is monitored using four key indicators.
10. For this PSA, we have concluded that the indicators selected to measure progress are consistent with the scope of the PSA and provide a reasonable view of progress. However, in addition to the continuing lack of reliable data, we have identified areas where improved reporting disclosures should be provided.
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. Quality control processes are generally undertaken by individual data owners and their team, who complete checks on their respective indicator. In assessing the quality of ONS data, the Department reviews the quality reports produced and attends user and technical advisory groups where quality issues are discussed and it can seek to influence quality.
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. The Department are data users not producers for this PSA and there is a limit to what can be done.
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	Regional GVA per head trend growth rate	RED (Systems)
2	Regional GDP per head levels indexed to the EU-15 average	AMBER (Disclosure)
3	Regional employment rate of working age people	GREEN (Fit for purpose)
4	Regional GVA per hour worked indices	RED (Systems)

16. Our main conclusions on the PSA are:

- Both indicators 1 and 4 are reliant on data which is currently not yet produced by the Office for National Statistics (ONS). The Department currently uses the most suitable alternative available information provided by ONS but this is not sufficiently accurate for the purposes of reporting against the indicator. An independent review, the Allsopp Report, concluded in March 2004 that estimates presently used in the measurement of this indicator were not of sufficient quality to support analysis of the Government’s policy objectives to increase growth in England’s regions. Existing disclosures do not highlight the extent of these limitations. Furthermore, these limitations with the lack of real GVA data were apparent and identified in the 2004 Comprehensive Spending Review (CSR) and have not been rectified since.

17. We recommended that the Department:

- improves reporting disclosures to:
 - i. Highlight existing weaknesses in existing data streams.
 - ii. Identify the sources of information used in the measurement of the indicators.
 - iii. Support existing graphical representations provided through the provision of additional numeric disclosures.
 - iv. Highlight that annual and short term results should be viewed with caution by readers because they should be considered in the longer term over the economic cycle.

- v. (Specifically for indicator 2) Formally define and disclose the date for final assessment of the indicator, which is currently absent from the Measurement Annex and the formal reporting.

We are pleased to note that disclosures have improved in the APR 2009.

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. Whilst the indicators selected afford a broadly reasonable view of progress, the Department needs to consider the issues regarding attribution and additionality as part of its overall assessment and consideration of its indicators. By this we mean that the Department needs to ensure itself and the readers/users of its indicator information are aware that some of its indicators could change and that change could have little or nothing to do with any actions taken or not taken by the Department, but for example be simply due to changing economic conditions within the UK.

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

Regional GVA per head trend growth rate

Conclusion: RED (Systems)

21. We have concluded that the data system is not fit for the purpose of measuring and reporting performance against the indicator.

Characteristics of the data system

22. This indicator measures the rate of real Regional Gross Value Added ('GVA') growth in the England. There are two aspects to this indicator; individual trend growth rates in each of the nine economic regions in England and relative trend growth rates between groups of regions. Each economic region in England has a Regional Development Agency as strategic driver of regional economic development in that region. The English regions are: East Midlands, East of England, London, North East, North West, South East, South West, West Midlands and Yorkshire & Humber.

23. The aim is to achieve individual growth in each region with a target of at least 0.1 percentage point real Regional GVA per head improvement in the average per annum growth rate between the baseline period of 1990-2002 compared to the period 2002-2012. In addition to individual regional improvement, at least a 0.1 percentage point reduction in the real Regional GVA per annum growth rate gap between the three best performing regions and the other regions, as identified in previous Comprehensive Spending Review periods, has also been targeted. To provide interim assessments of progress the Department reports average movements from 2002 to latest year.

24. Regional GVA is a National Statistic produced by ONS. The Allsopp Report concluded that present estimates of Regional GVA were not of sufficient quality to support analysis of the Government's policy objectives to increase growth in England's regions. The Allsopp Report was published on 31 March 2004 and was presented to the Chancellor of the Exchequer, the Governor of the Bank of England and the National Statistician. The Report was an independent Review of Statistics for Economic Policymaking issued in 2004 and included a review of the regional information and statistical framework needed to support the Regional GVA figures.

25. The key issue in the context of the PSA indicator is that data currently available measuring growth in Regional GVA reflects both inflation and underlying improvement. However, the assessment of the latter requires a constant price measure. ONS continues to be unable to provide information/data on the constant price measure, but continues to work towards to doing so within an extended timetable.
26. The Department continues to use existing Regional GVA data, which means that increases in this data over time reflect both inflation and real growth. To remove the effect of inflation from the figures the Department has to use the national GVA deflator data in the absence of regional deflators. This approach provides a proxy measure for deflated Regional GVA. However, it is misleading if the rate of inflation in any given region were significantly different from the UK average.

Findings

27. Since inception of the indicator there have been significant uncontrolled risks which relate to the availability of data to accurately measure progress against the indicator. The Department continues to report progress consistently with the approach adopted in prior periods, which has limitations given the absence of regional deflators needed to produce a series for real Regional GVA. The ONS continues to work on a solution to enable the Department to more accurately measure progress. These issues were highlighted in the 2004 Allsopp report and as a result the indicator was rated as Amber (systems) in CSR 2004. These issues remain as despite action by the Department and ONS no resolution has yet been reached. For example, the Department continues to be represented on the Technical Advisory Group which was tasked with producing estimates of the levels of real regional GVA. In other forum, for example at the Regional and Geographical Committee, the Department continues to emphasise the need for real data. Quality concerns have meant that ONS have not yet published data and the Department continues to liaise with them to work towards a solution.
28. To improve transparency the Department should more explicitly state what the weaknesses are with the current production of GVA data, rather than referring only to the fact that the Allsopp Report “outlined limitations” in the data. Furthermore we recommended that the Department should caveat its Annual and Autumn Performance Reports (APRs) by disclosing the fact that annual results should be viewed with caution by readers because of the

impact of the economic cycle, as it does in its Measurement Annex. We are pleased to note that this latter point has been addressed in the 2009 APR.

Indicator 2

Regional Gross Domestic Product (GDP) per head levels indexed to the EU-15 average

Conclusion: AMBER (Disclosure)

29. We have concluded that the data system underlying this indicator is broadly appropriate, but includes limitations that cannot be cost-effectively controlled; the Department should explain the implications of these.

Characteristics of the data system

30. This indicator measures the relative position of GDP in the English regions against an EU-15 average based on submissions from each national statistics agency which are collected by Eurostat annually. Eurostat are the Statistical Office of the European Union situated in Luxembourg. The EU-15 are the EU member countries prior to 1 May 2004 which the Department considers to be the most appropriate group for reporting against the indicator. This is because the Department considers the UK should be judged against the countries which are most similar to the UK in terms of prosperity, rather than against newer entrants from Eastern Europe which are within the more recent EU-25 and EU-27 groups.

31. This indicator therefore monitors regional economic performance in the international context, with a rise indicating relative improvement in economic performance compared to members of the EU-15. The target is to achieve at least a 0.1 percentage point increase in the index for outturn years, compared to the baseline year of 2002, for all nine English regions. The English regions are: East Midlands, East of England, London, North East, North West, South East, South West, West Midlands and Yorkshire & Humber. English Regional GVA is a National Statistic produced by ONS. The EU-15 average refers to the level of GDP per head across the member states of the EU-15. Each National Statistic body within the EU-15 submits Regional GVA/ GDP and population data to Eurostat. Where GVA data is provided Eurostat makes assumptions about the distribution of taxes and subsidies across regions in order to compute an estimate of GDP. Eurostat then publish purchasing power parity adjusted measures of GDP per head for each English region along with an EU-15 average annually. The Department has looked into how Eurostat undertakes its calculations i.e. where the data is obtained from and what adjustment they make. However, Eurostat receive data from 15 EU countries and it would not be feasible to look into the data quality control arrangements for each of these countries.

32. The Department is then able to index the English regions against the EU-15 average to ascertain whether the English regions, both in aggregate and individually, have grown relative to the EU-15 average between a given time period. Peer-reviews are undertaken between the Department's statisticians to ensure appropriate calculations are made as part of the indicator assessment process.

Findings

33. To improve transparency in its Annual and Autumn Performance Reports we recommended that the Department should either disclose its use of Eurostat data to measure progress against the indicator or provide a cross-reference to the Measurement Annex where such disclosure is given so that users are informed of the source of the EU-15 average data. Furthermore, the Department should clarify the date for final assessment of the indicator within the Measurement Annex and should comment on why it reports indicator progress in its Annual and Autumn Performance reports from 1995 to latest year, when the Measurement Annex defines 2002 as the baseline period. We are pleased to note that disclosures have improved in the APR 2009.

34. The Department illustrates progress against the indicator in graphical form. We recommended that the Department should consider incorporating numerical figures into its commentary on progress to assist readers in making better assessments of indicator performance. In addition, the Department should caveat both its Annual and Autumn Performance Reports by disclosing the fact that annual movements in relative growth should be viewed with caution by readers because of the impact of the economic cycle. The Department should also expand, in these reports, its commentary within the section on the quality of data systems which currently does not cover the data system underlying this indicator. We are pleased to note that disclosures have improved in the APR 2009.

Indicator 3

Regional employment rate of working age people

Conclusion: GREEN (Fit for purpose)

35. We have concluded that the data system underlying this indicator is fit for purpose of measuring and reporting performance against the indicator, having considered that our findings do not indicate that significant uncontrolled risks exist within the data system.

Characteristics of the data system

36. This indicator measures regional employment rates of people of working age in the English regions. Currently the working age range is 16-59 for women and 16-64 for men. The target is to achieve an improvement in individual growth in each of the nine English regions for 2003-2012 relative to a baseline period of 1996-2002 which is greater than the average confidence interval. This was 0.5-0.8% in the prior Comprehensive Spending Review (CSR) period, and will be reassessed at the end of the current CSR period. A confidence interval is a range of values, defined by a lower and upper limit, which indicates the variability of an estimate and is calculated using appropriate statistical methods. To provide interim annual assessments of progress the Department reports average movements from 2003 to date (being latest year's data available).

37. Regional employment rates of working age people are a National Statistic produced by the ONS from their quarterly Labour Force Survey ('LFS'). The LFS is a random household survey of approximately 50,000 of households in Great Britain representing about 0.1% of the GB population. The survey is undertaken on a continuous basis by the ONS, with results being published each month.

38. The LFS is based on a systematic random sample. As the sampling frame (the postcode address file) is sorted by postcode the sample is effectively stratified geographically which ensures that the target sample is representative of the GB in terms of geographical spread. The population covered is all people resident in private households, all persons resident in National Health Service accommodation and young people living away from the parental home in a student hall of residence or similar institution during term time.

39. Details of the sample sizes and response rates for the LFS are published by ONS in quarterly Performance and Quality Monitoring Reports. The

Department's statisticians review these reports to ensure they are aware of any changes. In addition, the Department also monitors the ONS Quality Reports on Labour Market statistical bulletins, incorporating the LFS results, to obtain assurance that the LFS remains appropriate for use in PSA 7 reporting. In 2006 the LFS was subject to National Statistics Quality Review. The Department has reviewed the outcome of the LFS quality review and has satisfied itself that the LFS provides data of sufficient quality. Furthermore, the Department reviews the monthly statistical releases to ensure they are consistent with expectations and comparative historical information.

40. The Department uses the National Statistic employment rate in the form provided by the ONS. It plots the employment rates to graphically illustrate the trend over the period from 1992 to date in its Annual and Autumn Performance Reports. The analysis of trends in the data allow the comparison of the ONS data with expectations and other sources and should enable any obvious errors in the data to be identified.

Findings

41. The Department did not disclose the use of the ONS LFS as the source data it is using to measure progress against the indicator in its Annual and Autumn Performance Reports. To improve transparency we recommended that the Department should disclose the use of this data set, particularly because the ONS Annual Population Survey is stated as the data source in the indicator's current Measurement Annex. The ONS Annual Population Survey is not reported in the measurement of this indicator as the survey only goes back to 2004, however, data from the APS is also monitored by the Department and the two sources generally follow the same trend. We are pleased to note that disclosures have been improved in the APR 2009.
42. The Department illustrates progress against the indicator in graphical form. The Department should consider providing supplementary numerical information in its commentary on progress to assist readers in making assessments of this indicator's performance. We are pleased to note that the APR 2009 provides a link to the data underlying the charts.
43. The Department did not comment in its Annual and Autumn Performance Reports that short term movements could be due to the influence of the economic cycle rather than underlying performance, as it does in the indicator's Measurement Annex. We recommended that the Department should disclose in its Reports that annual results 'should be viewed with

caution by readers because of the impact of the economic cycle' (as highlighted in the indicator's Measurement Annex). We are pleased to note that disclosures have been improved in the APR 2009.

44. The sections on data system quality within the Department's Annual and Autumn Performance Reports do not comment on the data system underlying this particular indicator. The Department should expand its existing commentary to include its considerations on the quality of data system underlying indicator 3.

Indicator 4

Regional GVA per hour worked indices

Conclusion: RED (Systems)

45. We have concluded that the data system is not fit for the purpose of measuring and reporting performance against the indicator.

Characteristics of the data system

46. This indicator measures the rate of real Regional GVA per hour worked growth in the UK. The aim is to achieve an increase in per annum growth in each of the nine regions for 2002-12 relative to a baseline period of 1996-2002 of at least 0.1 percentage points. To provide interim, annual, assessments of progress the Department reports average movements from 2002 to the latest year.

47. Regional GVA is a National Statistic produced by ONS. The Allsopp Report concluded that present estimates of Regional GVA were not of sufficient quality to support analysis of the Government's policy objectives to increase growth in England's regions. Data currently available measuring growth in Regional GVA reflects both inflation and underlying improvement. However, the assessment of the latter requires a constant price measure. The ONS continues to be unable to provide information/data on the constant price measure, but continues to work towards doing so within an extended timetable.

48. Due to a lack of real GVA data, the Department continues to use existing Regional GVA per hour worked data, which means that increases in this data over time reflect both inflation and real growth. To remove the effect of inflation from the figures the Department has to use the national GVA deflator data in the absence of regional deflators. This approach provides a proxy measure for deflated Regional GVA per hour worked. However, it may be misleading if the rate of inflation in any given English economic region significantly different from the UK average.

Findings

49. As this indicator has some common characteristics with indicator 1, the weaknesses, findings and recommendations identified are similar to those reported for indicator 1. Since inception of the indicator there have been significant uncontrolled risks which relate to the availability of data to accurately measure progress against the indicator. These issues were highlighted in the 2004 Allsopp report and as a result the indicator was rated

as Amber (systems) in CSR 2004. These issues remain as despite action by the Department and ONS no resolution has yet been reached. For example, the Department continues to be represented on the Technical Advisory Group which was tasked with producing estimates of the levels of real regional GVA. In other forum, for example at the Regional and Geographical Committee, the Department continues to emphasise the need for real data. Quality concerns have meant that ONS have not yet published data and the Department continues to liaise with them to work towards a solution.

50. To improve transparency we recommended that the Department should more explicitly state what the weaknesses are with the current production of GVA data, rather than referring only to the fact that the Allsopp Report “outlined limitations” in the data. Furthermore we recommended that the Department should caveat its Annual and Autumn Performance Reports by disclosing the fact that annual results should be viewed with caution by readers because of the impact of the economic cycle, as it does in the indicator’s Measurement Annex. We are pleased to note that disclosures have been improved in the APR 2009.