Methods change in Public Service Productivity Estimates: Education 2012

Summary

This article provides a description of the change of data source and subsequent methodology for ‘Teachers hours worked’ being introduced in the forthcoming publication of Public Service Productivity Estimates: Education 2012.

Introduction

Public service productivity estimates are produced by calculating the growth in the ratio of volume of output to the volume of input. Estimates of output, input and productivity are shown on a calendar year basis and at a UK level.

The forthcoming release of Public Service Productivity estimates for Education will revise and update the time series of outputs, inputs and productivity growth from 1996 to 2012. The estimates are produced in a similar way to previous years; however there will be a method change which affects the estimate for direct labour input for schools.

Method Change – Teacher hours worked

Labour makes up part of the education inputs. School labour input is measured directly using full time equivalent (FTE) teacher numbers. Teachers generally work more hours than they are contracted. In previous years’ publications, England and Wales teacher numbers were adjusted to reflect this using the ‘Teacher Workload Diary’ published by the Department for Education (DfE). This source was discontinued in 2012, and replaced by a new teacher workload diary survey. However, this is only for England rather than England and Wales together, and is not comparable to the previous series due to method and sampling differences. The survey also had a low response rate of 15%.

‘As explained fully in the introduction, there were significant differences between the method used in the 2013 survey and the method used in previous surveys, specifically relating to sampling, data collection and the survey format. As a result, this data is not comparable with that from surveys in previous years and this report focuses on findings from 2013.’ Teachers’ workload diary survey 2013, p 5. DfE (2014)

In the light of this significant change in survey data source, ONS is introducing a replacement estimate of teacher over-time to contracted hours using data from the Labour Force Survey (LFS). The series is based on full time teachers working in Nursery & Primary, Secondary and Special schools. Annual averages of usual contracted hours, usual unpaid overtime and usual paid overtime were calculated from each quarter of the LFS. Usual hours are used elsewhere in ONS to analyse labour market effects from the LFS and unpaid and paid overtime are used as measures of labour input in labour productivity analysis.
Using these annual averages of contracted hours, paid and unpaid overtime, the ratio of total hours worked compared to contracted hours is calculated for each year of the time series. As before, the ratio is then multiplied by the FTE teacher numbers in each country to give a more accurate estimate of teachers' labour input. As the ratios are calculated at UK level, it is assumed that the ratio is representative of each of the four countries in the UK. Geographic coverage therefore increases for the new method based on the LFS rather than the Teacher Workload Diary Survey which is now restricted to England only.

**Impact and Conclusion**

A positive impact from the new method is that it can be applied to all four countries instead of only England and Wales.

For sensitivity testing, the new teachers hours worked method was applied to the data used to produce Public Service Productivity Estimates: Education 2011 (ONS 2013). Figure 1 shows that the new method revised the annual average growth for inputs slightly. Education inputs average growth rate between 1996 and 2011 increased from 1.8% to 1.9%, which made the productivity annual average fall from 0.9% to 0.8%.

The biggest contribution of this was England’s and Wales’ teacher labour which both showed a rise of 0.2 percentage points.

**Figure 1: Impact of the change of data source from Teacher Workload Diary to Labour Force Survey, 1996-2011**

UK, 1996=100

Source: ONS
Revisions

This data and methods change will be a source of relatively minor revisions throughout the series to the new estimates of labour and overall inputs in the forthcoming publication Public Service Productivity Estimates: 2012. A section on revisions will be included in this publication.

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References

DfE (2014) Teachers’ workload diary survey 2013, Research report. Available at:

ONS (2013) Public Service Productivity Estimates: Education 2011. Available at: