



UK Productivity in the Recession

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Summary

- Labour productivity in the UK fell over the recession that began in the first quarter of 2008 and, according to the latest statistics, ended in the final quarter of 2009.
- In contrast, US productivity grew throughout the recession; output declined more rapidly in the US than in the UK, but US hours worked also fell by relatively more. In the UK, hours worked fell by less than output.
- In both countries, hours worked fell by more than the number of workers, indicating a reduction in hours worked amongst those still in employment – for instance, through an increase in part-time working.

1. Introduction

Labour productivity – the amount of output produced per hour worked or per worker – has a direct impact on the economic wealth of a country. Although UK productivity has grown steadily over the past five decades, there has been a persistent gap with the US and other major economies: for a given labour input, we produce fewer outputs. The UK–US productivity gap narrowed over the late 1980s and early 1990s but has widened slightly since 2004.² In 2008 – the latest year for which international comparisons are available – US workers were 33% more productive than those in the UK.³ The UK's lower level of productivity has contributed to a lower level of GDP per capita. In 2009 GDP per capita, measured in US dollars, was \$37,391 in the UK and \$46,008 in the US.⁴

How do we expect productivity to evolve during a recession? By definition, output falls in a recession. At the same time, it is common for some people to lose their jobs or to reduce their hours of work. The path of labour productivity in a recession is determined by the relative sizes of the falls in output and total hours worked.

A fall in total hours worked will have a negative effect on output, but the effect on productivity is less clear. If a reduction in hours means that the lowest-productivity workers are no longer working, or if workers are more productive when working fewer hours, then reduced hours would lead to an increase in productivity.

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² See section 2.1 of R. Griffith and H. Miller, *Productivity, Innovation and the Corporate Tax Environment*, IFS Election Briefing Note 9, 2010.

³ See table 1 of 'International comparisons of productivity', ONS Statistical Bulletin, <http://www.statistics.gov.uk/pdffdir/icp0210.pdf>.

⁴ Source: The Conference Board Total Economy Database, January 2010, <http://www.conference-board.org/economics/database.cfm>. GDP has been converted to 2009 US\$ using updated 2005 EKS PPPs.

In this Briefing Note, we briefly describe trends in UK productivity over the recent recession – which ran from the first quarter of 2008 to the last quarter of 2009 – and how they compare with those in the US.

Section 2 describes the path of output and hours worked, and shows how this has translated into labour productivity. Section 3 compares the changes in hours worked and the number of workers. Section 4 concludes.

2. Output, hours worked & productivity

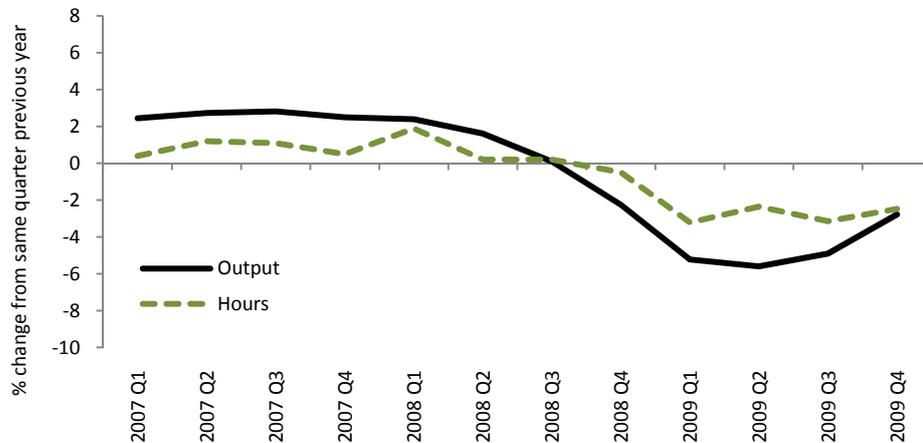
Both output and hours worked fell by less in the UK than in the US

Figures 1 and 2 show the growth rates of output and hours worked in the UK and the US respectively over the last three years. The growth rates are calculated as the change compared with the same quarter in the previous year.

In Figure 1, we see that, having experienced declining growth since the end of 2007, UK output started to fall at the end of 2008 compared with the same quarter in the previous year. In the second quarter of 2009, UK output was almost 6% lower than it had been a year before. The fall in output has continued, but at a slowing rate.⁵ The latest statistics show that UK output grew by 0.2% in the first quarter of 2010 when compared with the last quarter of 2009.⁶ The number of hours worked also started to fall at the end of 2008, a fall that continued through 2009.

The UK figures cover the whole economy. Experimental figures from the Office for National Statistics (ONS) show that market sector productivity (which excludes most non-market activities, including general government) followed a similar trend to that of the whole economy.⁷

Figure 1. UK output and hours worked, change on quarter a year ago



Notes: Output is measured by seasonally adjusted gross value added (GVA) at basic prices. Both output and hours are reported for the whole economy.

Sources: The output series is from table A1 (National Accounts aggregates) of ONS UK Economic Accounts time-series data (<http://www.statistics.gov.uk/statbase/tsdtimezone.asp>). The measure of hours worked is from 'Productivity Q4 2009', ONS Statistical Bulletin, <http://www.statistics.gov.uk/pdfdir/pro0310.pdf>.

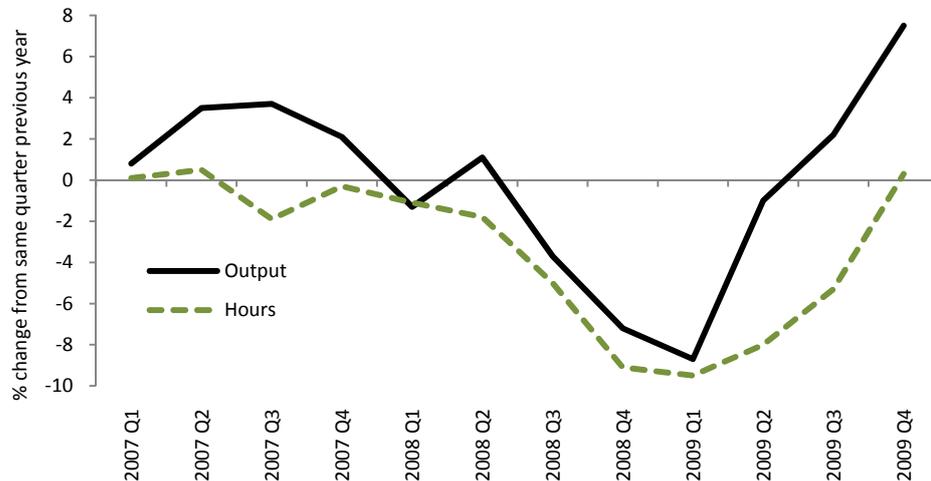
⁵ In the final quarter of 2009, output remained lower than it had been at the end of 2008 (as seen in Figure 1) but was marginally higher than it had been in the third quarter of 2009, marking the end of the recession.

⁶ See 'Gross domestic product preliminary estimate: 1st quarter 2010', ONS Statistical Bulletin, <http://www.statistics.gov.uk/pdfdir/gdp0410.pdf>.

⁷ Market sector gross value added (GVA) accounts for 89% of whole economy GVA. For further details on market sector productivity, see <http://www.statistics.gov.uk/cci/article.asp?id=1742>.

Figure 2 shows similar figures for the US business sector.⁸ The fall in both output and hours was greater in the US than in the UK, and it started earlier. At its trough in the first quarter of 2009, US output was 8.7% lower than it had been in the same quarter in 2008. Hours worked started to fall earlier, and showed a larger fall relative to output, in the US than they did in the UK. In the UK, hours fell by less than output. Both output and hours worked returned to positive growth in the US and grew more strongly through 2009 in the US than in the UK.

Figure 2. US output and hours worked, change on quarter a year ago



Notes: Both series apply to the business sector (see footnote 8). The output series is a current-weighted index of business sector GDP. See source for more information.

Source: Table 1 of Bureau of Labor Statistics, ‘Productivity and costs: fourth quarter and annual averages 2009, revised’, Economic News Release, 4 March 2010, <http://www.bls.gov/news.release/prod2.nr0.htm>.

During the recession, UK productivity fell while US productivity continued to grow

How do the changes to output and hours worked translate into productivity? This is shown in Figure 3, which reports the change in productivity (output per hour worked) in each quarter relative to the same quarter the previous year.

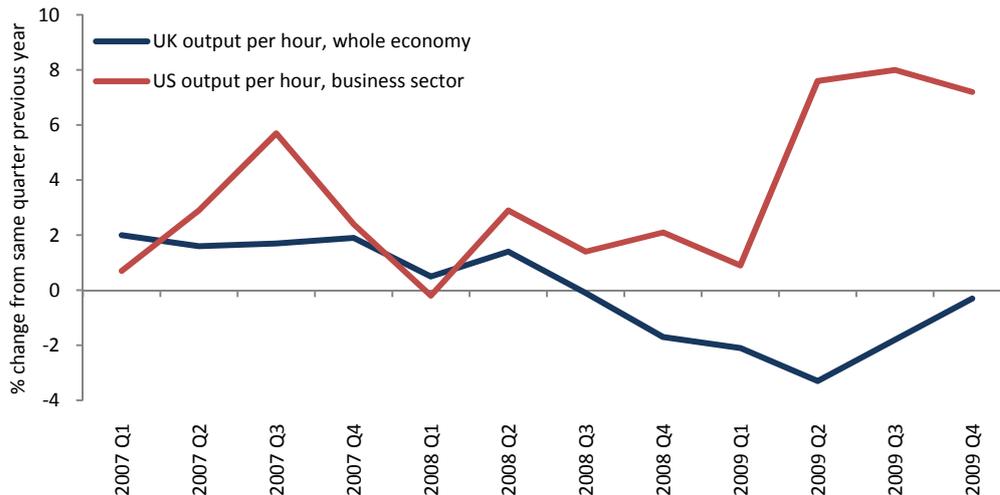
While UK productivity fell throughout the recession, US productivity continued to grow. The large fall in hours worked in the US compared with output, seen in Figure 2, acted to keep US productivity high.

In Figure 3, we see that UK labour productivity growth was a little above 2% at the start of 2007. UK productivity continued to grow, but at a slower and declining rate, until the second half of 2008 when it started to fall. This fall continued at an increasing rate until the second half of 2009, when it was still falling but more slowly. In the fourth quarter of 2009, UK output per hour was 0.3% lower than it had been at the end of 2008. In the last part of 2009, the slowing decline was due in large part to the reduced rate of output decline seen in Figure 1.⁹

⁸ The US figures relate to the business sector, which excludes the economic activities of the government, private households and non-profit organisations. The business sector accounts for around 80% of GDP in the US. See <http://www.bls.gov/bls/glossary.htm>.

⁹ The extent of the fall in UK productivity during the recession has differed across industries. Productivity in the service sector, which includes business services and finance, followed a broadly similar trajectory to that in the whole economy. In contrast, manufacturing industries saw productivity fall more steeply but then recover more quickly and start to grow again by the third quarter of 2009. For more details, see tables 5 and 10 of ‘Productivity Q4 2009’, ONS Statistical Bulletin, <http://www.statistics.gov.uk/pdfdir/pro0310.pdf>.

Figure 3. UK & US labour productivity, change on quarter a year ago



Notes: See notes to Figures 1 and 2.

Sources: UK productivity is from table 1 of ‘Productivity Q4 2009’, ONS Statistical Bulletin, <http://www.statistics.gov.uk/pdfdir/pro0310.pdf>. US productivity is from table 1 of Bureau of Labor Statistics, ‘Productivity and costs: fourth quarter and annual averages 2009, revised’, Economic News Release, 4 March 2010, <http://www.bls.gov/news.release/prod2.nr0.htm>.

In contrast to the UK, Figure 3 shows that the US saw no decline in productivity – apart from a small fall in the first quarter of 2008, the change in productivity was positive throughout the recession. US productivity grew in the first quarter of 2009, and flattened out at a high level of around 8% growth in the last three quarters of the year.

3. Hours worked versus employment

During a recession, some people lose their jobs while others reduce the number of hours they work or accept part-time rather than full-time work.

In both the UK and the US, hours worked fell more steeply than employment

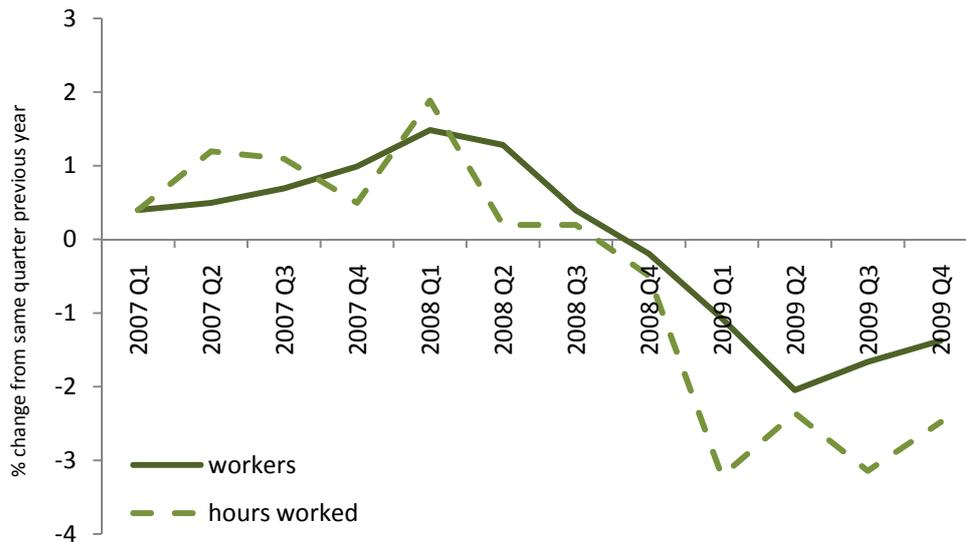
Throughout the UK recession, hours worked have fallen more steeply than the number of workers. This can be seen in Figure 4. In the last quarter of 2009, hours worked were 2.5% lower and the number of workers 1.4% lower than in the last quarter of 2008. The most recent Labour Market Statistics indicate that the proportion of working-age adults in employment fell to 72.1% in the three months ending February 2010, from 74.8% at the start of the recession in the first quarter of 2008.¹⁰

The large fall in hours worked in comparison with workers is partly the result of an increase in the percentage of people accepting part-time work. Data released by ONS show that the percentage of part-time workers reporting that they could not find a full-time job rose from 9% at the start of 2007 to almost 14% at the beginning of 2010. This was also the case for temporary workers, where the equivalent rise was from 26% at the start of 2007 to almost 35% at the beginning of 2010.¹¹

¹⁰ See table 1 of ‘Labour market statistics April 2010’, ONS Statistical Bulletin, <http://www.statistics.gov.uk/pdfdir/lmsuk0410.pdf> and table 2.01 of the Economic and Labour Market Review, April 2010, http://www.statistics.gov.uk/elmr/04_10/2.asp.

¹¹ Source: ONS data, ‘Labour Force Survey: reasons for temporary or part-time working’; see <http://www.statistics.gov.uk/StatBase/xsdataset.asp?vlnk=1380&More=Y>.

Figure 4. UK workers and hours worked, change on quarter a year ago



Note: Both workers and hours worked are measured for the whole economy.

Source: Table 6 of 'Productivity Q4 2009', ONS Statistical Bulletin, <http://www.statistics.gov.uk/pdfdir/pro0310.pdf>.

The US has experienced a similar pattern: hours worked have fallen by more than employment. Data from the US national Current Employment Statistics (CES) survey show that the aggregate weekly hours of all employees in the private sector fell by 6.7% in 2009 compared with 2008, while the number of employees fell by 5.2%.¹² Also like the UK, the US has experienced an increase in the number of people who were working part-time either because their hours had been cut back or because they were unable to find a full-time job.¹³

The result of hours falling by more than workers is that productivity in the UK fell by more when measured as output per worker than when measured as output per hour; there are relatively more workers than total hours during the recession than there had been before over which to spread output.

4. Summary

We have seen that UK labour productivity fell throughout the recent recession, while US productivity continued to grow and has recovered from the effects of the recession more quickly. The US maintained productivity growth because of a much larger fall in hours worked relative to falls in output compared with the UK. In both the US and the UK, hours worked fell by more than the number of workers, as people have taken reductions in their working hours or moved to part-time working.

¹² The CES data can be accessed at <http://www.bls.gov/data/#employment>. The series ID of the figures used are, for hours, CEU0500000016 and, for employees, CEU0500000001. There are a number of sources of data on US employment and hours worked. While each gives slightly different numbers (depending on, among other things, how hours and employees are measured and whether growth refers to quarters or years), they all show that hours fell more than employment. More information about the US labour market in 2009 can be found in S. F. Hipple, 'The labor market in 2009: recession drags on', *Monthly Labor Review*, March 2010, <http://www.bls.gov/opub/mlr/2010/03/art1full.pdf>, table 1 of which shows that the number of people aged 16 and over who were employed in the last quarter of 2009 was 4% lower than the number in the last quarter of 2008.

¹³ For more information, see Bureau of Labor Statistics, 'The employment situation: March 2010', <http://www.bls.gov/news.release/empsit.nr0.htm>; see table A-8 for the reasons for part-time work.

The different experiences of the UK and the US are likely to have consequences for the two economies as they emerge from recession. However, it is difficult to say which nation will fare better.

The greater falls in hours worked (and employment) in the US may have placed firms in a better position to restructure their businesses. It may also have encouraged a shift in employees across sectors in response to changes in expected demand. This may place the US in a more flexible position coming out of the recession.

However, US workers will have faced greater falls in their incomes during the recession (especially since there is no equivalent to the UK unemployment benefits), which is likely to have reduced welfare.

In addition, unemployment may have longer-lasting, dynamic, effects. First, workers may lose skills when out of the labour force and may find it harder to find a new job in the future, especially if that job is in a different industry. Second, employers may have learnt during the recession that they can operate with fewer staff, which would reduce the creation of jobs coming out of the recession.

It is therefore unclear what the effect of the evolution of output and hours in the UK and the US during the recent recession will mean for the welfare of workers and for the growth of the economy going forwards.