Changes in output, employment and wages during recessions in the United Kingdom

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Employment has fallen during this recession but by much less than the fall in output. This article examines how the behaviour of the labour market compares with previous recessions. A number of factors, including greater flexibility in real wages, may have helped to mitigate the fall in employment to date. But there is considerable uncertainty about how the labour market will evolve.

Introduction

The evolution of the labour market during the recent recession will be a key determinant of the pace of the recovery. It will affect households' labour income, and hence prospects for spending. It will also affect businesses' total labour costs, their supply potential, and hence pricing decisions. As a result, it is important that policymakers monitor developments in the labour market, and understand the drivers of changes in employment and wages.

Over the past two years, UK output is estimated to have fallen by 6% — a much larger decline than experienced during the two previous recessions, at the start of the 1980s and 1990s. By contrast, employment has fallen less than experienced during those episodes (**Table A**).(2) And real wages — nominal wages per hour worked relative to the prices that businesses receive for their output — have risen by less than in previous recessions.

Table A Output, employment, hours and wages during recessions(a)(b)

Per cent

	1980s	1990s	2000s
GDP(c)	-4.7	-2.5	-6.2
Employment(d)	-2.4	-3.4	-1.9
Average hours(e)	-3.0	-1.9	-2.2
Real hourly wages(f)	2.7	7.3	0.1

Source: ONS (including the Labour Force Survey (LFS)).

(a) Recessions are defined as two consecutive quarters of falling output (at constant market prices) estimated using the latest data. The recessions are assumed to end once output began to rise.
(b) Cumulative change during each recession.
(c) Chained-volume measure at market prices.
(d) LFS employment.
(e) Constructed as LFS total hours divided by LFS employment.
(f) Calculated using the National Accounts measure of compensation of employees. Converted into a real per hour measure using the gross value added deflator and LFS total hours worked.

This article considers some factors that might help explain the different response of the labour market now. The first section contrasts the recent behaviour of the labour market with that during the early 1990s. The second section examines how changes in the structure of the UK economy since the early 1990s may have affected labour market behaviour. The third section looks then at the role of other factors — specific to the recent recession — that are likely to have affected businesses' and employees' decisions about employment and real wages.

The adjustment in the labour market is, however, ongoing and there is considerable uncertainty about how it will evolve. The final section considers the risks to the employment outlook. Contacts of the Bank's Agents around the United Kingdom have reported that they expected headcount to remain broadly stable over the coming months, notwithstanding the anticipated recovery in output. But the picture may change over time. If output recovers more rapidly than businesses have anticipated, then employment may start to recover. But if, for example, the recovery in demand is more sluggish than businesses expect, or more businesses are forced into liquidation, then there is a risk that employment could fall further.

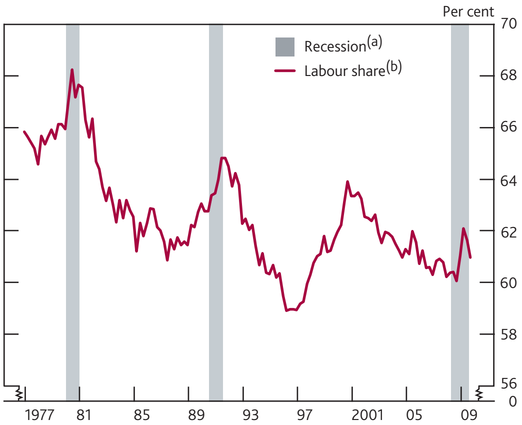
How has the labour market responded?

For the share of national income going to employees to be stable over time, real wages would need to grow in line with labour productivity. This has largely been the case since the 1980s, with employees' share of income — the labour share — hovering just above 60% (**Chart 1**). But the labour share has

(1) The authors would like to thank Philip Bunn, Varun Paul and Rachana Shanbhogue for help in producing this article.
(2) Some of the strength in employment has reflected rising public sector employment. But private sector employment has also fallen by less relative to output than in the previous two recessions.

fluctuated with the economic cycle. In particular, it has tended to rise during recessions with businesses' labour costs falling by an insufficient amount to offset the fall in output.(1)

Chart 1 Labour share of income



(a) Recessions are defined as in **Table A**.
(b) The labour share is based on whole-economy compensation of employees divided by nominal gross value added at factor cost.

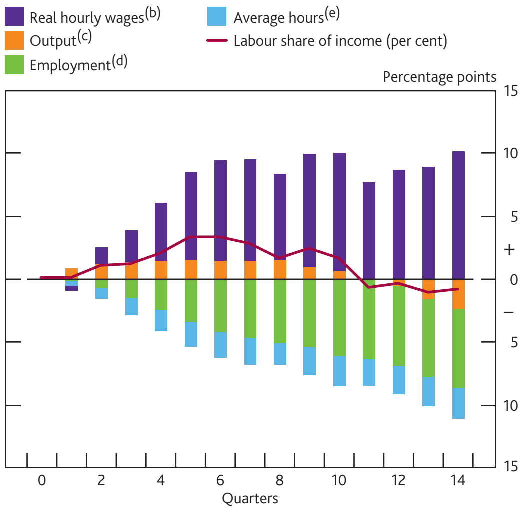
The rise in the labour share during the recent recession — and hence the fall in the profit share — looks broadly similar to that in previous recessions. That might be surprising given the recession has been both deeper and longer. But businesses have responded to the fall in output by reducing total labour costs by a similar proportion to that in the early 1990s.

The manner in which businesses have reduced labour costs, however, is very different. During the early 1990s recession, real wages per hour worked increased sharply (the purple bars in **Chart 2**). In order to contain labour costs, businesses reduced the number of people they employed sharply (the green bars).

The manner in which businesses have responded to the falls in output during this recession looks rather different (**Chart 3**). Real wage per hour growth has been weaker than in the early 1990s. This has meant that employment has fallen by less despite a larger fall in output (the orange bars). Nevertheless the labour share has still risen, and by a similar scale to the early 1990s.

In contrast to the behaviour of employment and real wages, average hours (shown by the light blue bars) appear to have behaved in a broadly similar manner to the early 1990s.(2) For example, the number of employees reporting that they are working shorter hours for economic reasons or than they desire has risen by a similar amount (**Chart 4**).(3) Although the falls in average hours appear similar to the 1990s, the effects may be both widespread and significant. For example, the Bank's Agents report that over three quarters of businesses had made use of flexible working practices in order to reduce labour costs, including freezing pay and reducing overtime.(4)

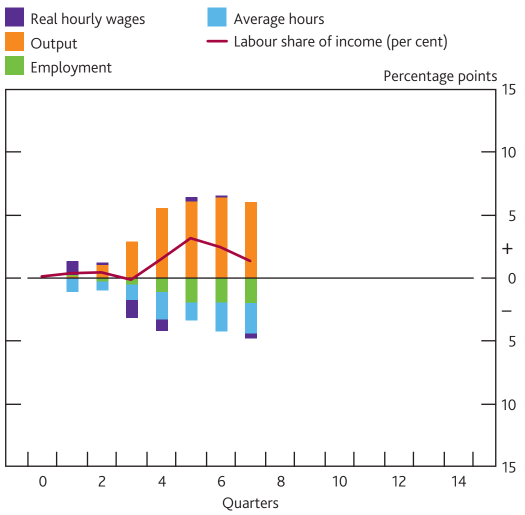
Chart 2 Contributions to cumulative changes in the labour share since 1990 Q2(a)



Source: ONS (including the Labour Force Survey).

(a) Labour share defined as in **Chart 1**.
(b) Calculated using the National Accounts measure of compensation of employees. Converted into a real per hour measure using the gross value added deflator and LFS total hours worked.
(c) Chained-volume measure of gross value added at factor cost.
(d) LFS employment.
(e) Constructed as LFS total hours divided by LFS employment.

Chart 3 Contributions to cumulative changes in the labour share since 2008 Q1(a)



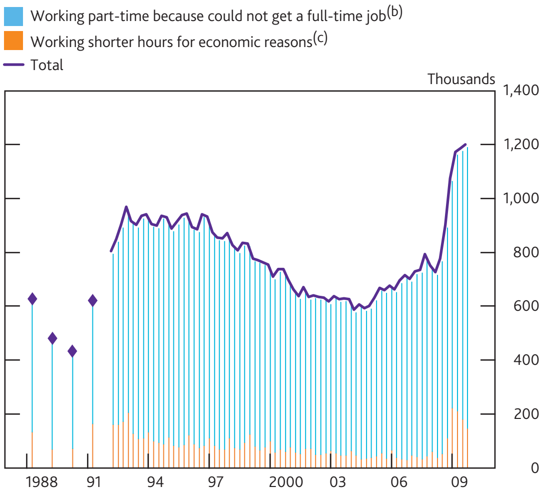
Source: ONS (including the Labour Force Survey).

(a) Variables are defined as in **Chart 2**.

Despite the different underlying forces pushing up the labour share, it is likely that it will need to continue to fall back, as in previous recessions. That could occur through weaker real

(1) Macallan and Parker (2008) find that businesses' profit margins do tend to contract as the degree of spare capacity increases.
(2) In part, the decline in average hours over time reflects a structural increase in the proportion of part-time workers in employment.
(3) Using more comprehensive data, Walling and Clancy (2010) estimate that the number of people looking for an additional job, or one with longer hours, increased by 26% in the year to 2009 Q3, to 2.8 million. But these data are not available early enough to allow a comparison with the early 1990s recession.
(4) For a detailed discussion of the Agents' survey results, see the box on page 5 of the October 2009 *Agents' summary of business conditions*, available at www.bankofengland.co.uk/publications/agentssummary/index.htm.

Chart 4 Individuals working shorter hours for economic reasons[a]



Source: ONS (including the Labour Force Survey).

(a) Data are not seasonally adjusted. Between 1988 and 1992 the LFS was annual. The annual observations correspond to the March-May quarter.
(b) Respondents to the LFS questionnaire who report that they are working part-time because they 'could not find a full-time job'.
(c) Respondents to the LFS questionnaire who report that they are working fewer hours than usual because of 'economic or other' causes. This excludes those who are working part-time because they could not find a full-time job.

wage growth, a recovery in output, or through further falls in employment in the future. The manner of the adjustment would depend in part on the factors that have influenced the different behaviour of the labour market in this recession, which the remainder of this article will go on to examine.

The next section explores how changes in structural factors — such as the monetary policy framework, the level of employment protection and the degree of unionisation — may have affected the behaviour of the labour market. The subsequent section explores the impact of other, concurrent influences on the economy, including the impact of changes in labour supply, the depreciation of sterling, and increased forbearance by businesses' creditors. The final section examines the risks to the employment outlook.

Changes in the economy since the early 1990s

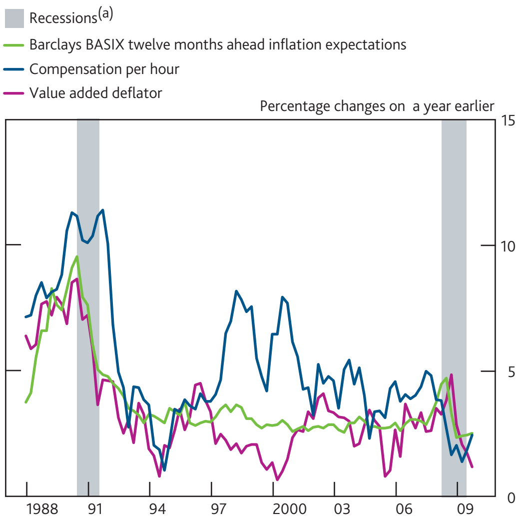
This section explores how changes in the structure of the economy since the early 1990s may help to explain the different behaviour of the labour market during the recent recession. If real wages are more flexible, or if it has become more expensive to manage headcount, then businesses may not shed labour as much as in the past when demand weakens. Different expectations about the pace of recovery relative to the early 1990s — both on the part of businesses and employees — could also have affected employment decisions.

Macroeconomic policy environment

The number of people that a business wishes to employ depends not only on how much it wishes to produce but also on the costs of employment. One of the main costs is the real wage that a business pays its employees. But the evolution of real wages will reflect changes in both the nominal wage a business pays and the price it receives for its output. It is possible therefore that the relative weakness of real wages in this recession — or the relative strength in the early 1990s recession — reflects particular developments in nominal wages and prices.

Prior to the early 1990s recession, both nominal wages and prices were growing rapidly (**Chart 5**). Subsequently, both slowed over time, falling below 4% by 1993, as changes in macroeconomic policy generated a more stable nominal environment. But inflation fell more rapidly than nominal wage growth, pushing up real wages. That could have reflected the frequency with which prices are changed relative to wages. For example, Bunn and Ellis (2009) found that, on average, output prices are changed around once every four months whereas the vast majority of wages are renegotiated only once a year. The resulting upward pressure on real wages may have been a factor contributing to businesses reducing employment levels (see the previous section).

Chart 5 Employers' labour costs, output prices and households' inflation expectations



Sources: Barclays Capital and ONS (including the Labour Force Survey).

(a) Recessions are defined as in **Table A**.

In contrast, prior to the recent recession, inflation was low and stable and nominal wage growth was running at a pace broadly consistent with inflation at target. So there was less of a need for a significant adjustment in the growth of both nominal wages and prices compared with the early 1990s. That may be one reason why more recently real wage growth has been weaker, and employment stronger.

Structural changes in the labour market

Another candidate explanation for the relatively small fall in employment, so far at least, is that there has been a more flexible response on the part of businesses and their employees. Businesses may have shown increased willingness to accept lower productivity for a period during this recession. And employees might have accepted weaker real wages in return for maintaining employment.

Empirical evidence is consistent with a structural change in the UK labour market during the 1990s. Since the mid-1990s, it appears that businesses have been increasingly likely to change hours and real hourly wages relative to their likelihood of changing the number of people they employ: the volatility of both average hours and real hourly product wages has risen markedly since the 1990s recession relative to the volatility of employment (**Table B**). At the same time, the volatility of employment relative to output has halved during 1994 Q1–2009 Q4, compared with 1975 Q1–1993 Q4. That suggests that the different behaviour of employment, hours and real wages observed in this recession might, at least to an extent, reflect structural changes in the labour market that predated the recent recession.(1) The remainder of this subsection considers what factors may have led to a change in this relationship.

Table B Labour market volatility(a)

	Employment to GDP	Average hours to employment	Real wages to employment
1975 Q1–2009 Q4	0.75	0.53	1.20
1975 Q1–1993 Q4	0.87	0.47	1.10
1994 Q1–2009 Q4	0.41	0.86	1.81

Source: ONS (including the Labour Force Survey).

(a) **Table B** reports the relative standard deviation of the cyclical component of the logged series of employment, output, average hours and real hourly wages. The series were filtered using a Hodrick-Prescott filter with smoothing parameter 1600.

Hiring and firing costs

In addition to real wages, businesses face a number of other costs when deciding how many people to employ. If the costs of adjusting headcount — such as redundancy payments or hiring costs — have increased relative to the costs of adjusting hours or pay, that could help explain why employment responded by less relative to output during the recent recession.

Businesses can incur significant costs when they reduce the number of people they employ. For example, the CBI estimates that the average redundancy payment is around £12,000, slightly less than 50% of the mean annual salary. Reports from the Bank's Agents around the United Kingdom suggest that businesses had been reluctant to make large-scale reductions in employment during the recent recession, in part reflecting the significant costs associated with redundancy.

One way to proxy changes in firing costs is to look at changes in the OECD's employment protection legislation (EPL) index, which covers a wide array of labour market institutions including dismissal costs.(2) Stronger EPL is likely to mean businesses are less likely to reduce headcount during recessions. But the OECD index suggests little change in EPL since the mid-1980s. So, at first glance, it appears unlikely that higher firing costs have significantly affected the response of the labour market in this recession.

It is possible, however, that changes in the enforcement of employment protection legislation, which are not captured by the EPL index, affect labour market flows even in the absence of legal reforms (Fraisse, Kramarz and Prost (2009)). So even if the degree of EPL has remained unchanged, stronger enforcement may have increased the expected costs of dismissal.

The costs of hiring might also have increased over time, following rises in screening and training costs. That may have occurred, for example, if a higher proportion of jobs require specialist skills or training. Since the early 1990s, the fraction of UK working-age employees with at least a degree or higher education has increased from around 20% to around a third. To the extent that recruiting skilled employees is more costly than recruiting unskilled employees, search costs are likely to have increased. Furthermore, if employers have found it difficult to find skilled staff in the past, they may have wanted to hold on to them, despite falls in demand. Some contacts of the Bank's Agents have reported that they suffered skill shortages after they reduced the level of employment during periods of weak demand in the past.

An increase in hiring or dismissal costs may therefore account for some of the apparent flexibility of real wages relative to employment in the recent recession. But these factors are unlikely to explain all the difference in the behaviour of employment, relative to the 1990s.

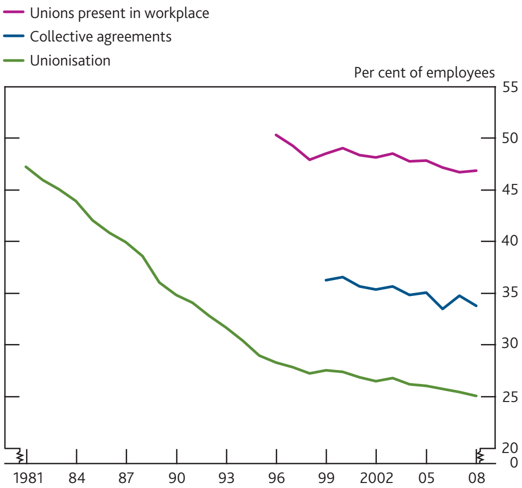
Unionisation and collective agreements

Another factor that may have contributed to the relative flexibility seen in real wages, and subsequently smaller falls in employment, is changes in the degree of unionisation and collective agreements. For example, Gnocchi and Pappa (2009) find that the volatility of real wages falls, and the volatility of unemployment rises, as the number of workers covered by collective agreements increases. In that case, a fall in the degree of unionisation since the 1990s may be able to account for some of the differences in employment and wages compared to the previous recession. As shown in **Chart 6**, there has been a small fall in unionisation rates since the

(1) The results in **Table B** are robust to the exclusion of the recessionary period from the sample. However, any analysis on filtered data will be sensitive to the specification of the time period and the choice of the filter. Using a different filter and different start, end and cut-off points for the great stability, Young (2008) finds that the relative volatility of employment was largely unchanged in the two subsamples.
(2) Dismissal costs include both severance and administrative costs. The index also covers legislation on advance notice, collective dismissals, unfair dismissals and temporary contracts.

1990s recession. And that may help explain some of the difference in the labour market response. But most of the decline in unionisation occurred during the late 1980s and early 1990s. As a result, it is unlikely that this can account for all the difference in the behaviour of the labour market in the recent recession, compared with the early 1990s.

Chart 6 Unionisation and collective agreements



Source: Department for Business, Innovation and Skills.

Businesses' expectations

Businesses' expectations about the pace of recovery may also have influenced their employment decisions. For example, businesses may have expected the weakness in demand to be less persistent than in the 1990s recession. In that case, they may have been more willing to retain employees in anticipation of a recovery in demand. But surveys of output expectations do not suggest that businesses expected this recession to be shorter than previous episodes of economic contraction.

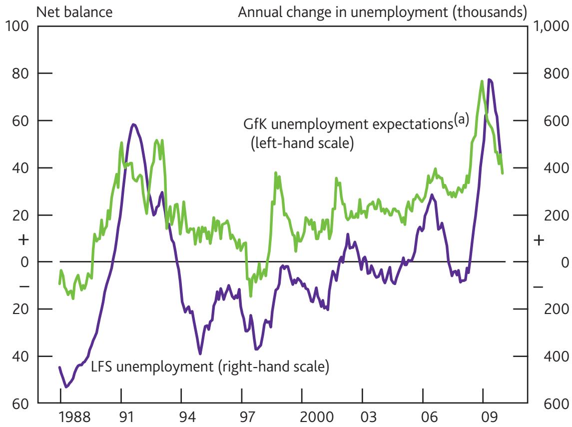
Employees' expectations

Changes in employees' expectations may also have contributed to the relative flexibility in real wages in the recent recession. For example, households may have been more concerned about the prospect of losing their job than in the past, persuading employees to trade lower real wages for job security. According to the GfK survey, the net balance of households expecting unemployment to rise increased sharply in late 2008 (**Chart 7**), eventually reaching its highest level since the question was first asked in 1988. More recently, the balance has fallen back and the increases in actual unemployment have also moderated.

Alternative combination of shocks to the 1990s

Structural changes in the labour market, and changes in businesses' and employees' responses during the recession, are likely to have played some role in reducing real wages and

Chart 7 Unemployment and a survey measure of unemployment expectations



Sources: Research carried out by GfK NOP on behalf of the European Commission and ONS (including the Labour Force Survey).

(a) The question asks how households expect unemployment to change over the next twelve months.

sustaining employment. But other concurrent factors are likely to have played a role as well. First, this section considers whether there has been an increase in labour supply, perhaps reflecting the sharp fall in financial wealth during the financial crisis. Second, it examines the response of businesses to the increase in import and export prices associated with sterling's depreciation. It then looks at the role of forbearance on the part of creditors reducing the number of business closures.

The resilience of employment may also indicate that output has fallen by somewhat less than currently indicated by official data. But based on average revisions over the past, and information from surveys, the scale of revisions are unlikely to be sufficient to account for the different behaviour of the labour market.[1]

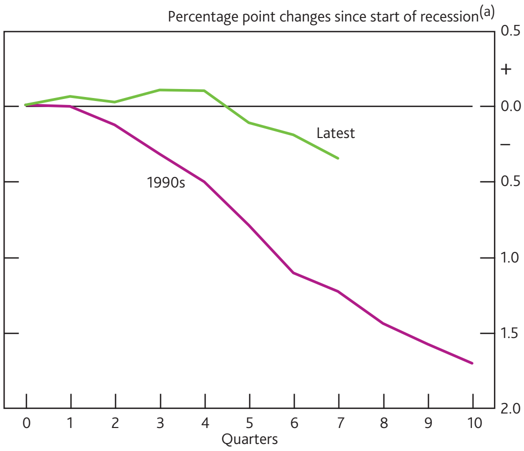
Labour supply

Real wages and employment are affected by developments in labour supply as well as labour demand. A higher supply of labour will tend to put downward pressure on wages, and so help to support employment. One measure of labour supplied is the participation rate — the proportion of adults who are either in work or actively seeking work — which has fallen back only slightly since the start of the recent recession, compared with a sharp fall in the early 1990s recession (**Chart 8**).

One factor that has helped to support the participation rate is the continuing rise in participation among older people. That may in part reflect increasing concerns about pension provision following the falls in financial wealth during the crisis period. Despite some gain in equity prices since their trough in March 2009, net financial wealth was 10% lower, as a proportion of household post-tax income, in 2009 Q3 than in

(1) See Section 3.1 of the February 2010 *Inflation Report* for a discussion of possible revisions to output estimates.

Chart 8 Participation rate



Source: ONS (including the Labour Force Survey).

(a) Measured as the change in the aggregate participation rate from the quarter before the start of the recession, where a recession is defined as in **Table A**.

early 2007. For those with defined contribution pension plans — a greater proportion than in the early 1990s — the reduction in retirement funds may have encouraged them to defer retirement in order to build up their pension income.

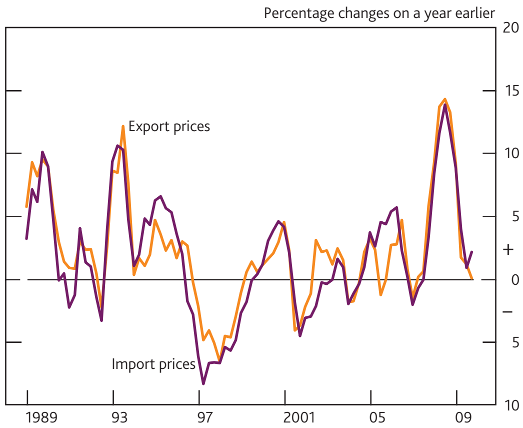
Households may also be choosing to work longer to compensate for downward revisions to their expected future income. As discussed in recent *Inflation Reports*, output is likely to remain substantially below the level it would have reached had it continued along its pre-recession trend. In large part that reflects the impact of the downturn on the supply capacity of the economy. Consequently, households may have revised down their income expectations. In addition, households may have anticipated any tax rises associated with the expected fiscal consolidation, leading them to further lower their income expectations.

Exchange rate depreciation

Businesses' wage and employment decisions during the recent recession are also likely to have been affected by the sharp fall in the exchange rate. The sterling effective exchange rate depreciated by 25% between mid-2007 and early 2009. In contrast, it remained relatively stable prior to and during the 1990s recession, only falling back in late 1992 following sterling's exit from the Exchange Rate Mechanism. The effect of sterling's depreciation on a particular business will depend on whether that business is exposed to the higher import costs that result, or whether they are able to benefit from increased competitiveness in overseas markets.

For a business that is more exposed to higher import costs (**Chart 9**), the fall in the exchange rate is another factor bearing down on their profit margins during the recession. The business could respond either by reducing nominal wage growth, by raising prices or by reducing employment. Given the weakness in demand, businesses may find it harder to pass the higher costs through to higher prices and that might increase the likelihood of businesses pushing down on wage growth or employment.[1] So higher import costs could help to explain some of the weakness in employees' real wages.

Chart 9 Sterling export and import prices



For exporters though, there are contrasting effects. To the extent that falls in the exchange rate result in higher sterling export prices, and so higher profit margins for UK exporters, businesses may use these to offset weak profits from their domestic business. And this could have helped to support employment. Over time, however, businesses may pass some of those higher margins through to higher nominal wages. Or they may try to increase their market share by reducing their sterling export prices, in which case they may need to hire more people to meet any consequent rise in demand.

The overall impact of sterling's depreciation on the labour market is therefore difficult to judge. The impact will depend in part on the extent to which importers have been able to offset higher import costs through lower real wages or whether they have had to cut employment levels. But it will also depend on the extent to which sterling's depreciation has led to higher profit margins for exporters. So far at least, much of the depreciation appears to have resulted in higher sterling export prices (**Chart 9**).[2] So while sterling's depreciation places additional pressure on the importing sector to reduce labour costs, it may have mitigated the need for job losses in the exporting sector.

Fewer business failures

Another feature of this recession is the smaller pickup in the proportion of businesses entering liquidation, and so the number of people facing forced redundancies as a result. This may reflect in part the increase in real wage flexibility. The smaller pickup in the liquidation rate may also be a result of forbearance on the part of the banks and tax authorities. An increase in creditor leniency may therefore have led to fewer

(1) Higher import prices squeeze businesses' profit margins in a similar way to higher energy prices. For a detailed discussion of how higher energy prices impact on the labour market, see Barwell, Thomas and Turnbull (2007).
(2) See MacCoille, Mayhew and Turnbull (2009) for a discussion of movements in export and import prices and the stability in the terms of trade.

forced redundancies through liquidations. And to the extent that the increased forbearance may only be temporary, it may imply further redundancies if the economy does not grow sufficiently quickly.

Risks

Employment intentions survey balances have recovered over 2009, and most contacts of the Bank's Agents have reported that they expected headcount to remain broadly stable over the coming months. But the labour market is continuing to adjust and it is possible that the picture may change over time as businesses seek to contain their labour costs.

The nature of the adjustment has important implications for the future path of the economy. For example, further job losses may lead households to increase their precautionary saving to insure against loss of work. That will mean households have less money available to spend on goods and services. And if some people suffer an extended period of unemployment, they may be unable to retain or acquire the skills sought by employers, limiting the recovery in output.

There remains considerable uncertainty about how the labour market will evolve. Demand may rebound more strongly than businesses have expected. And once businesses work off spare capacity, in order to satisfy that increased demand, employment might be expected to increase. But there remains a risk of further falls in employment if, for example, the recovery in demand proves more sluggish than businesses have expected. Businesses may respond to any future squeeze in profits by shedding staff. In addition, the outlook for employment depends on the extent to which creditors continue to show forbearance to businesses in financial difficulties. If more businesses are forced to enter liquidation, then there will be more forced redundancies and a fall in employment. And to the extent that the prospective fiscal consolidation is accompanied by reductions in public sector employment, rather than weaker real wages, that could provide a further downside risk.

The outlook for employment will also depend on developments in real take-home pay. Employees may have become more confident about the employment outlook and may be unwilling to accept a further squeeze in real wage growth. That could lead them to push for higher pay settlements this year. But if companies cannot afford the increase, then they may shed labour in order to contain labour costs.

Conclusion

This article has examined businesses' response to the recent recession, in terms of reducing labour costs, compared with previous recessions. To date, the larger fall in output has been associated with a smaller fall in employment, and weaker real wages, compared with the 1990s recession. In part, the unusual behaviour of the labour market is likely to reflect an increase in the flexibility of real wages relative to employment. But other shocks, such as the response of labour supply and the exchange rate depreciation, are likely to have played a role.

The adjustment in the labour market is, however, ongoing. Contacts of the Bank's Agents have reported that they expected headcount to remain broadly stable over the coming months. But the picture may change over time and there remains considerable uncertainty about how the labour market will evolve.

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