University of Strathclyde Business School

Fraser of Allander Institute & Scottish Centre for Employment Research

Scottish Labour Market Trends

Vol 2 No 1

The Fraser of Allander Institute (FAI) is a leading economic research institute with over 40 years of experience researching, analysing and commentating on the Scottish economy. The FAI undertakes a unique blend of cutting-edge academic research alongside applied commissioned economic consultancy in partnership with business, local and national government and the third sector.

The Scottish Centre for Employment Research (SCER) has an international reputation for high quality research and knowledge exchange on work and employment. SCER works collaboratively with academic, policy and practitioner stakeholders to generate high impact research that delivers shared benefit. The Centre has particular expertise in supporting workplace innovation, job quality and fair work, key priorities for Scotland.

Labour Market Trends is jointly produced by the FAI and SCER and aims to shed light on key developments in Scotland's labour market. Alongside a summary of recent trends and the outlook, the report also highlights longer trend developments and areas for discussion.

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Summary

Employment and unemployment rates in Scotland continue to look healthy. On the face of it, current levels of labour market activity should be consistent with an economy that is in rather good fettle.

Yet overall economic conditions are more fragile. Economic growth in Scotland over the year to June was just 0.5%. This is well below trend.

Key Labour Market Indicators: Jul-Sep 2017

	Employment (16-64)	Unemployment (16+)	Inactivity (16-64)
Scotland	75.2	4.0	21.6
England	75.4	4.3	21.2
Wales	72.5	4.1	24.2
N.Ireland	68.1	4.0	28.9

Source: ONS, Labour Force Survey

There are clearly good reasons why having people in work, even if economic conditions are challenging, is a positive outcome. Evidence points to numerous long-term benefits of being in employment, not just financially, but also from a wider health and socio-economic perspective.

But there is a downside. The mechanism through which these two facts – robust labour market performance and slow economic growth – are reconciled is through weak productivity growth.

The most recent data – up to 2015 – had been showing Scotland catching up with the UK in terms of productivity (although current trends suggest that Scotland is likely to slip back a little during 2016 and 2017).

Whilst welcome, this does need to be put in context. Firstly, UK productivity has been weak for some time, a situation referred to as the 'productivity puzzle'. John Sutherland's guest article explores some dimensions of this in more detail.

Secondly, the productivity gap between Scotland and the top quartile of OECD countries remains similar to what it was in 2007. Back then, the Scottish Government had a target to eliminate this gap by 2017.

What we also show is that a key reason that Scotland has caught up with the UK in terms of productivity has less to do with a fundamental improvement in efficiency and more to do with the faster pace of jobs growth in the UK labour market.

Remember, labour productivity is a measure of how much output (GDP) is produced in an economy per hour worked or per job – i.e. it is a ratio of the growth in output relative to the growth in jobs/hours worked.

Therefore, productivity can improve for two reasons. Either we are effectively producing more with the same number of people working (or working the same hours); or we are producing the same output with fewer people working (or working fewer hours).

What we see in the data is that Scotland's performance relative to the UK can be explained by the UK economy creating more jobs and opportunities to work more hours than the Scottish economy has in recent years – not just overall but also at a faster rate than growth in the UK economy. It is this which has led productivity in the UK to grow more slowly than in Scotland (and therefore for Scotland to catch-up with the UK).

Of course, what we really want to see are more jobs *and* greater productivity. Until we get that, earnings will continue to remain under pressure.

Fraser of Allander Institute &
Scottish Centre for Employment Research

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Overview and Analysis

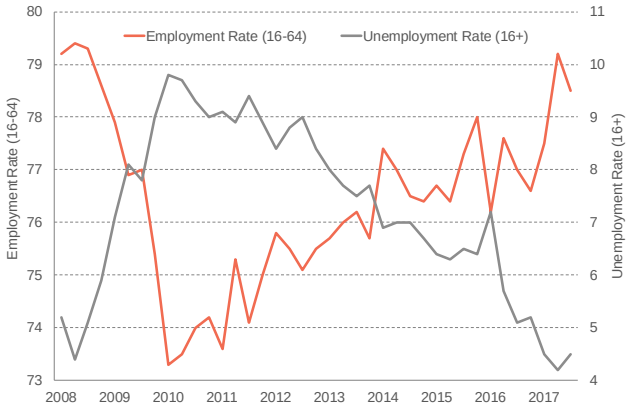
Scotland's labour market remains strong, in absolute terms and relative to the rest of the U.K., with a slightly lower unemployment and a higher employment rate. Scotland continues to have the best employment rate outside of the East and South of England.

Table 1: UK labour market, July- September 2017

	Employment (16-64)	Unemployment (16+)	Inactivity (16-64)
Scotland	75.2%	4.0%	21.6%
Quarterly Change	0.0	0.1	-0.1
Annual Change	1.6	-0.8	-1.0
UK	75.0%	4.3%	21.6%
Quarterly Change	-0.1	-0.2	0.3
Annual Change	0.6	-0.6	-0.1

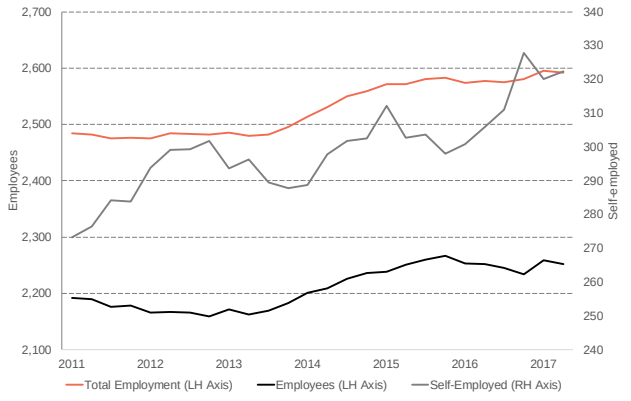
Source: ONS, Labour Force Survey (LFS)

Chart 1: Scottish employment & unemployment rate



Source: ONS, LFS

Chart 2: Scottish employment & self-employment



Source: ONS, LFS

Introduction

The labour market in Scotland continues to provide impressive headline indicators for employment and unemployment.

Employment remains close to a historic high at 75.2%, unemployment remains low at 4.0%.

On both indicators, Scotland is slightly better than the UK as a whole – although as we have indicated before, with confidence intervals of +/1.3%-points and +/-0.7%-points surrounding these estimates, care needs to be taken when trying to interpret small variations in headline numbers.

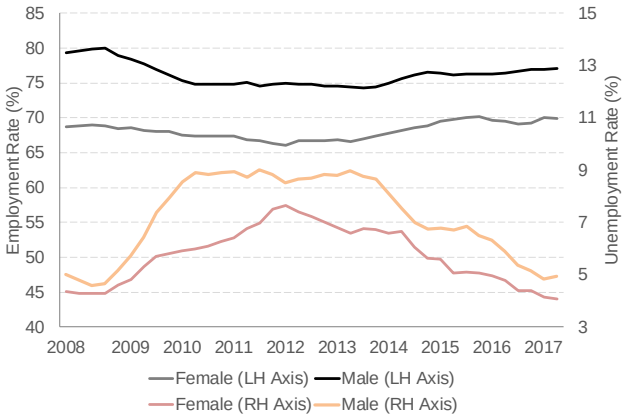
Economic inactivity has dropped by 1%-point over the past year, reversing some of the increases witnessed the year before.

As Chart 2 shows, the growth in employment in Scotland in the past year has been in the form of self-employment. We still do not know much – from official statistics at least - about what this increase in self-employment comprises.

Is it people taking advantage of opportunities to achieve better labour market outcomes by being self-employed (increasing their earnings, or their work flexibility, etc)? Or is it people unable to obtain employment as an employee, who are instead turning to forms of low-paid and fragile self-employment?

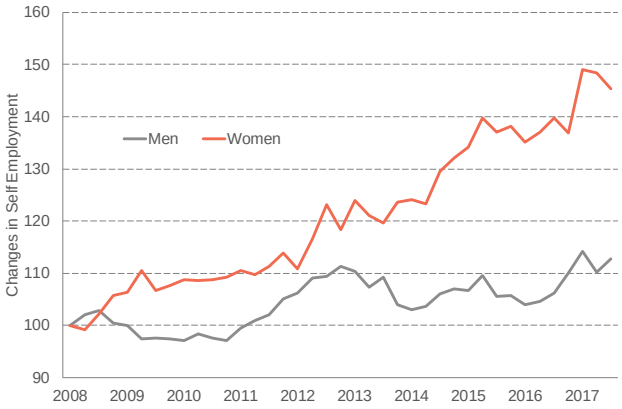
The nature of the work being undertaken by the self-employed has important implications income tax revenues, and wider social issues like employment protections.

Chart 3: Employment and unemployment by gender



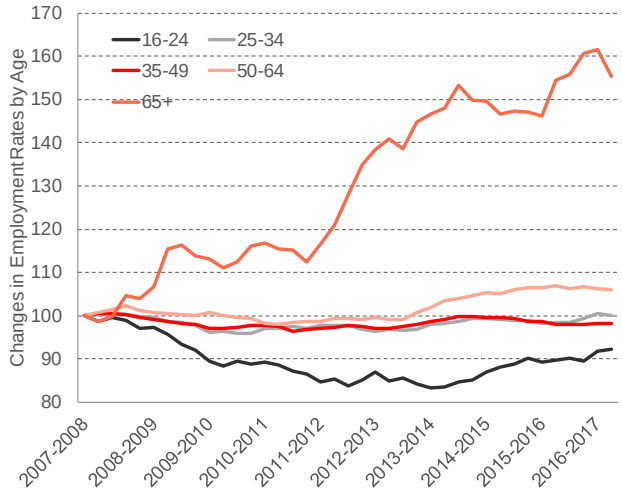
Source: ONS, LFS

Chart 4: Self-employment by gender



Source: ONS, APS

Chart 5: Employment rates by age



Source: ONS, APS

Labour market outcomes by age and gender

Chart 3 illustrates the change in male and female employment and unemployment since 2008. We can see that there has been a gradual convergence between the male and female employment rates.

As mentioned earlier, a key reason for the increase in employment in Scotland in recent times has been the growth in self-employment. Interestingly, we can see from Chart 4 that since 2008 there has been more rapid growth in female self-employment than male self-employment.

It will be interesting to see if this trend continues in the months ahead and if it represents a structural change in the type of employment being undertaken.

For instance, it is possible to put forward an argument that with family caring responsibilities disproportionately undertaken by women, the trend into self-employment may reflect a wish to remain attached to the labour market while undertaking family caring responsibilities.

Some of this might be driven out of choice and the greater opportunities to work flexibly that the modern economy provides. Or it may be out of economic necessity if household finances are under pressure and self-employment provides a route to raising more income.

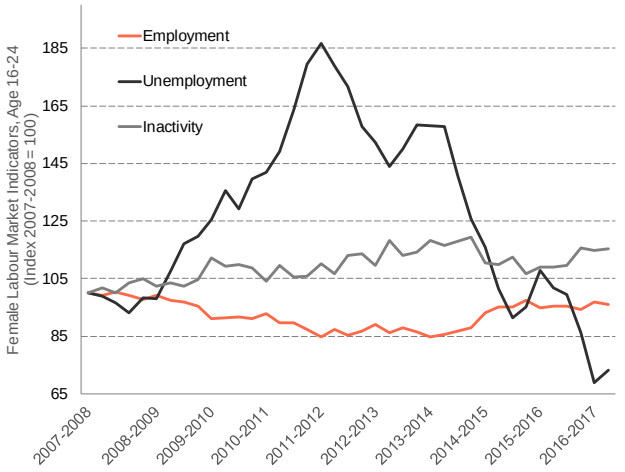
Just as we have seen that there are gender differences in the labour market, we can also see important differences by age. Chart 5 shows that the biggest growth in the employment rate since 2008 is among those 65+, while the employment rate for those aged 50-64 is also higher. Meanwhile, the employment rates of those aged 25-34 and 35-49 are back to their 2008 level.

Perhaps the most focussed upon age group for labour market outcomes are those aged 16-24, the so-called 'youth' labour market.

Chart 6: Youth (16-24) employment and unemployment

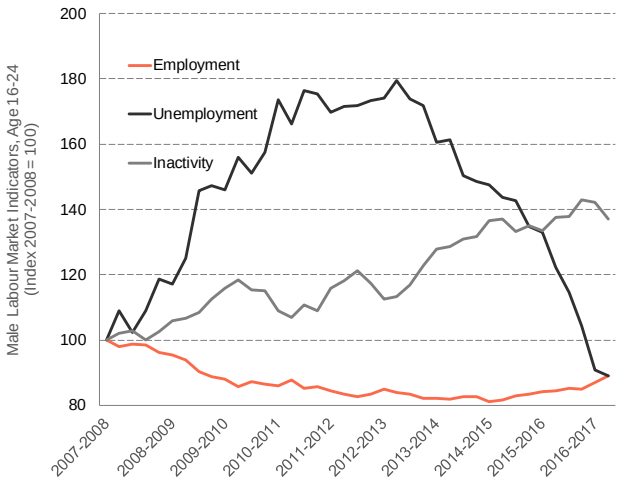
Source: ONS, LFS

Chart 7: Youth labour market experience for women



Source: ONS, LFS

Chart 8: Youth labour market experience for men



Source: ONS, LFS

Chart 6 shows the evolution of youth employment and unemployment since 2007-08. Youth unemployment in Scotland is around its record low.

However, because this age group are also, for both positive reasons and less positive reasons, more likely to be economically inactive, the unemployment rate only provides a partial insight into the labour market experience of young people. As Chart 6 shows, despite the low youth unemployment rate, the youth employment rate remains below its 2007-08 level. That being said, it has been on a steady trajectory of growth since 2013-14.

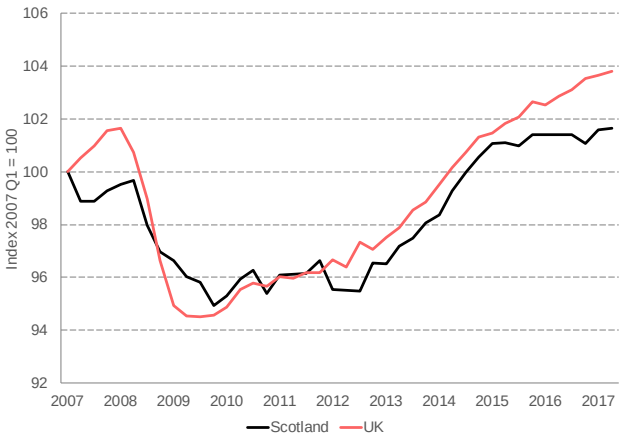
Charts 7 and 8 illustrate the evolution of each headline indicator of labour market performance for 16-24 year old females and males. Since 2007-08 we have seen rising rates of female youth inactivity, and falling rates of female employment.

There was a rapid increase in female youth unemployment around 2011-12, but this increase has now been reversed with rates of youth female unemployment substantially below their 2007-08 level. If this pattern of increasing female inactivity among those aged 16-24 represents an increase among those in full-time education, this may be a positive trend.

Headline indicators for 16-24 year old males paint a slightly different picture, with a smaller drop in the unemployment rate being driven by larger increases in the rate of economic inactivity. The 16-24 year old employment rate among males has also declined.

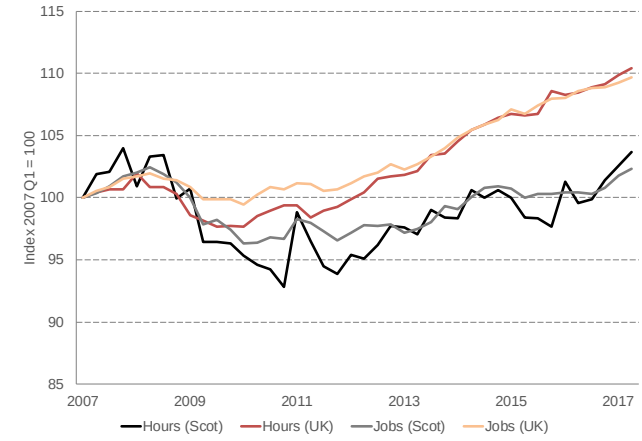
The main youth participation measure is now produced by Skills Development Scotland and focuses on the narrower age range of 16-19 year olds. This replaces the traditional ONS measure of the % of young people who are 'not in education, employment or training'. These data show that the main changes between 2016 and 2017 are that the share of 16-19 year olds in FT employment grew for males (+0.7%-points) and females (+0.5%-points), and was associated with similar drops in unemployment. However the % of 16-19 year old females in further education also declined by 0.6%-points.

Chart 9: Scottish and UK GVA per head



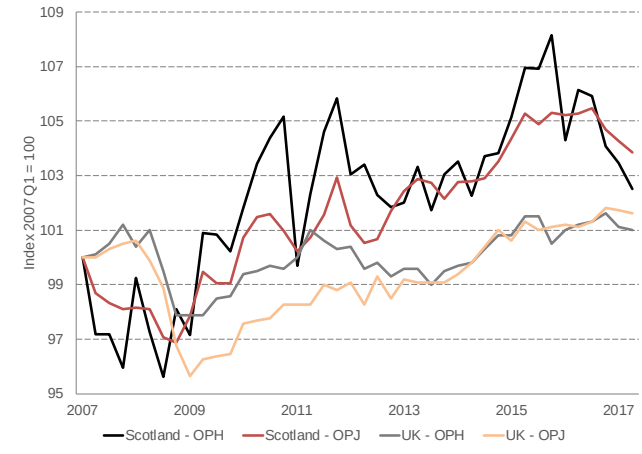
Source: ONS, Scottish Government

Chart 10: Scottish and UK jobs and hours of work



Source: ONS, APS

Chart 11: Scottish and UK output per hour (OPH) and output per job (OPJ)



Source: ONS, APS

Productivity

New data on labour productivity in Scotland was earlier released this month.

These showed that, on a rolling annual basis to Q2 2017, i.e. comparing the most recent four quarters to the previous four quarters, labour productivity in Scotland (output per hour), fell 2.2%.

To understand what has been driving these trends requires an understanding of how GVA, hours worked and jobs have evolved since the financial crisis.

Chart 9 shows how UK and Scottish GVA per head have evolved since 2007.

Nevertheless, we have seen productivity in Scotland catch up with the UK as a whole.

To understand why, it is important to recognise that labour productivity measures are a combination of two things – growth in output and growth in the labour market.

Of course, we would like to see both occur – i.e. grow the economy and create more jobs. Productivity could also improve by simply creating fewer jobs and working fewer hours. Alternatively, productivity may grow more slowly because you are creating more jobs at a faster pace than wider economic growth.

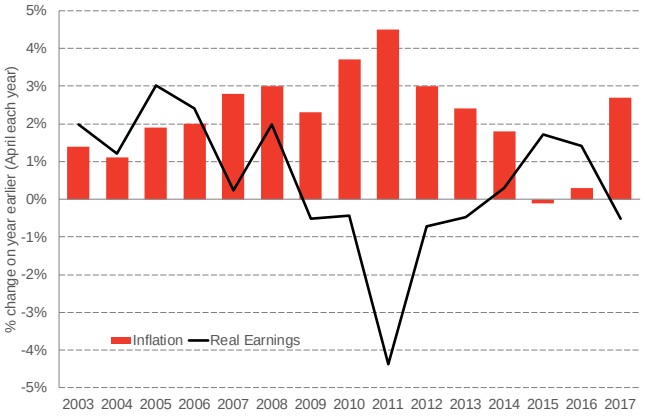
Chart 7 shows changes in hours worked and jobs in the UK and Scotland.

We can see that hours worked and jobs growth have been stronger in the UK than in Scotland.

It is this – better growth in employment – that explains why, in part, Scotland's productivity has caught up with the UK.

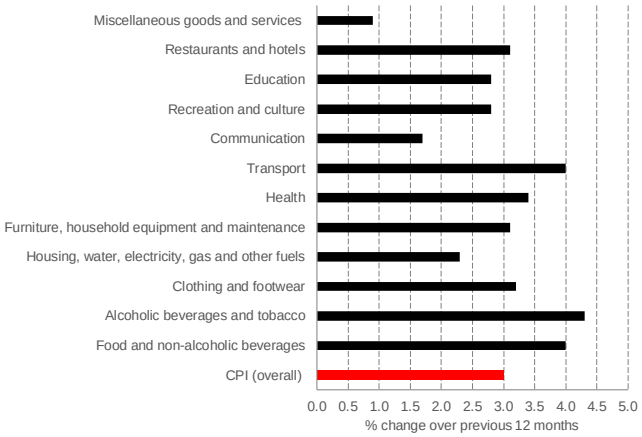
It is therefore a double-edged sword to welcome Scotland's productivity improvement – yes it is an improvement, but it is not because we have become fundamentally economically stronger and more productive than the UK per se. Instead we have simply created fewer jobs.

Chart 12: Median real earnings in Scotland and UK CPI inflation



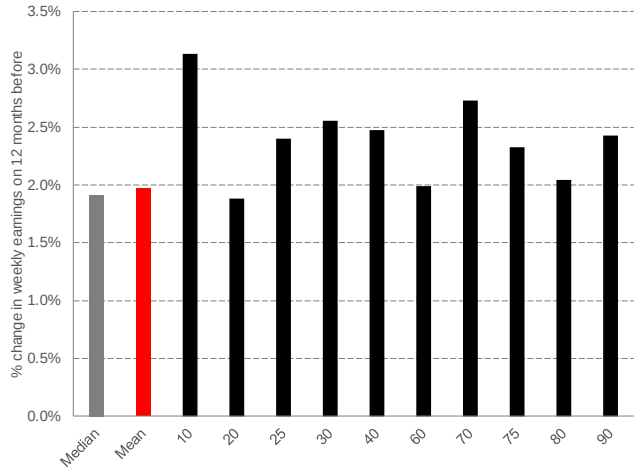
Source: ONS, ASHE

Chart 13: CPI by component, October 2017



Source: ONS

Chart 14: Nominal earnings growth median, mean and by decile, Scotland, 2016-2017



Source: ONS, ASHE

Earnings

With productivity growth across the entire UK continuing to be sluggish it is unsurprising that real earnings, i.e. earnings adjusted for inflation, continue to remain subdued.

Chart 12 illustrates headline CPI inflation for the UK and the growth in real earnings in Scotland.

With inflation spiking to 3%, real earnings growth has once again turned negative, meaning that workers are seeing the purchasing power of their pay eroded.

It is common for different parts of the earnings distribution to grow at different rates. Similarly, it is often the case that inflation varies across different goods.

Chart 13 shows the change in CPI over the past 12 months by component. We can see that some items, e.g. Communications and Housing, are lagging aggregate inflation while others, such as Food and Alcoholic beverages are experiencing significant price increases.

The fact that the price of food and beverages is increasing so rapidly has potential distributional consequences as poorer households – where a greater share of the household budget is spent on food – may experience more severe reductions in their purchasing power.

As Chart 14 shows, earnings growth has not been uniform across the income distribution.

While the fastest income growth has been seen among the 10% of the labour force with the lowest weekly earnings, this earnings growth is barely above the rate of inflation.

For all but the bottom 10%, real earnings have declined over the past year.

Indeed with median earnings growth of 1.9% and mean earnings growth of 2.0% over the past year, there is a substantial gap for most workers between earnings and inflation in Scotland.

Labour Market Insights

In this quarter's edition we include an article from John Sutherland who uses microdata from the Workplace Employment Relations Survey to look at workplace adjustment strategies in response to the 'Great Recession'. These strategies may help us understand aspects of the so-called 'productivity puzzle'.

Introduction

What has come to be referred to as the 'Great Recession' had its origins in 2007 in the subprime mortgage crisis in the USA. Soon, that initial financial crisis was to develop further and to spread throughout the international financial system.

In time, its consequences affected the real economy. Across the member nations of the OECD, the recession was characterised by a decrease in GDP unprecedented in recent history (van Ours, 2015). In the UK, it caused the most substantial shock to the economy since the Great Depression. For example, in the initial phase of the recession, between the first quarter of 2008 and the second quarter of 2009, GDP fell 6.3 per cent. Further, the recession proved to be longer and deeper than the recessions of the 1980s and 1990s (Gregg and Wadsworth, 2011).

In the context of the traditional indicators of labour market performance, there was a decrease in the employment rate and an increase in the unemployment rate. There was also an increase in the inactivity rate, some (unknown) portion of which may be identified as disguised unemployment. Nonetheless, over the period of the recession, employment loss proved to be much less than expected, certainly relative to the experiences of the 1980s and 1990s.

Consequently, Bell and Blanchflower (2012, p. R3) have concluded that, in response to the recession, firms "hoarded labour, cut hours and lowered pay".

Evidence of the use of the workforce adjustment strategies of labour hoarding, cutting hours and reducing pay was deduced by Bell and Blanchflower from macro data, from published economic statistics. This article reports research at SCER that undertook a direct investigation of these strategies and others using micro data that had their origins in the management questionnaire of the 2011 Workplace Employment Relations Study (van Wanrooy *et al*., 2013).

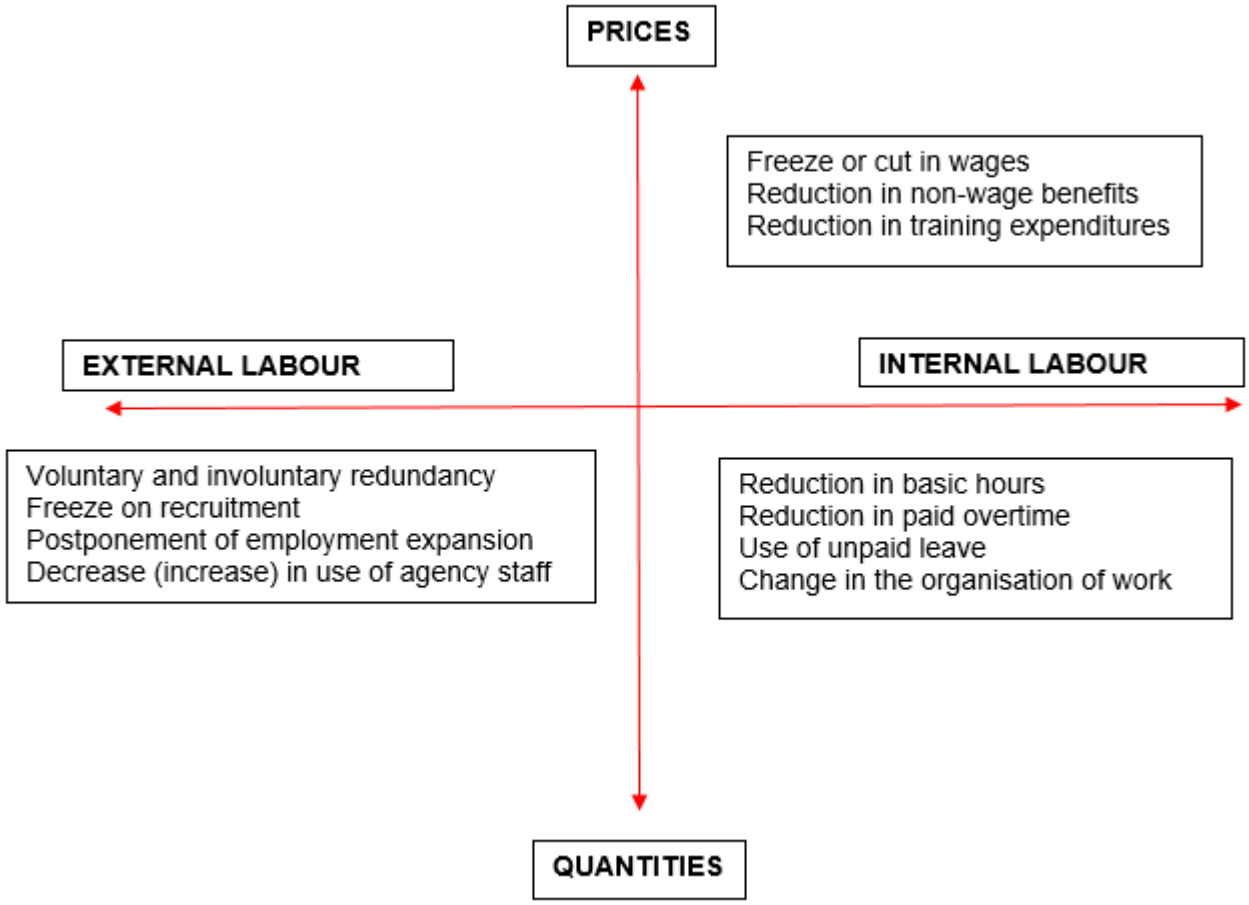
The context: workforce adjustment strategies

Figure 1 presents a taxonomy of workforce adjustment strategies. There are two dimensions to the figure. The vertical dimension reflects the two traditional macro-economic adjustment processes: the neo-classical adjustment process via 'prices' and the Keynesian and neo-Keynesian adjustment process via 'quantities'. The horizontal dimension identifies the locus of the impact of the adjustment strategy: the workplace's internal labour market or the labour market external to the workplace. It is possible to locate workforce adjustment strategies within the four quadrants.

To illustrate. Cutting (or freezing) wages or reducing the level of non-statutory non-wage benefits (such as bonuses or fringes) are adjustment strategies that involve price adjustments. The strategy of reducing

hours is an adjustment strategy that involves a quantity adjustment. Although some employees may quit in response to either of these strategies to accept superior job offers from elsewhere, generally the external labour market consequences of implementing these strategies is minimal. Instead, their impacts are borne by employees within the internal labour market of the workplace.

Figure 1. A Taxonomy of Workforce Adjustment Strategies



In contrast, redundancy is an adjustment strategy that involves a quantity adjustment where the consequences are manifest in the external labour market. Although some workers may find alternative employment (and some may quit the labour market), in terms of a stocks and flows model of the labour market, redundancy is associated most with an increase in the flow off the stock of employment and an increase in the flow onto the stock of unemployment (Elsby *et al*, 2011: Smith, 2011). The employment rate, therefore, decreases and the unemployment rate increases.

Further, the more labour is released in this way, the greater will be the decrease in the employment rate and the greater will be the increase in the unemployment rate, *cet par*. Accordingly, it is from the fact that, during the period of the recession, changes to the employment and unemployment rates were less than expected that makes it legitimate for Bell and Blanchflower to conclude that labour hoarding – the obverse of redundancy - was an important workforce adjustment strategy.

In principle, workplaces have a range of workforce adjustment options from which they can choose (Haskel *et al*, 1997). Each adjustment option has different properties that will help influence whether it is to be adopted.

The 2011 Workplace Employment Relations Study (WERS, 2011)

WERS, 2011 is the sixth in a series of workplace surveys that map the changing contours of employment relations in Britain. The population sampled is all workplaces in Britain which have five or more employees operating in Sections C-S of the 2007 Standard Industrial Classification (SIC) (i.e. Agriculture and Mining are excluded), where a workplace is defined as comprising the activities of a single employer at a single set of premises.

At each participating workplace, the most senior manager responsible for employment relations/human resources/personnel is interviewed. Prior to this interview, this manager is asked to provide a demographic profile of the workplace. When combined, responses to the interview schedule and the demographic profile of the workplace are referred to as 'the management questionnaire'.
Two questions asked in the interview motivated the research viz.:

- "…can you tell me to what extent your workplace has been adversely affected by the recent recession?"
- "…which, if any, of these actions were taken by your workplace in response to the recent recession?"

The analysis, therefore, is of the incidence of the action in question (i.e. whether it was used at the workplace), not its extent (i.e. the number of employees affected by the action).

Some results from the analyses

Contrary to popular perceptions at the time, not all workplaces were affected equally by the recession. 11.26 per cent suffered 'no adverse effect'; and 18.22 per cent were affected 'just a little'. In contrast, 24.49 per cent were affected 'quite a lot'; and 19.78 per cent were affected 'a great deal'. Alternatively, re-structuring the original responses, whereas 55.73 per cent of workplaces were not affected 'a lot' by the recession, 44.27 per cent were affected 'a lot'.

Reacting to the adverse effects of the recession, management implemented a diverse range of workforce adjustment strategies (cf. column 1 of Table 1 for the detail). 41.39 per cent of workplaces froze or cut wages. 27.56 per cent froze recruitment to fill vacancies. 17.25 per cent implemented a policy of redundancy. However, 25.56 per cent of workplaces took no action, although the probability that a workplace took no action decreased the more the workplace was affected by the recession.

One in five workplaces implemented only one workforce adjustment strategy. Most used a combination of strategies. 14.35 per cent of workplaces, for example, made use of three strategies.

A binomial probit model was used to examine the relative importance of the identified adjustment strategies. (The model controlled for factors such as the composition of the workforce at the workplace; the size of the workplace in terms of number of employees; the SIC of the activity undertaken at the workplace; and the formal, legal status of the workplace.)

First the data set was sub-divided, with one subset consisting of observations where the workplace was not affected 'a lot' by the recession and the other consisting of observations where the workplace was affected 'a lot'. For each subset, binomial probits were estimated for each of the adjustment options.

Predicted probabilities for each adjustment option for both subsets were then calculated. These results are reported in Table 1.

Table 1. Predicted probabilities of action taken: whether or not the workplace was affected 'a lot' by the recession by the action taken

Action taken	*Workplace not affected 'a lot'*	*Workplace affected 'a lot'*
Compulsory redundancy	.0645	.2263
Voluntary redundancy	.0313	.1055
Redundancy of any sort	.0842	.2832
Freeze on recruitment to fill vacancies	.1952	.3744
Postponement of plans to expand the size of the workforce	.1329	.3350
Freeze or cut in wages	.3017	.5522
Reduction in non-wage benefits	.0365	.1308
Reduction in basic hours	.0788	.2228
Reduction in paid overtime	.1078	.2780
Employees required to take unpaid leave	.0209	.0644
Reduction in the use of agency staff	.1237	.1823
Increase in the use of agency staff	.0245	.0455
Reduction in training expenditures	.1108	.2333
Change in the organisation of work	.1714	.3393
Something else	.0199	.0514

NOTE: The interview schedule asked about 'compulsory redundancy' and 'voluntary redundancy'. 'Redundancy of any sort' is a derived statistic constructed from the two original responses. All the predicted probabilities are statistically significant at ($p < 0.01$).

Three important conclusions are made from these results. The first is that, without exception across the 15 adjustment options, the predicted probability of an action being taken was greater when the workplace was affected 'a lot' by the secession. The second is that the ranking of the actions taken changed when the context changed from workplaces not being affected 'a lot' by the recession to workplaces being affected 'a lot'.

Most notably, the predicted probability of redundancy of any sort increased its ranking from eighth to fifth. The third is that the adjustment options with the highest predicted probabilities were associated with adjustments made within the internal labour market of the workplace.

In general, therefore, the findings of this research investigation concur with those of Bell and Blanchflower: workplace adjustment to the recession was achieved more by 'work sharing' than 'labour shedding'. The novelty of this research, however, is the additional detail provided about the specific nature of these adjustment strategies and their relative importance, results made possible because of the micro data being analysed.

Workplace workforce adjustment strategies: a wider implication?

Labour productivity – however measured, output per hour or output per worker – tends to be pro-cyclical. Historically, labour productivity has trended upwards over time. However, during periods of a downturn in

economic activity, it tends to decline. Typically, this decline is a short run phenomenon. For example, in the recessions of the 1980s and 1990s, productivity began to rise again after a few quarters.

This did not happened during the recession of 2008-9. Unprecedented in the post war era, productivity post 2010 has 'flat-lined' rather than returned to its pre-downturn trend. Had productivity continued its pre-2007 trend, for example, productivity would now be 16 per cent higher than it is estimated currently. This has come to be referred to as the 'productivity puzzle' (ONS, 2017).

When aggregate demand decreases, factor utilisation also decreases. At this point in the economic cycle, many firms are unable to dispose easily of redundant capital. Instead, according to micro economic theory, the focus is upon making labour redundant because labour is a 'variable' factor of production. However, contrary to the assumptions of the neo-classical theory of the firm, rather than being a 'variable' factor, labour is a 'quasi-fixed' factor because there are costs associated with hiring, employing and firing labour. The tendency during periods of a decline in economic activity, therefore, is for some firms to 'hoard' labour rather than make it redundant.

To the extent that redundancy has been shown to be a relatively unimportant workforce adjustment strategy during the recent recession, there is circumstantial evidence that some firms hoarded labour. Consequently, there is an argument that 'labour hoarding' is one possible explanation of the productivity puzzle. In the immediate post-recession period, firms were able to meet increased demand by merely making more productive use of their previously under-utilised resources. However, although the labour hoarding explanation may have had some credibility during the earlier post-recession years, it becomes less credible as the years have gone on.

Consequently, research investigations into possible explanations for the productivity puzzle have changed their focus. Various alternative possibilities are mooted, such as:

- The post-recession reduction in the productive capacity of firms, notably cuts in capital spending, most especially on R&D, the very basis of innovation and central to increasing productivity, because of uncertainties about the future ;
- The role of the financial sector, where impairments within this sector may have had subsequent detrimental effects on the adjustment and resource allocation processes in other sectors of the economy; and
- The flexibility within the labour market, allowing many firms to meet their expansion needs by sub-contracting many of their activities to the every expanding cohort of the 'self-employed' workers.

No single factor explains the productivity puzzle. However, what cannot be ignored in the search for possible explanations is that most of the frequently published estimates of productivity are whole economy measures and that important differences in productivity exist at disaggregated levels within the economy. There are inter-sectoral differences, between the manufacturing and service sectors, for example; there are intra-sectoral differences, with many industries having long tails of poorly performing firms; and there are spatial differences, not only between London and Scotland, for example, but also within Scotland itself.

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