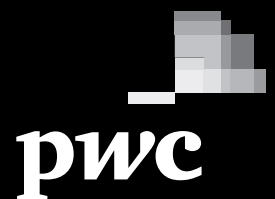


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Articles accepted for publication should be supplied electronically and conform to the guidelines available from Isobel Sheppard fraser@strath.ac.uk

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Outlook and appraisal

Overview

Growth in the Scottish economy appears to be weakening again after some survey evidence of a pickup in the first quarter of the year. GDP fell slightly in the final quarter of last year and could fall again in the first quarter, despite survey evidence, if the Scottish economy continues to track the UK. The recovery from the Great Recession of 2008 - 2009 remains weak with Scottish GDP still just under 4% below its pre-recession peak and employment 3% below. The UK figures are -4.3% and -1%. The recovery of Scottish GDP relative to the UK is also being overstated by the effect of falling oil and gas production. When oil and gas production is removed from the data the Scottish recovery is relatively weaker than previously thought with UK ex oil and gas GDP -3.5% below its pre-recession peak while the Scottish figure is -3.6%.

It is now clear that the recovery in output stalled after mid-2010. We are strongly of the belief that the UK government fiscal austerity programme is the main culprit, with the added effects of the impact on business confidence of the developing problems in the Eurozone and the impact of rising commodity price driven inflation on real incomes and consumption.

Considerable slack remains in the Scottish labour market, although the main indicators of unemployment, activity and employment rates have moved into line with the UK. However, it should be remembered that at the start of the Great Recession the Scottish unemployment rate was well below the UK rate at 3.9% compared to 5.5%. Jobs appear to be being created again but it is clear from the data to September 2011 that full-time jobs are falling while part-time and temporary jobs are rising. This is significant, because it is not impossible that labour demand has fallen with GDP even though the number of jobs rose recently and unemployment fell.

This would be the case if the loss of labour input through the fall in full-time employment was greater than the gain in labour services from the rise in part-time employment.

Growth is clearly weakening again as both domestic and external demand growth falters. Household income growth is sluggish, with wage growth falling below 2% in the UK in the first quarter. Investment spending picked up at the end of last year but appears to be weaker in Scotland than the UK. Despite the positive contribution of net trade to growth in 2011, manufacturing export performance in Scotland faltered in the final quarter with zero growth but volume was up by 4.8% over the year. Manufacturing export volumes are still nearly 6% below their pre-recession peak.

Fiscal consolidation continues to bite and there is much more to come with only 12% of planned total spending cuts completed by the end of financial year 2011-12 but with large reductions already made in capital spending. The inflation rate is falling back more slowly than the Bank of England expected due to the effects of high energy prices, and the Eurozone crisis is worsening again. The monetary policy regime is permissive but even with £325 billion of quantitative easing the leverage on the real economy is limited because the economy continues at an effective zero interest bound in a liquidity trap. It remains to be seen whether the Bank and the Chancellor's new "funding for lending" scheme, announced on 14 June, with up to £100 billion to cut bank funding costs in exchange for lending commitments will work to any significant extent in raising aggregate demand in the economy. We doubt it. It is against this background that we have produced our forecasts for 2012, 2013 and 2014.

We have made minimal changes to our GDP forecast for three years. Annual growth is expected to remain weak but positive this year at 0.4%, rising to 1.6% in 2013 and 2.5% in 2014. Net jobs will continue to fall this year by around 15,000 but will turn

positive in 2013 with an additional 20,000 jobs forecast, rising to 36,000 in 2014. Unemployment, on the ILO measure, will rise to 246,000 by the year end, rising further to 252,000 by end 2013 but thereafter it should fall reaching 238,000 by the close of 2014.

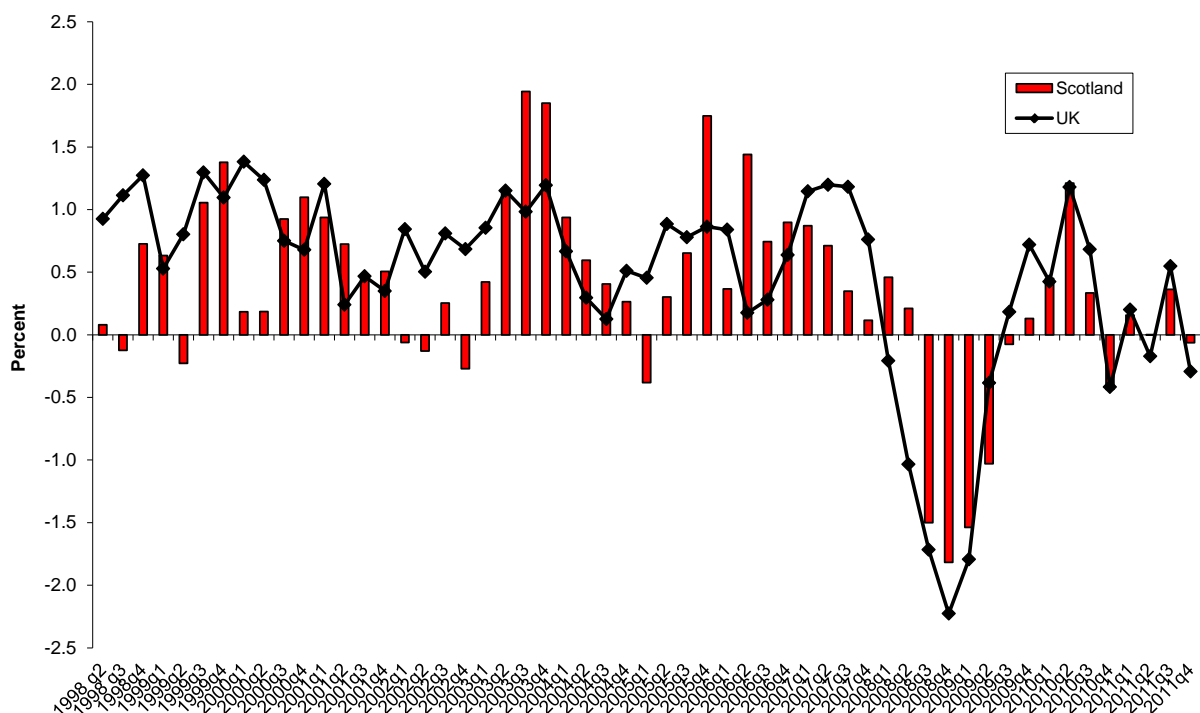
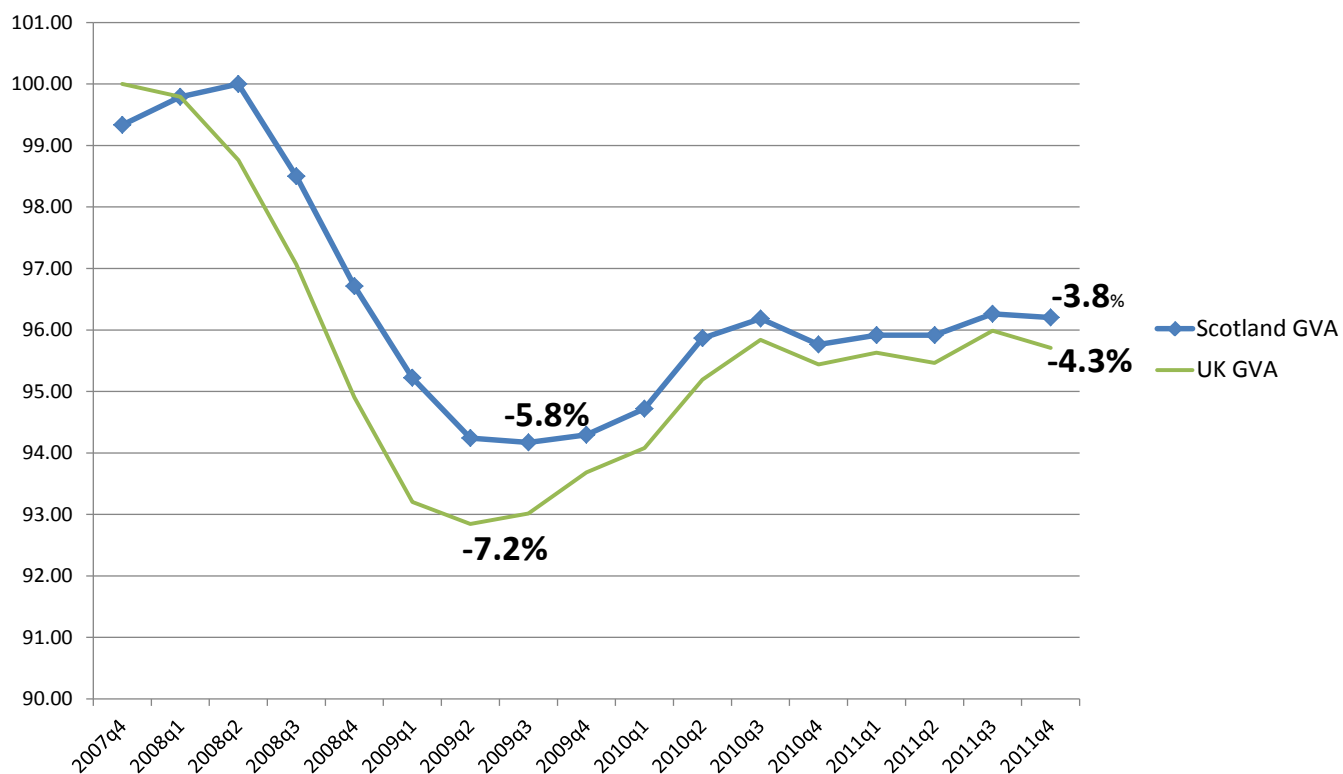
The situation in the Eurozone complicates the forecasting picture considerably. We assume in our central forecast that for the medium term there is an essential "muddling through" process, with further support given first to peripheral country banking systems and then to their sovereigns if necessary. Through this process confidence remains low and growth is weak as austerity policies are not, or are insufficiently, relaxed. Moreover, complete steps to full fiscal union with Eurobonds and sizable fiscal transfers between countries, which would finally resolve the crisis, seem unlikely.

But there remains the risk of a Greek default and even exit from the Euro in the near term and the break-up of the Euro in the medium term. We have therefore considered these two outcomes as possible scenarios to assess their likely impact on the Scottish economy. This is therefore not a forecast but a 'what-if' impact study, with the impact on the Scottish economy assessed at the end of three years after each event occurs.

Our main conclusions are: First, a Greek exit leads to a drop in GDP in Scotland of -1.2% and a loss of just under fifty thousand jobs. This is not trivial but small compared to the other events show. Secondly, the consequences of the breakup of the Euro would be a major economic event for Scotland even though we are not in the Euro. With an estimated drop in GDP of -5.3% and loss of -144,200 jobs the effect would be comparable in scale to the effects of the recent Great Recession and worse than our simulation estimate of the effect of fiscal consolidation.

Recent GDP performance

Official data for the final quarter of last year show that growth in the Scottish economy turned negative again, although less so than in the UK. GDP contracted by 0.1% in

Figure 1: Scottish and UK quarterly GDP growth, 1998q2 to 2011q4**Figure 2: GVA in recession and recovery Scotland and UK to 2011q4 (Relative to pre-recession peak)**

the fourth quarter compared to - 0.3% in the UK - see Figure 1. But over the year, GDP grew by less in Scotland, 0.5%, than in the UK 0.6%.

Overall Scottish GDP continues broadly to track the UK economy, which as we noted in the previous Commentary has been a feature of the "recovery" from the Great Recession of 2008 to 2009. Figure 2 shows the nature of that recovery in both the UK and Scotland.

By the end of the fourth quarter last year Scottish GVA stood at -3.8% below the pre-recession peak three and a half years ago. In contrast, the figure for UK GVA is -4.3%. However, while the depth of the recession was greater in the UK, at -7.2%, than in Scotland, -5.8%, the recovery of UK GDP has been somewhat faster than in Scotland.

Subtle changes to this picture are evident once we remove oil and gas from the GDP data. The Centre for Public Policy for Regions (CPPR) [produced](#)¹ at the end of April an important analysis of UK and Scottish GDP growth in 2011. A key finding of the CPPR analysis is that a comparison of overall GVA between Scotland and the UK in 2011 provides

a distorted comparison of the relative performance. This is because overall GVA includes all of North Sea Oil and Gas production in the UK figure but only includes on-shore activities in the Scottish figure. A more correct comparison is to compare GVA for the two excluding the extraction of oil and gas.

Normally this matters little if the performance of oil and gas is not much out of line with overall performance. But during the past year oil and gas production fell by 18% and 22% respectively, which has affected UK GDP and export performance. The effect of this fall is to dampen UK growth relative to Scotland.

In 2011, overall GVA grew by 0.5% in Scotland and 0.6% in the UK. But when oil and gas extraction is excluded the unfavourable gap between Scotland and the UK widens, with Scottish growth of 0.5% and UK growth of 1%.

We have taken CPPR's analysis further and extend the comparison back to the start of the recession and subsequent recovery. The analysis is presented in Figure 3.

Figure 3: GVA ex oil & gas extraction, recession and recovery to 2011Q4

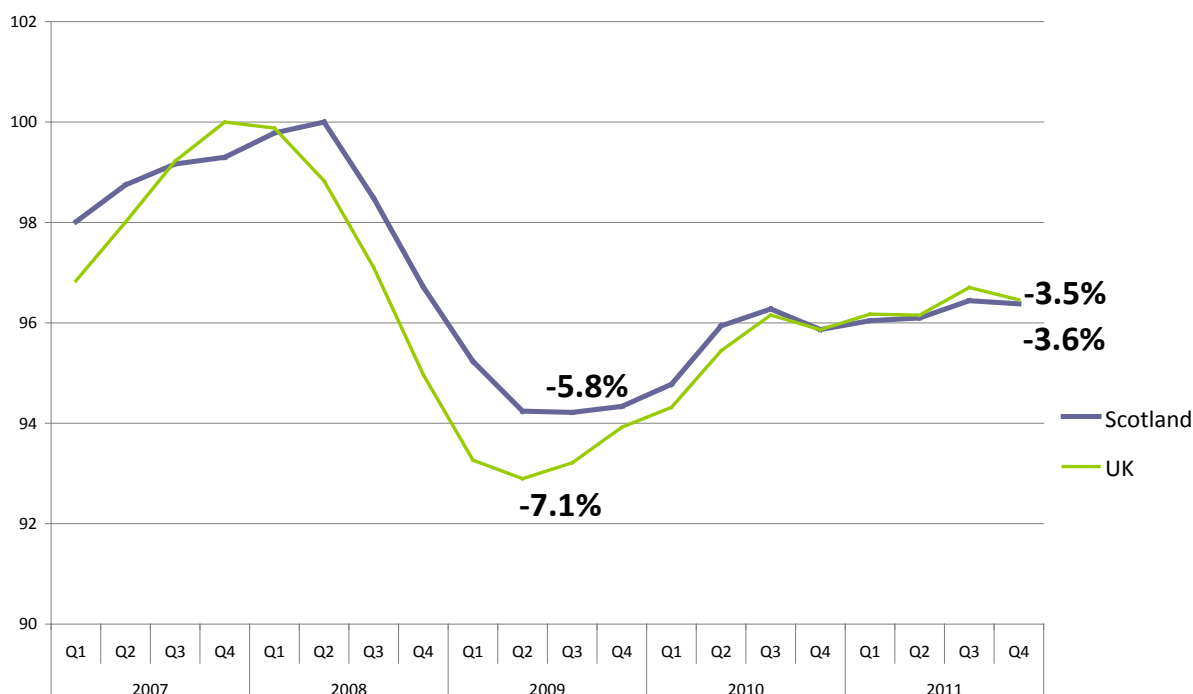


Figure 3 reveals that when overall GVA is considered UK growth is more damped recently relative to Scotland, compared to the position when oil and gas extraction is excluded where the UK recovery is relatively stronger. The

main conclusion from this analysis is that the Scotland's recovery from recession has been weaker relative to the UK than previously believed.

Figure 4: Scottish and UK Services GVA Growth at constant basic prices 1998q2 to 2011q4

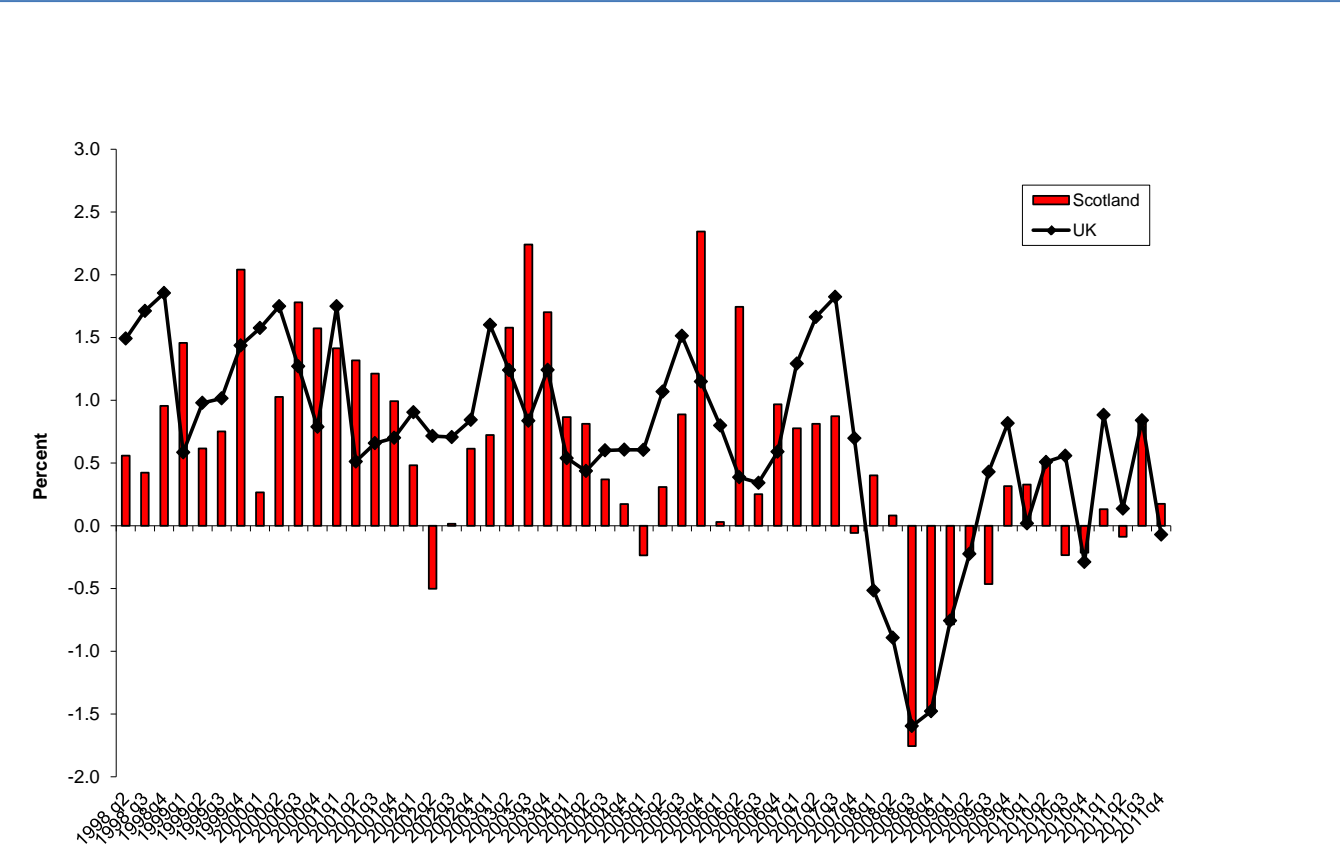


Figure 5: Services GVA in recession and recovery Scotland and UK to 2011q4

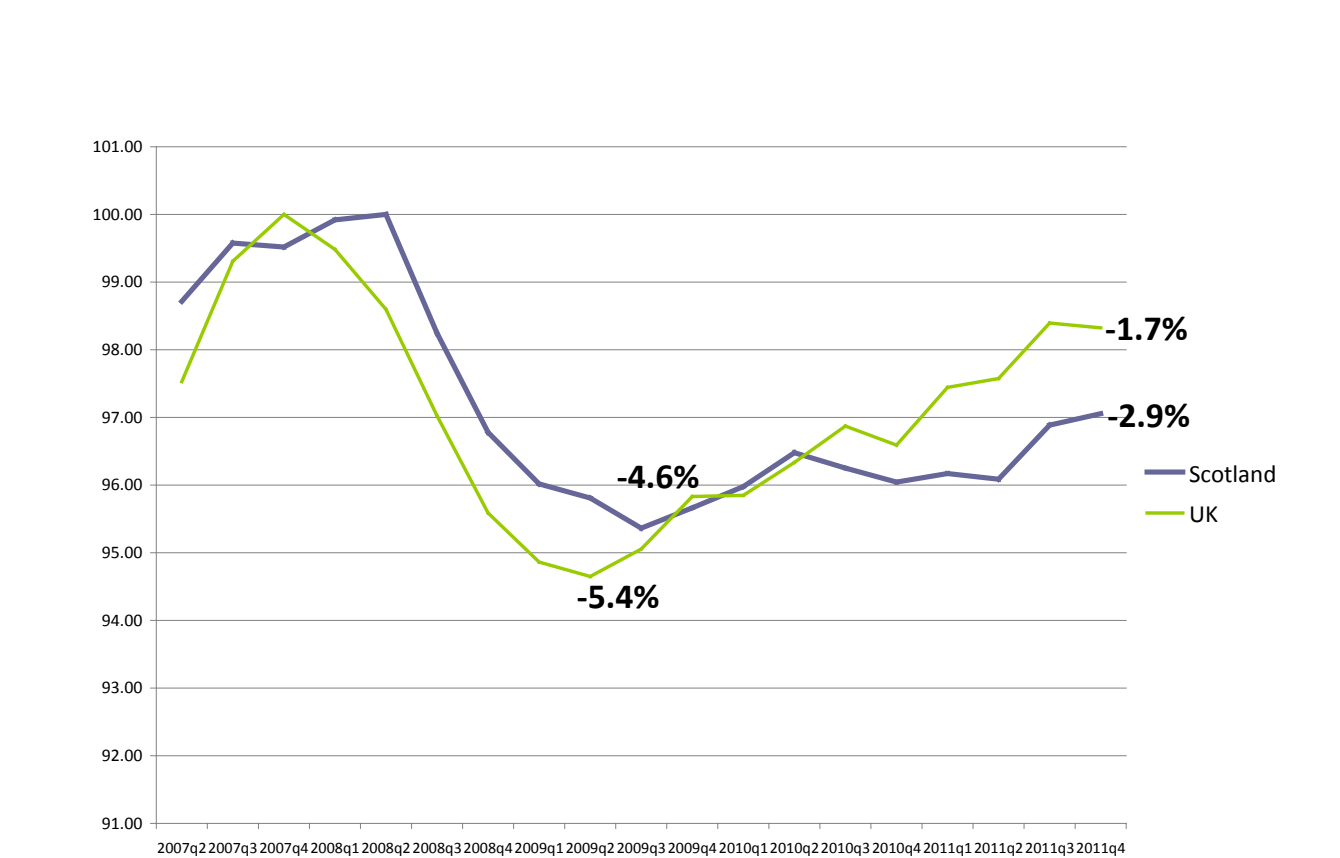


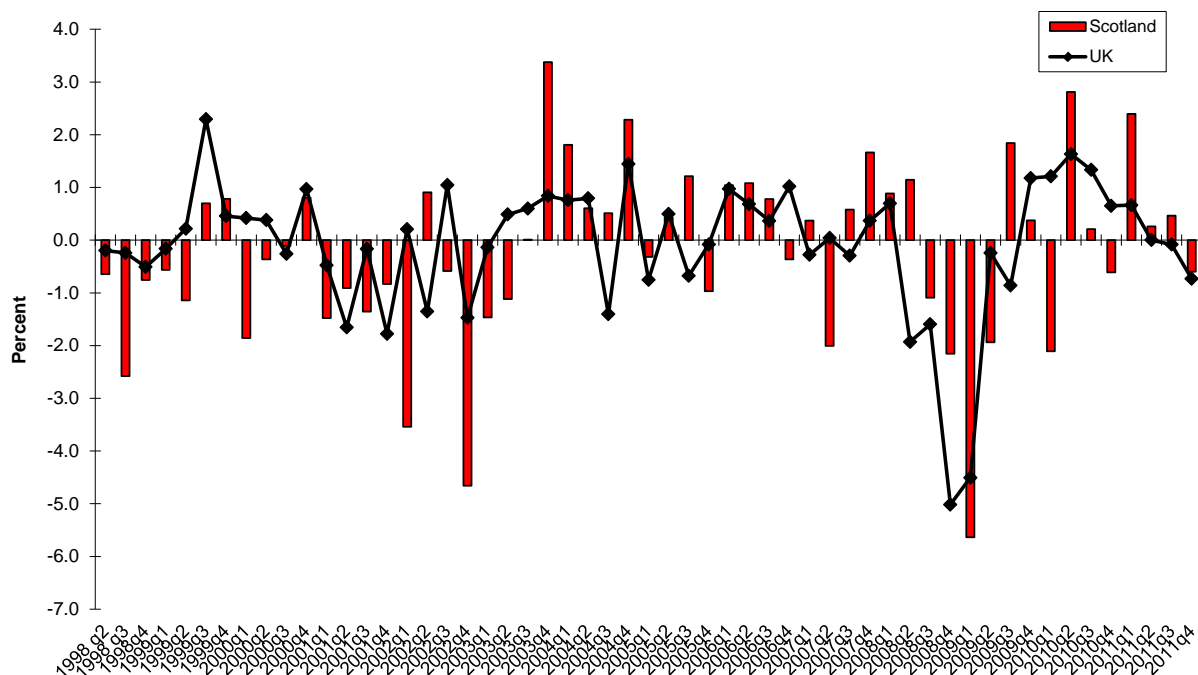
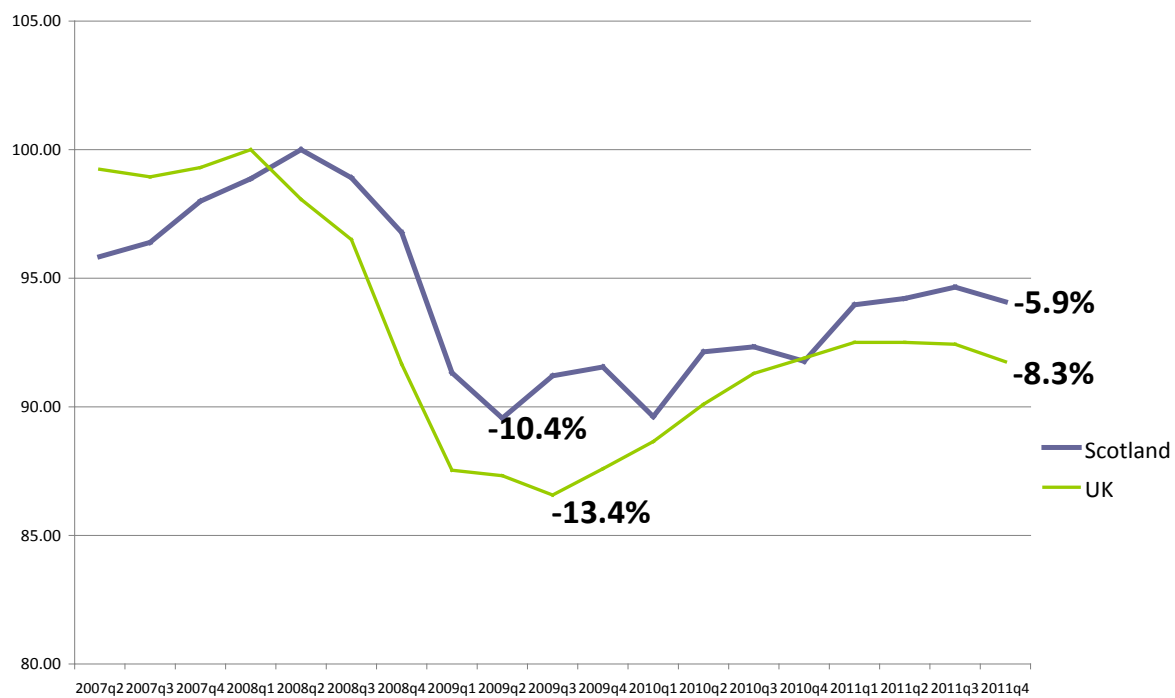
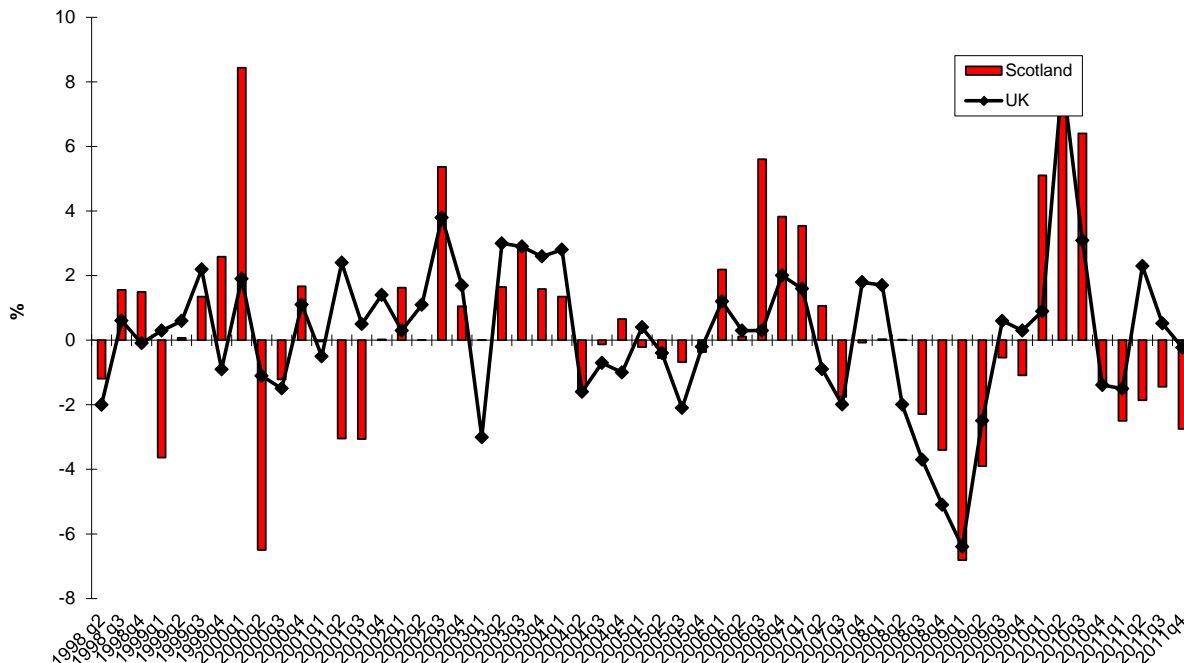
Figure 6: Scottish and UK Manufacturing GVA Growth at constant basic prices 1998q2 to 2011q4**Figure 7: Manufacturing GVA in recession and recovery Scotland and UK to 2011q4**

Figure 8: Scottish and UK Construction GVA Volume Growth 1998q2 - 2011q4

The Scottish service sector, which accounts for 73% of GDP, grew by 0.2% in the fourth quarter, compared to a fall of -0.1% in UK services - see Figure 4.

But UK services sector grew by 1.6% over the year while Scottish services could only muster growth of 0.4%. This underlying weakness of the recovery in Scottish services is highlighted in Figure 5.

Scottish services GVA was still -2.9% below its pre-recession peak compared to -1.7% in the UK. Given that the loss of Scottish service sector output in the recession was -4.6% quite a bit less than the -5.4% output loss in services in the UK, we can see that there has been little recovery in Scottish services since the trough of the recession. In numbers, the recovery from the trough amounts to 1.8% in Scotland compared to 3.9% in UK services. In manufacturing, GVA contracted by -0.6% in Scotland compared to a marginally greater fall of -0.7% in the UK.

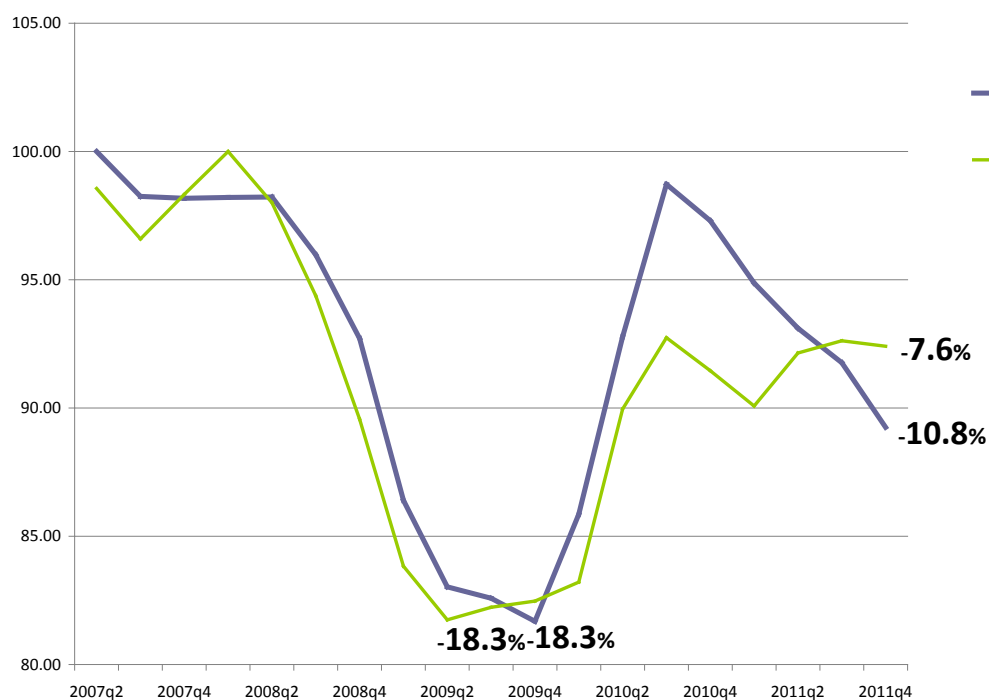
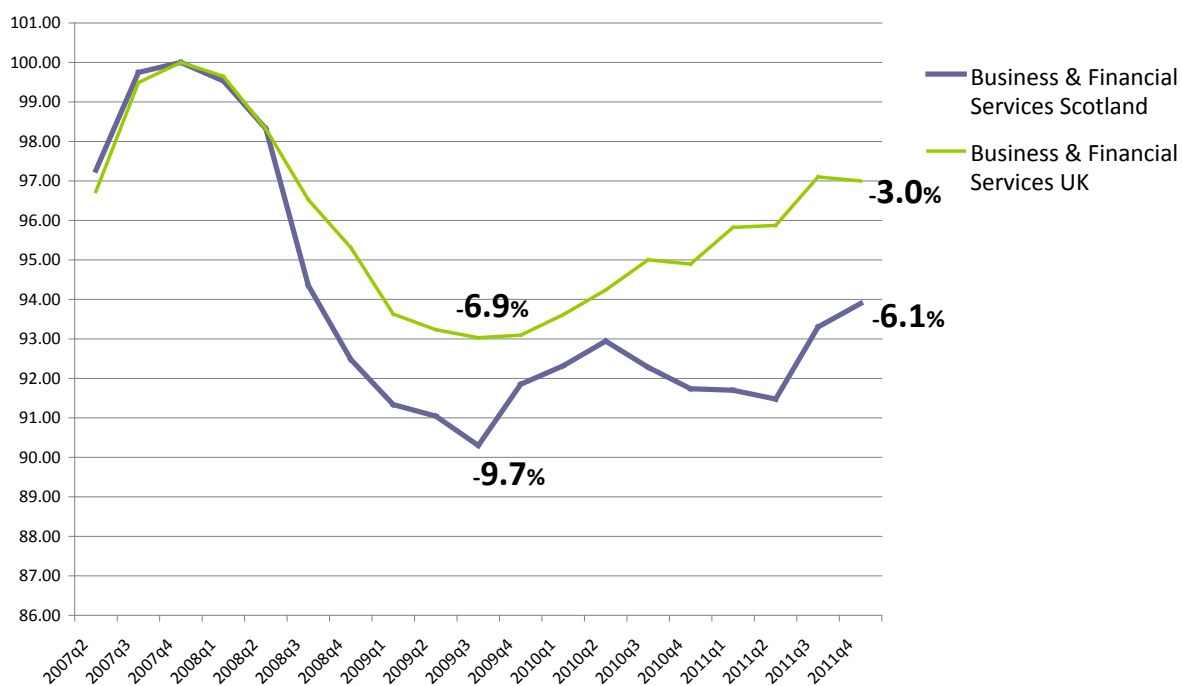
Growth over the year was also stronger in Scottish manufacturing with GVA rising by 3% compared to 2% in the UK - see Figure 6. It is quite clear from Figure 6 that the recovery in UK manufacturing stalled after the second quarter 2010. The same cannot be said for Scottish manufacturing which while weakening after the summer of 2010 has exhibited a more variable pattern than its UK counterpart. Figure 7 charts the recession and recovery for both UK and Scottish manufacturing.

As with services the loss of manufacturing output in recession was less than in the UK, but the recovery was initially weaker in Scotland but then strengthened relative to the UK after 2010. GVA in manufacturing in the recession dropped by -10.4% in Scotland compared to -13.4% in the UK. In the most recent quarter manufacturing GVA in Scotland stood at -5.9% below its pre-recession peak compared to -8.3% in the UK. A driver of the recovery in manufacturing is exports, which appears to have faltered in 2011. (See more on drivers of recovery below.)

The construction sector is going through a very difficult time in both Scotland and the UK. Figure 8 charts the recent growth performance.

Construction output has been much weaker in Scotland for the last four quarters. In the fourth quarter GVA fell by -2.7% compared to a fall of -0.2% in the UK. Scottish construction growth was weaker over the year too with output falling by -1.5% compared to a rise of 2.8% in the UK. Figure 9 shows the performance of GVA in construction in Scotland and UK during the recession and recovery.

The drop in output in the recession was large and identical in Scotland and the UK at -18.3%. Scottish construction bounced back more strongly than its UK counterpart, until 2010 quarter 3 and then has contracted for 5 successive quarters, while UK construction contracted for 2 quarters, grew for 2 quarters, then contracted in the latest quarter. The result was that by 2011q4, construction GVA in

Figure 9: Construction, recession and Recovery to 2011q4**Figure 10: Business & Financial Services: Recession and Recovery to 2011q4**

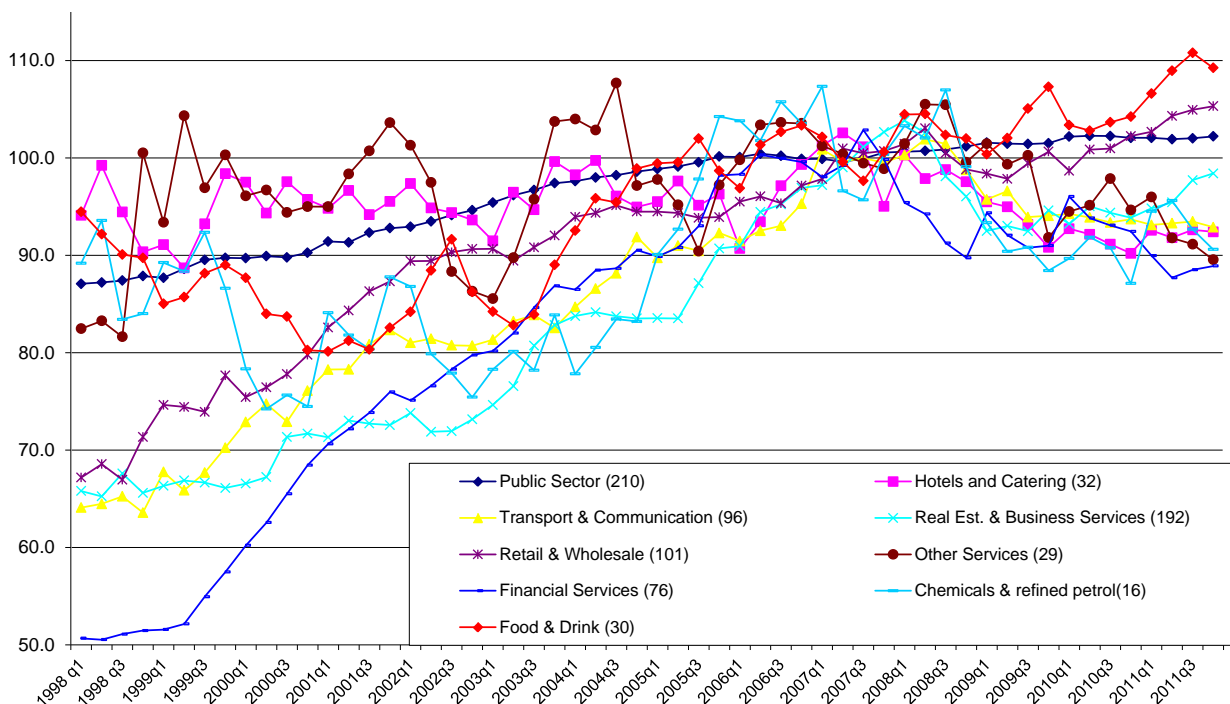
Scotland was -10.8% below its pre-recession peak while UK construction was -7.6% below its peak. A further large fall in UK construction output of -4.8% was recorded in the first quarter of this year. This was the largest decrease in construction output for 12 quarters and cannot be unrelated to fiscal consolidation where, so far, the bulk of the cuts have fallen on capital expenditure and buildings especially.

Within services, the most important sector by contribution to GDP, business and financial services - 26% of overall GDP and 36% of service sector GVA - grew by 0.6% in Scotland but contracted by -0.1% in the UK during the fourth quarter of last year. Over the year, though, the sector grew by only 0.3% in Scotland compared to much stronger growth of 2.1% in the UK. Figure 10 shows the path of GVA in the sector during the recession and recovery relative to its pre-recession peak.

As noted in the previous Commentary it is clear from the chart that this important sector experienced both a stronger recession in Scotland and a weaker recovery. GVA fell by -6.9% in UK business and financial services during the

recession whereas in Scotland the contraction was -9.7%. By the latest quarter the sector in the UK was -3.0% below its pre-recession peak while its Scottish counterpart was -6.1% below, which is little different from the trough of the recession in the sector in the UK. Elsewhere in services Distribution, Hotels and Catering again grew more quickly in Scotland in both the recent quarter and over the year. Growth was 0.2% in the quarter compared to -0.4% in the UK, while over the year the Scottish sector grew by 3% while its UK counterpart grew by 0.7%. In contrast, as in the third quarter both Transport, Storage, Information & Communication and Government & Other Services performed slightly better in the UK than in Scotland. The Transport et al sector contracted by -0.6% in the quarter while the sector in the UK contracted by -0.5%. Over the year, the sector contracted by -0.7% in Scotland while expanding by 1.3% in the UK. Similarly, in the government & other services sector growth was again flat in the quarter but was positive at 0.4% in the UK. Over the year, public sector output fell in Scotland by -0.6% but exhibited growth of 1.5% in the UK.

Figure 11: Growth of key sectors in Scotland 1998q2 to 2011q4



Within manufacturing, we again only have data for Scottish sectors. The main sectors driving manufacturing growth of -0.6% in the fourth quarter were Engineering & Allied and Other manufacturing and repairs, with growth of 1.9% and 0.2%, respectively. The Metals sector contracted by -3.5% during the quarter, while chemicals and refined petroleum contracted by -2.2%, food & drink contracted by -1.4% and output in textiles & clothing fell by -0.9%. Yet, again most of

the main manufacturing sectors grew quite strongly over the year. Let us hope the downturn in the latest quarter proves to be temporary, although as we note below the most recent UK output and Scottish survey evidence does not offer much hope for that.

Figure 11 charts the growth of key Scottish sectors over the last 14 years.

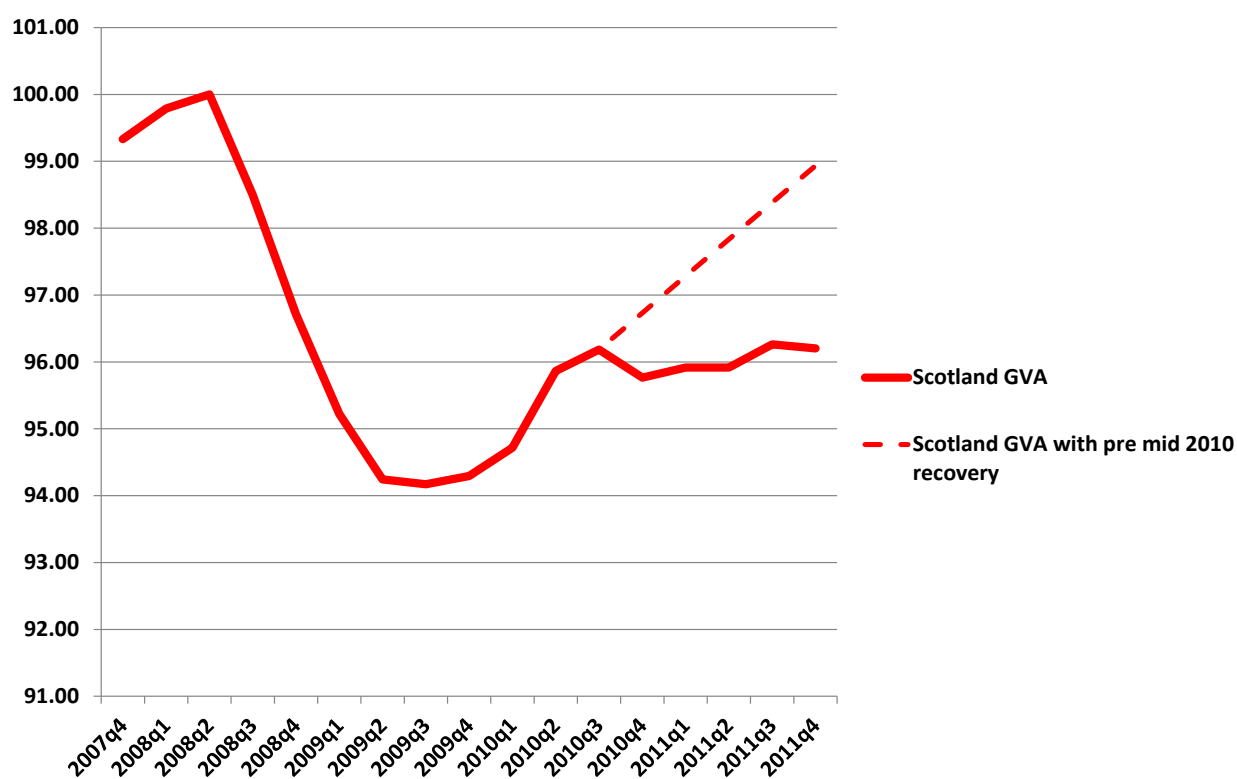
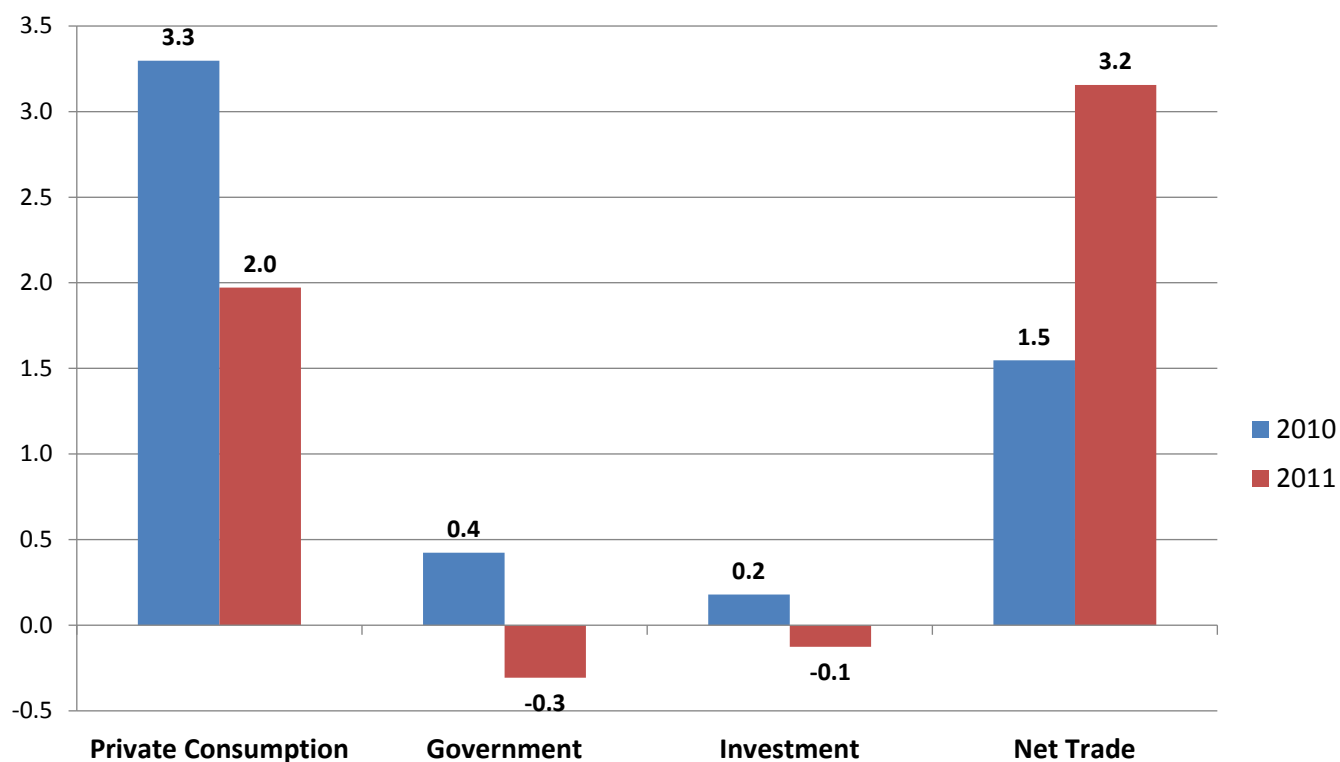
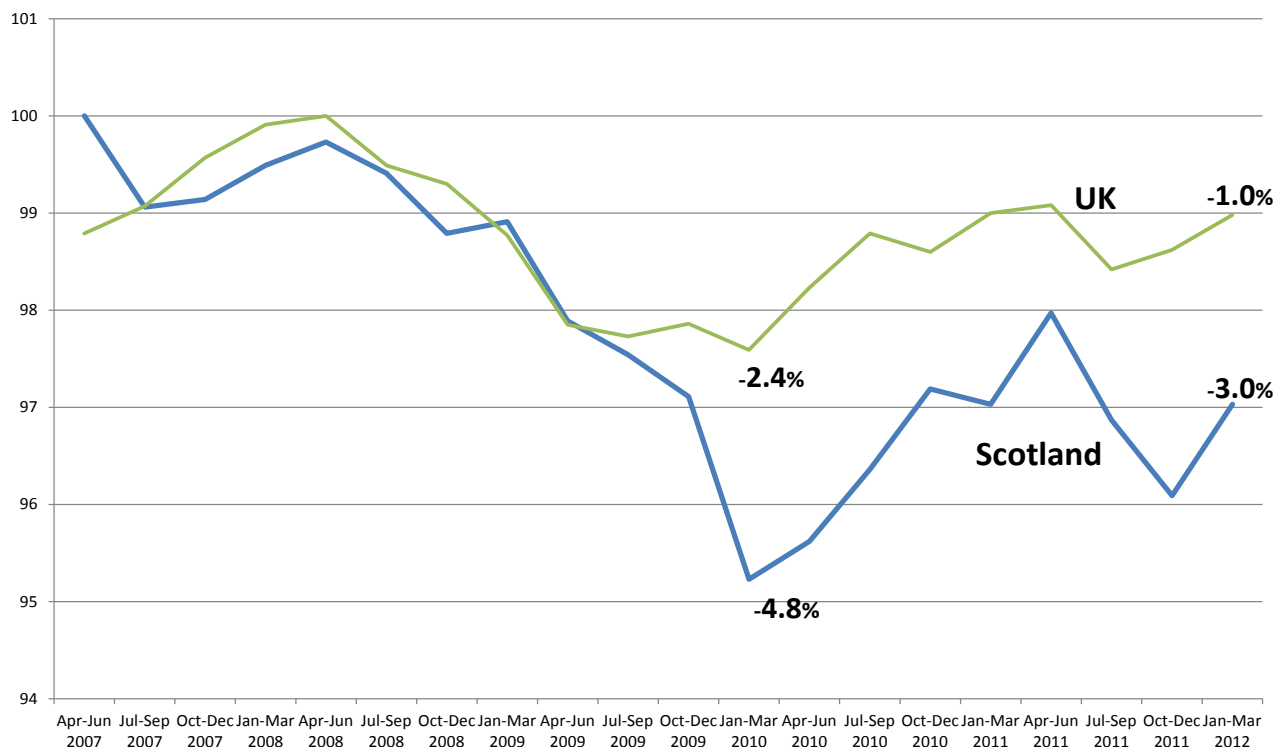
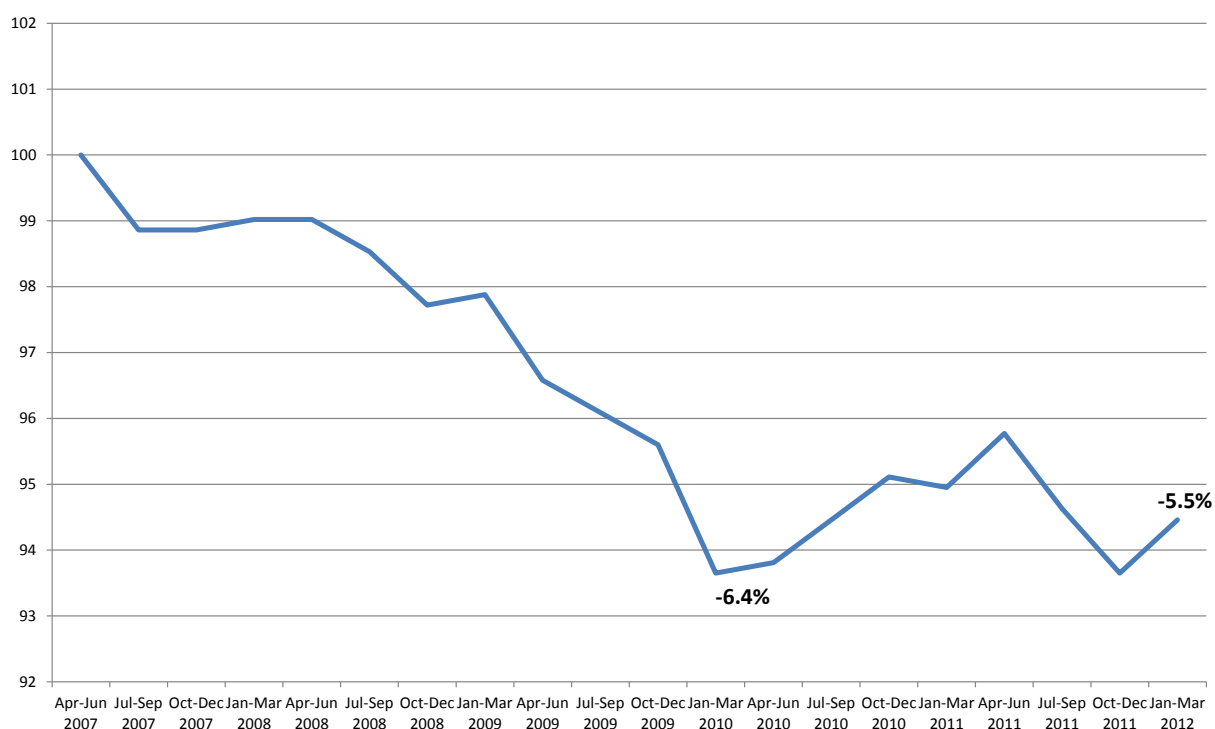
Figure 12: Scottish GVA: what stalled the recovery?**Figure 13: Expenditure component contributions to nominal Scottish GDP growth – percentage points**

Figure 14: Scottish and UK jobs, 16 and over, compared to pre-recession peak**Figure 15: Scottish Employment to Working Population ratio compared to pre-recession peak in April-June 2007 to Jan-Mar 2012**

In the past we have included electronics on this chart. However, the scale of the changes in electronics over the period from rapid growth in the late 1990s to collapse in the early 2000's and then continuing decline, compresses the performance of the other sectors when included on the same chart. What is now clear is that the contribution of electronics directly to GDP is quite small. In 2007, the contribution to overall GVA amounted to 1.6% and only 13% to manufacturing GVA. Back in 2000 the sector contributed more than 6% to GVA. Chemicals which is included in Figure 11 makes a similar current contribution to GVA. What Figure 11 reveals is the change in sectoral fortunes over the decade. The strong growth of financial services, decline in the recession and limited recovery is evident. Transport & Communication and Real Estate and Business Services are two other sectors that grew strongly before the recession and then were badly affected by it. But, in contrast, the Food & Drink sector experienced a fairly weak downturn during the recession and continued to grow strongly thereafter. Retail & wholesale also picked up quickly. The remaining sectors shown, with one exception, have yet to recover from recession and remain well below their pre-recession peak. The exception is the public sector, which grew steadily over the period with recent stagnation but fiscal consolidation has not resulted in a systematic contraction yet.

Drivers of Recovery

The weak recovery of Scottish GDP begs the question what the drivers of recovery are and what they might be. It is quite clear that the Scottish and UK economies were beginning to recover from the recession by mid-2010. But after that the recovery faltered as Figure 12 shows.

So what is the explanation of the stalled recovery?

We are strongly of the belief that the UK government fiscal austerity programme is the main culprit, with the added effects of the impact on business confidence of the developing problems in the Eurozone and the impact of rising commodity price driven inflation on real incomes and consumption.

From the Scottish Government's National Accounts Programme (SNAP) web pages, we can calculate the change in the contribution of the main expenditure components to Scottish nominal GDP growth in 2010 and 2011. This is an experimental dataset so it must be used with caution.

In 2010, Scottish GDP at current prices - nominal GDP - grew by 5.4%. In 2011 the growth rate dropped to 4.7%. Figure 13 breaks down the nominal growth into the main spending components in the two years.

What is clear from these data is that there was a switch in growth away from domestic spending to net trade as the UK government had hoped. However, that wasn't sufficient to offset the absolute fall in government and investment

spending and the slowdown in private consumption growth. There was a 1.7 percentage point switch in favour of net trade against falls of 1.3 percentage points in private consumption, 0.7 percentage points in government expenditure and 0.3 percentage points in investment. This doesn't prove that austerity was the cause but it looks suspiciously so.

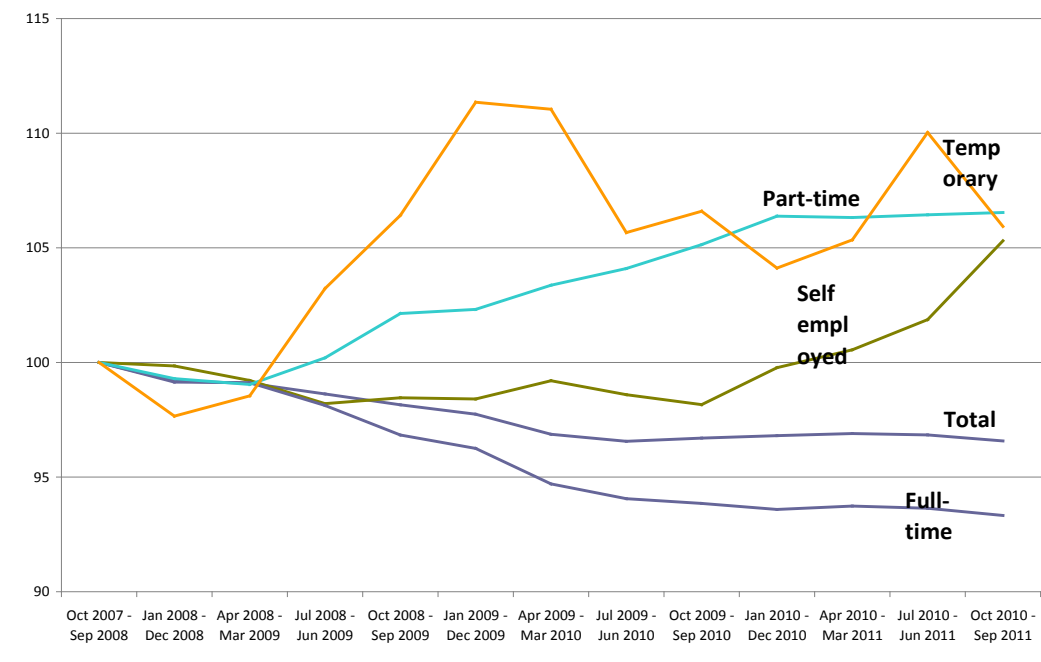
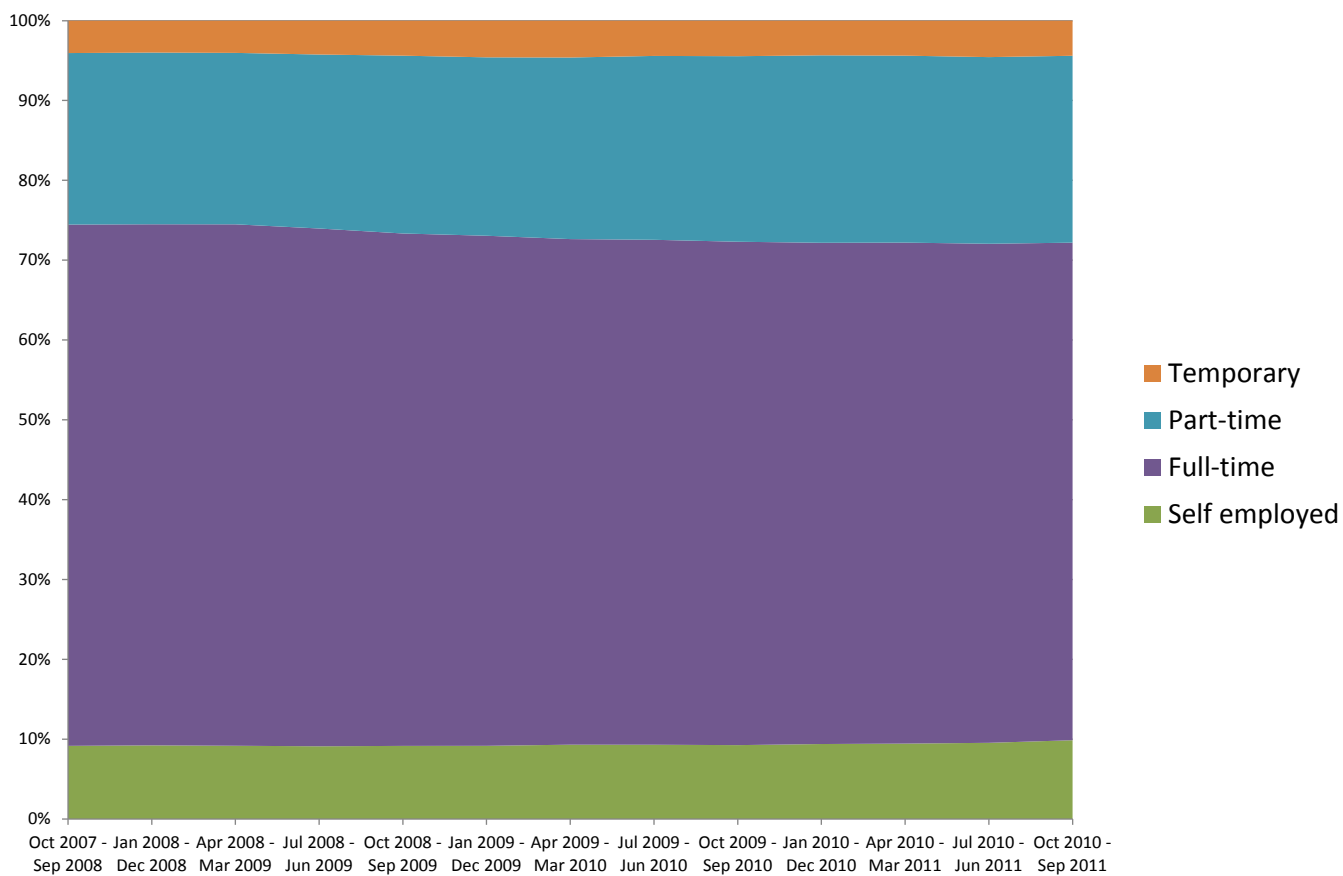
It is highly probable that the rise in VAT lowered private consumption, which in turn led to less investment. Moreover, lower government spending also will itself have affected investment in buildings and plant and equipment. That said we should not forget that real incomes of households fell as inflation rose and that may have affected consumption too. But if the Scottish economy is to recover in the face of continuing fiscal austerity it is difficult to envisage much improvement in the other expenditure components under present conditions of continuing Euro crisis, weak real income growth, a flat housing market, and weak demand conditions in the main OECD economies. A further fall in the inflation rate may affect consumption favourably as real incomes rise, or fall by less. But as we noted in earlier Commentaries if households are striving to reduce their debt levels then a rise in real income may be used to pay down debt further rather than encourage more spending.

The Labour Market

The Scottish labour market data for the quarter January to March provide evidence of an improvement. Unemployment fell by 10,000 over the quarter to 220,864, as employment rose by 24,000, to 2,482,164. The Scottish unemployment rate moved into line with the UK rate of 8.2% and the employment rate, at 71.2%, stayed above the UK rate of 70.5% for the 16-64 age group. For all aged 16 and over, the employment rate in Scotland moved from slightly below the UK rate to parity at 58%. But within these numbers male employment is rising (+29k) while female employment is falling (-5k).

The employment position of Scotland compared to the UK during recession and recovery to the latest data point is indicated in Figure 14.

Even with the recent one-quarter rise in employment the level of jobs in Scotland is still 3% below the pre-recession peak. UK employment, in contrast, stands at 1% below its pre-recession peak. Moreover, as we have noted before in this Commentary the jobs position is worse than the bald employment figures suggest because the working population and hence labour supply is growing. Figure 15 provides data on the ratio of employment to working population. What this chart shows is that even with the recent rise in jobs the ratio is 5.5% below the pre-recession peak. That is only a little above the situation at the trough of the recession when the ratio fell to 6.4% below the pre-recession peak. The implication of this statistic is that there are significant unused labour reserves in the Scottish labour market and, in relation to the available labour supply, the

Figure 16: Scotland's Recession and Recovery by Type of Employment**Figure 17: Shares of Total Employment by Type**

recovery of employment has been exceptionally weak. But that is generally the case across the UK, so that despite the weaker jobs recovery in Scotland, unemployment is equal to the UK rate and is the 6th lowest amongst the 13 UK regions and territories. It should also be remembered that Scotland started the recession with an unemployment rate below the UK - at 3.9% compared with 5.5% - hence the greater relative jobs loss has caused the unemployment rate and other main labour market indicators to move into line with the UK.

At first sight the recent jobs data from the Labour Force Survey (LFS) appear to conflict with what we know about the real economy. GDP fell in the UK in successive quarters to the first quarter and fell in Scotland in the final quarter of last year. We will not know what has happened to Scottish GDP in the first quarter until mid July. However, some analysts believe that the ONS is underestimating recent GDP growth, while others contend that we are slipping into a sustained recession again. So, there is no guarantee that unemployment will continue to fall. Indeed, it could worsen again.

Our estimates suggest that there needs to be Scottish GDP growth of 2% per year - approximately 0.5% per quarter - for unemployment to stabilise. Faster growth for it to fall and with slower GDP growth, the unemployment rate will rise. The economy seems to be quite a bit below the 2% per annum threshold at the moment.

Another reason for caution about these LFS data is the high sampling variability. There is a huge range within which one can have 95% confidence that the Scottish LFS estimates fall. So, while the LFS estimates that jobs rose by 24,000 in January to March, the actual change could have - with 95% certainty - been between minus 34,000 and plus 83,000. For unemployment, the LFS estimate is a 10,000 fall but the actual change in unemployment might have been anywhere between a fall of 42,000 and a rise of 22,000. A similar range of variation applies to the change in the numbers economically active and inactive.

Finally, we should be concerned that the data as currently released do not allow us to drill down and ask how the 24k jobs change is broken down into part-time jobs and full-time jobs, or hours worked. Nor do we know the age composition of the recent unemployment change. Yes, we are given data in the latest release on part-time and full-time jobs, hours worked and the age distribution of employment and unemployment. But these data are only provided up to the year Oct 2010 - September 2011. So, we just don't know what's happening recently.

It is clear from the data to September 2011 that full-time jobs are falling while part-time and temporary jobs are rising. This is significant, because it is not impossible that labour demand has fallen with GDP even though the number of jobs rose recently and unemployment fell. This would be the case if the loss of labour input through the fall

in full-time employment was greater than the gain in labour services from the rise in part-time employment. It is a possibility. Figure 16 shows the differential behaviour of types of employment in recession and recovery. Part-time and temporary employment dipped briefly but then picked up quickly less than a year after the recession began. Full-time employment continued to fall throughout the period, while self employment returned to its pre-recession peak in mid-2010 and continued to rise thereafter.

The rising share of part-time and falling share of full-time in total employment is shown in Figure 17.

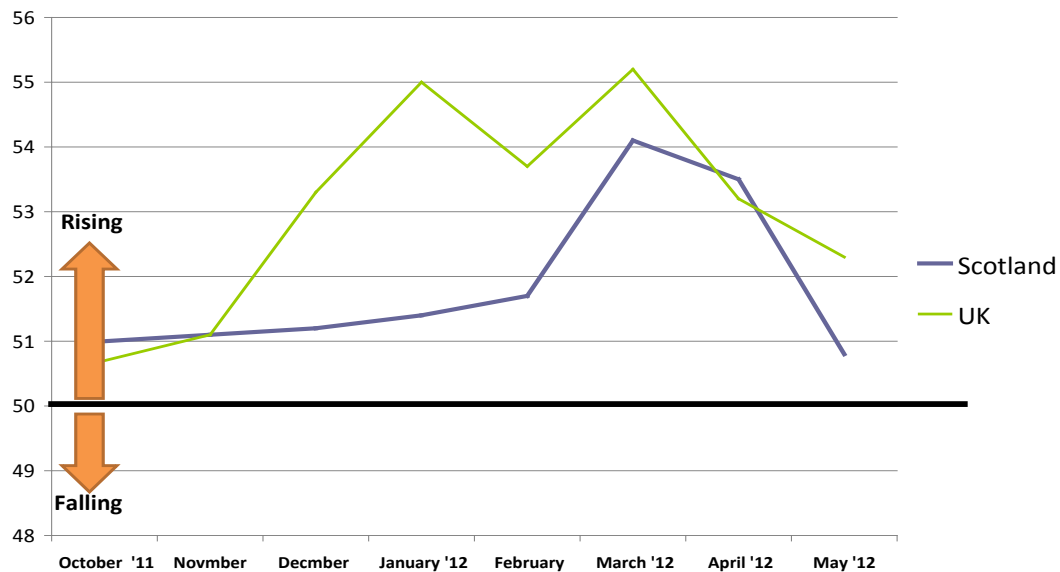
Forecasts

Background

Real GDP in the UK economy contracted further by 0.3% in the first three months of this year. With UK GDP also estimated to have fallen by 0.3% in the final quarter of last year the latest quarterly data place the UK firmly in recession. The decline in first quarter real GDP was principally affected by a 4.8% fall in construction output and a further contraction in oil and gas production. On the expenditure front in the first quarter, growth was largely driven by government consumption and a slight pickup in household spending. Net trade contributed negatively to growth as exports remained flat and imports picked up slightly. The fall in inventories, or stock building, was the main expenditure driver of negative growth, which does not augur well for production in later quarters.

Survey evidence for the first quarter in the UK appears to conflict with the UK GDP data as produced by ONS. The biggest difference is in the performance of construction, where the PMI indicates that growth was much stronger and indeed positive. The PMI also suggests that service sector growth was considerably stronger than the 0.1% outturn in the ONS data. But after March the PMI surveys indicate that the UK economy was slowing down in April and then again in May. A weakening in the growth of demand both domestically and from abroad, especially the Eurozone where growth is clearly slowing, with a slowdown evident in emergent markets as well. On the domestic front households are reporting concerns about their finances. Firms report weak demand for goods and services and export orders have been particularly hit. Markit, who produce the PMI surveys, suggest that UK growth should be weak but still positive in the second quarter to June.

The Scottish economy contracted in the final quarter of last year but at -0.1% the contraction was marginally less than the fall in UK GDP. First quarter Scottish GDP/GVA data are not available until the third week in July, so we must rely on business survey evidence. The Scottish Chambers' Business Survey (SCBS) revealed that the trends in all sectors in the first quarter were better than a year ago. There were more signs of a modest but uncertain recovery in 2012 as demand in the Scottish economy remained

Figure 18: Bank of Scotland PMI Private Sector Index: Scotland and UK October 2011 – May 2012

weak. The Bank of Scotland PMI of private sector activity in Scotland noted that the private sector lost momentum in both April and then especially in May after picking up in the first quarter. Figure 18 charts the Scottish position compared to the UK.

In May growth was just positive according to the PMI but was weaker than in the UK.

So, the evidence is that growth is clearly weakening again as both domestic and external demand growth falters. Household income growth is sluggish, with wage growth falling below 2% in the UK in the first quarter. Investment spending picked up at the end of last year in both Scotland and the UK but remains below the pre-recession peak in both jurisdictions and appears from the SNAP data to be weaker in Scotland than the UK. Despite the positive contribution of net trade to growth in 2011 manufacturing export performance in Scotland faltered in the final quarter with zero growth but volume was up by 4.8% over the year. Manufacturing export volumes are still nearly 6% below their pre-recession peak. Fiscal consolidation continues to bite and there is much more to come with only 12% of planned total spending cuts completed by the end of financial year 2011-12 but with large reductions already made in capital spending. The inflation rate is falling back more slowly than the Bank of England expected due to the effects of high energy prices, and the Eurozone crisis is worsening again. The monetary policy regime is permissive but even with £325 billion of quantitative easing the leverage on the real economy is limited because the economy continues at an effective zero interest bound in a liquidity trap. It remains to be seen whether the Bank and

the Chancellor's new "funding for lending" scheme, announced on 14 June, with up to £100 billion to cut bank funding costs in exchange for lending commitments will work to any significant extent in raising aggregate demand in the economy. We doubt it. It is against this background that we have produced our forecasts for 2012, 2013 and 2014.

GVA Forecasts

For our latest GVA forecasts we continue the presentational procedure adopted in the previous Commentary. We present only a central forecast but use estimated forecast errors to establish the likely range that the true first estimate of the growth of Scottish GVA will lie between. In this forecast, we extend the forecast horizon to include 2014

Table 1 presents our forecasts for Scottish GVA - GDP at basic prices - for 2012 to 2014. The forecasts are presented in more detail in the Forecasts of the Scottish Economy section of this Commentary below.

Table 1 shows that we have made minimal changes to our forecast for three years. For 2012, we saw no reason to change out February forecast, which is for very weak but still positive growth and similar to the rate of growth seen through 2011. The increase in output measured for the third quarter of 2011 was stronger than we expected (a 0.5% increase), and broadly tracked the UK growth in that quarter. As we noted in February, our forecast of 0.4% for 2012 is not inconsistent with one, or possibly two, quarters of negative growth through 2012. In February, we forecast growth in 2013 of 1.7%, so our latest forecast is revised down slightly reflecting continuing weakness in both

domestic and external demand. Our forecast for 2014 is also reduced slightly for the same reasons.

Table 1: Forecast Scottish GVA Growth, 2012-2014

GVA Growth (% per annum)	2012	2013	2014
Central forecast	0.4	1.5	2.5
<i>November forecast</i>	0.4	1.7	2.6
UK median independent new (May)	0.4	1.7	2.2
Mean Absolute Error % points	+/- 0.495	+/- 1.06	+/- 1.216

Table 1, also compares our GVA forecasts with the median of latest independent forecasts for the UK in, 2012 and 2013 and the average of the new independent medium-term forecasts for 2014 that are published by the UK Treasury. These show that we expect Scottish growth to continue to be much the same as UK growth: identical this year, a little weaker next year and a little stronger in 2014. So, we are now forecasting growth of 0.4% in 2012, 1.5% in 2013, and 2.5% in 2014. Given our previous forecast errors the lower and upper bounds for growth in 2012 are expected to be -0.1% and 0.9%, for 2013, 0.5% and 2.7%, and for 2014 1.3% to 3.7%.

Production and manufacturing output are again projected to be the main sectoral drivers of growth, with Production forecast to grow by 1% this year compared to service sector and construction growth of 0.3% which are largely flat-lining. In 2013, production continues to be the main sectoral driver of growth with growth of 3.6%. Stronger growth is projected for services and construction of 1% apiece but the two sectors will still be recovering slowly. It is not until 2014 that we see much pick-up in growth. GDP is forecast to rise by 2.5%, while production growth rises appreciably to 5.7%, service sector growth moves up to 1.7% and the growth of construction GVA reaches 1.6%.

Employment Forecasts

Table 2 presents our forecasts for net employee jobs for the 3 years 2012 to 2014 in terms of a central and upper and lower forecasts.

Table 2 indicates that our year-end employee jobs forecast are similar to those presented in the February Commentary. On the central forecast, net jobs grow by -0.7% in 2012, 0.9% in 2013, and by 1.6% in 2014. The number of employee jobs in Scotland is forecast to decline during 2012 by just less than 15,000 jobs. Within the sectors, however, we are forecasting a reduction in jobs in the service sectors of under sixteen thousand jobs. The production sector adds 2,400 jobs, while construction

sheds a further 2,100 jobs. Through 2013 and 2014 we forecast increases in employee jobs in our central forecast, with annual increases of around 20 thousand and 36 thousand respectively. There are job increases across all the main sectors, with a majority being created in the service sector. However, we continue to forecast a "rebalancing" of employment within the services sectors towards non-public activities as fiscal consolidation continues. Construction employment is forecast to increase in 2013 and 2014 as spending on (private) investment projects eventually returns with renewed confidence in the recovery.

Table 2: Forecast Scottish Net Jobs Growth in Three Scenarios, 2012-2014

	2012	2013	2014
Upper	-5,200	41,000	61,750
<i>February forecast</i>	-4,816	47,244	63,745
Central	-14,950	19,950	36,050
<i>February forecast</i>	-15,988	23,213	38,023
Lower	-25,350	-1,700	10,450
<i>February forecast</i>	-27,695	-9,250	12,126

Unemployment Forecasts

The key unemployment forecasts are summarised in Table 3 below.

Table 3: ILO unemployment rate and claimant count rate measures of unemployment under each of the three forecast scenarios 2012-2014

	2012	2013	2014
<i>ILO unemployment</i>			
Rate (ILO un/TEA 16+)	9.3%	9.5%	9.0%
Numbers	246,100	252,400	238,200
<i>Claimant count</i>			
Rate (CC/CC+total job)	5.7%	6.5%	6.1%
Numbers	152,550	176,700	169,100

The ILO rate is our preferred measure since it identifies those workers who are out of a job and are looking for work, whereas the claimant count simply records the unemployed who are in receipt of unemployment benefit. We have revised down our forecasts for unemployment at the end of 2012. In part this is due to revisions in the employee jobs series affecting our forecasts for the level of employment at the end of 2011 and impacting on the

absolute level of jobs (and also unemployment) in the future. We are also mindful that the claimant count has risen more slowly than ILO unemployment since the start of the great recession in 2008. Our forecasts for unemployment in 2013 are broadly unchanged from those made in February (although the ILO rate forecast has increased slightly from 9.3% to 9.5% at the end of 2013), while our forecasts for 2014 are largely in line with our earlier forecasts. Our forecast for unemployment on the ILO measure at the end of 2012 is now 246,100. We are expecting the unemployment position to deteriorate slightly in 2013 compared to 2012 due to weaker output and employment growth. Unemployment is now forecast to be 252,400 by the end of that year. In 2014, unemployment falls to 238,200 as growth and job creation pick up during the year.

Impact of Breakdown of the Eurozone

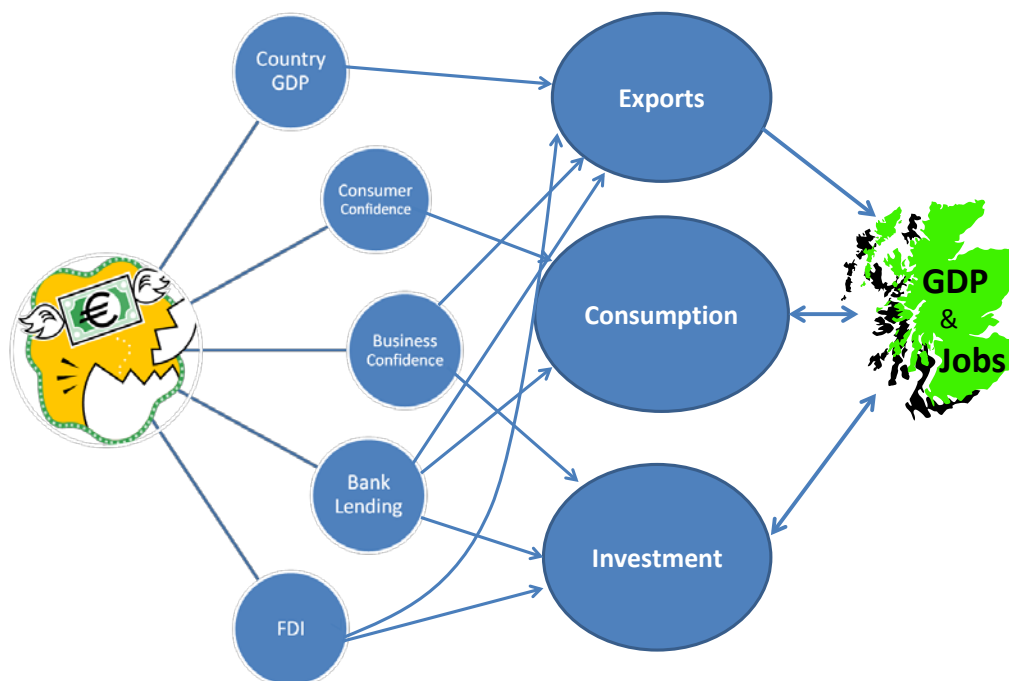
The situation in the Eurozone has deteriorated again recently. As I write the yield on Spanish 10 year bonds has gone above 7%, making financing costs of government debt prohibitive or leading to a significant crowding out of key government expenditures. The Greek election will have taken place on Sunday after we have gone to press with the strong likelihood of a result which will put into government a party or parties that will refuse to accept the austerity programme that Germany and the other Eurozone countries are imposing upon it. There is therefore a strong likelihood of default and the value of Greek bonds will collapse. This will in turn affect Eurozone and other country banks that hold Greek debt. The balance sheet of Greek banks will contract and most Greek banks will become insolvent, lending will contract and many banks could fail. The default is likely to lead to a loss of Eurozone and IMF financing to Greece - about 180 billion Euros in loans - which in turn will generate a further contraction of public expenditure and loss of economic activity and jobs. In these circumstances, the new Greek Government would be likely to seek new loans but they probably would not be forthcoming given the default. If they can get new loans then it will be possible to re-capitalise the Greek banks and the financial system in Greece would survive and Greece could stay in the Euro or use it as a shadow currency. In the absence of such loans Greece would almost certainly leave the Euro. The government would have to find a means of funding its necessary expenditure and so would be likely to re-denominate all Greek bank deposits from Euros into a new Drachma thus introducing a new currency. This new currency would drop dramatically in value in relation to the euro and other currencies as soon as it was traded on the currency markets. Capital controls would have to be introduced. Inflation would take off and output would be likely to fall further. But in the longer term a new currency at a much lower exchange rate would restore the country's competitiveness and could help bring growth back to the economy. This is broadly what happened after Argentina broke its peg to the US dollar in December 2001. The problem for Greece is that its export

sector is small and so it would also need severe demand reduction to choke off imports.

Meanwhile, the default could start a process of contagion. Banks in other Eurozone countries as well as banks in other countries such as the UK and Scotland, would need to contract loans faced with some reduction in their balance sheet as debt is written off. In addition, the fact of a Greek default and exit from Euro would likely lead to a capital flight and selling of government bonds from other peripheral Eurozone countries as holders fear defaults in these countries, or loss of asset value if the country leaves the Eurozone and introduces its own devalued currency. Government bond yields would be rising in these countries making it difficult if not impossible to finance their deficit and debt position and so the attractiveness to governments of default and exit from the euro would rise. The capital flight leading to rising bond yields would in turn undermine the balance sheets of local banks as well as foreign banks holding peripheral country bonds. That would lead to cutbacks in bank lending and a likely credit crunch both within the affected countries and elsewhere. Output would begin to fall first in the peripheral countries and then even in the core countries such as Germany. This in turn would via trade and foreign investment flows impact on countries across the world. And at some point if other countries began to leave the euro, the euro currency area could break up.

Of course this is only a possible process and not a forecast. The Eurozone has the European Financial Stability Fund (EFSF) and the new European Stability Mechanism (ESM), which may have sufficient funds to limit contagion from a Greek default and exit. But there again it may not. Our central forecast assumes that some compromise is made with Greece so that it neither fully defaults nor exits from the Euro. In addition, we assume that for the medium term there is an essential "muddling through" process, with further support given first to peripheral country banking systems and then to their sovereigns if necessary. Through this process confidence remains low and growth is weak as austerity policies are not, or are insufficiently, relaxed. Moreover, complete steps to full fiscal union with Eurobonds and sizable fiscal transfers between countries, which would finally resolve the crisis, seem unlikely.

But there remains the risk of a Greek default and even exit from the Euro in the near term and the break-up of the Euro in the medium term. We have therefore considered these two outcomes as possible scenarios to assess their likely impact on the Scottish economy. This is therefore not a forecast but a 'what-if' impact study, with the impact on the Scottish economy assessed at the end of three years after each event occurs. We do not allow for any offsetting monetary and fiscal policy actions that could be introduced by the Bank of England and the UK government. In this we

Figure 19: Euro Breakdown, Impact Channels and Scottish Impact

follow and draw upon the work of ING who have modelled the impact on GDP and jobs in major countries, but not Scotland, of these two events. Our analysis, modelling of the transmission mechanism and estimates of impact are discussed in greater detail in the Forecasts of the Scottish Economy section of this Commentary below.

The impact of both a Greek default and euro exit and a complete break-up of the Euro would impact upon the Scottish economy through several different channels. These are shown in Figure 19.

The figure suggests that the transmission mechanism embraces five main channels, through which GDP and jobs in the Scottish economy would be affected:

- country GDP
- consumer confidence
- business confidence
- bank lending
- foreign direct investment.

Changes in the GDP of Eurozone countries and other major economies in the wider global economy such as the US and the UK would affect Scottish GDP and jobs through

a reduction in Scottish exports to such countries. Reduced consumer confidence would bear directly on household consumption in Scotland. Reduced business confidence would affect the willingness to export and invest. Reductions in lending from Scottish and UK banks as they sought to rebuild their balance sheets would be likely to affect all three sources of demand: exports, consumption and investment. A reduction in FDI flows from the Eurozone but also the US and elsewhere as their economies contract would clearly affect investment but also exports. Finally, as GDP and jobs began to fall directly as a result of these Euro events multiplier effects would kick in leading to further secondary falls in domestic Scottish consumption and investment and hence GDP and jobs.

The results of this modelling exercise are presented first for GDP and then for jobs in Figures 20 and 21, respectively, below.

It should again be stressed that these estimates are the result of a "what if" simulation with estimated impact after 3 years with all other things held equal. One countervailing force could be any monetary and fiscal policy responses

Figure 20: Scottish GDP Impact of Euro Breakdown Compared to other Events

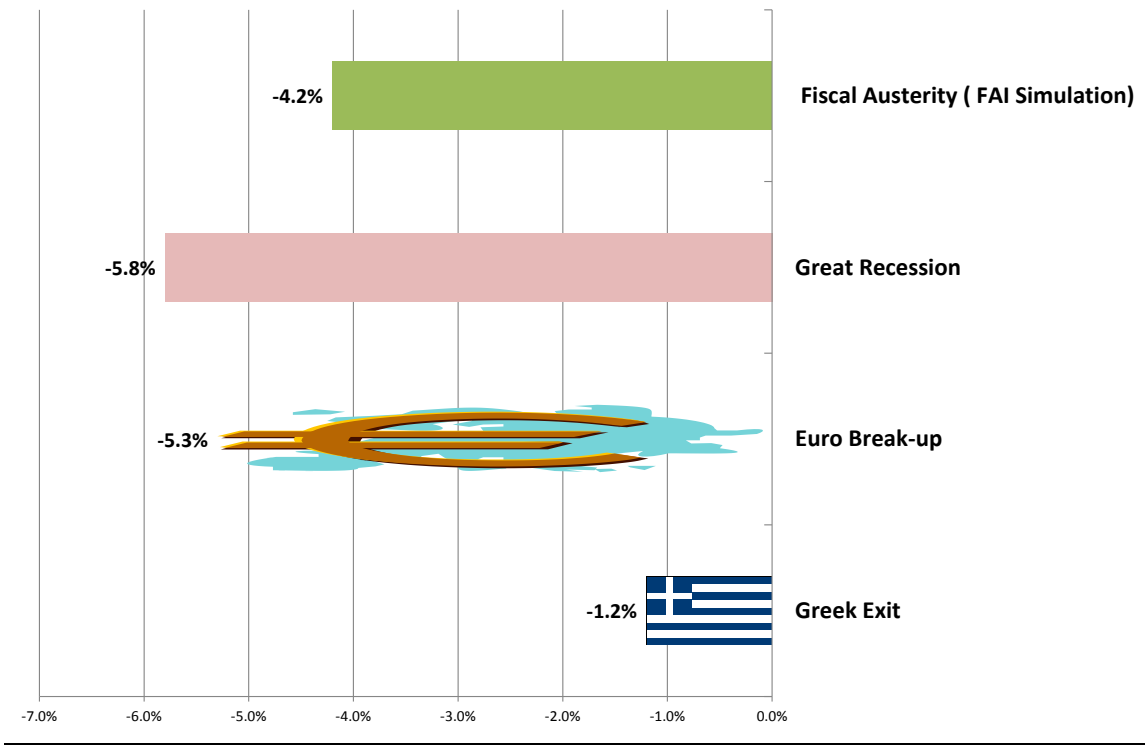
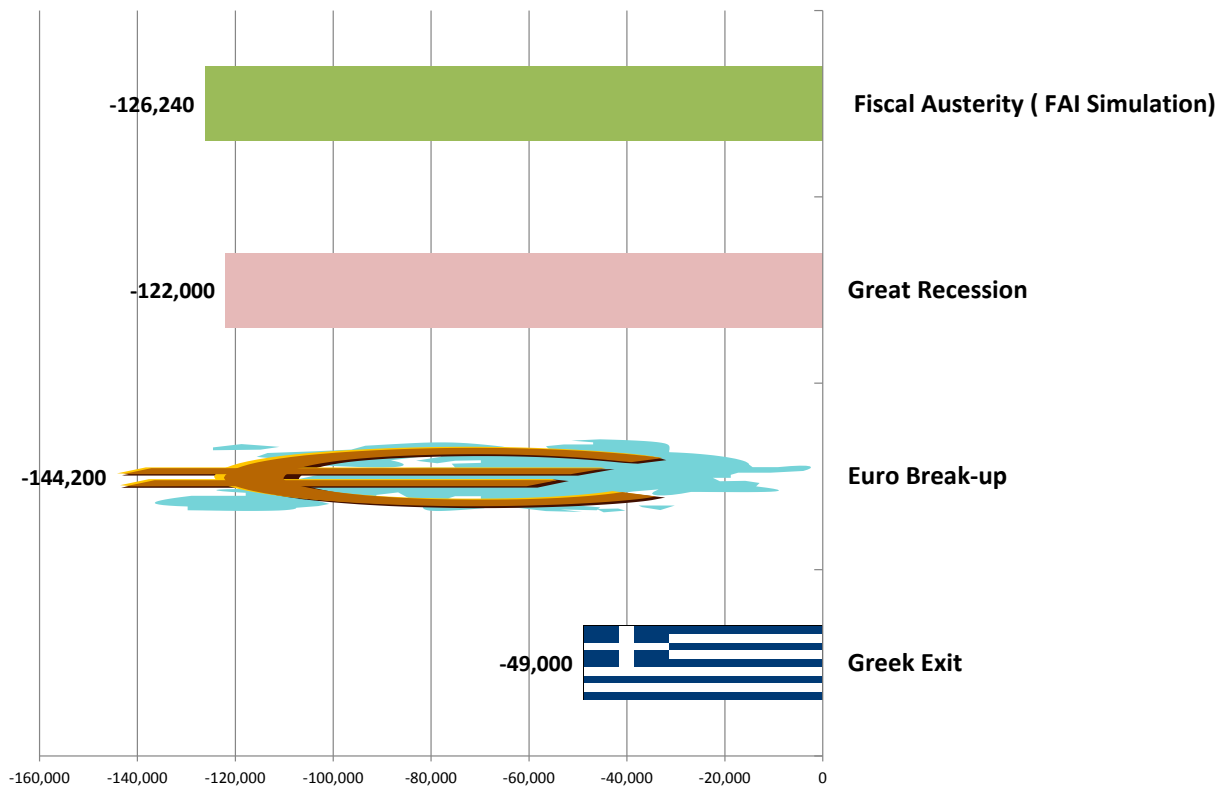


Figure 21: Scottish Jobs Impact of Euro Breakdown Compared to other Events



introduced by the Bank of England and the UK Government.

If that caveat is kept in mind we can draw the following conclusions. First, a Greek exit leads to a drop in GDP in Scotland of -1.2% and a loss of just under fifty thousand jobs. This is not trivial but small compared to the other events show. Secondly, the consequences of the breakup of the Euro would be a major economic event for Scotland even though we are not in the Euro. With an estimated drop in GDP of -5.3% and loss of -144,200 jobs the effect would be comparable in scale to the effects of the recent Great Recession and worse than our simulation estimate of the effect of fiscal consolidation. Such an event only a few years after two major exogenous shocks to the Scottish economy - Great Recession and Fiscal Consolidation - is something that we must hope can be avoided. Because if it does occur, the damage to the Scottish economy will be felt for many years to come.

Brian Ashcroft
15 June 2012

¹ See http://www.cpvr.ac.uk/media/media_231879_en.pdf

The Scottish economy

Forecasts of the Scottish economy

Summary

Domestically, Scottish consumers are facing continuing income growth weakness and have increased savings, cutting back on spending. Falling inflation will help relieve the pressure on household budgets, but inflation is not predicted to fall below target until the end of 2012. Government spending reductions will focus on current spending after significant reductions in capital spending in 2011-2 – alongside private sector investment falling – damaged activity in the construction sector through 2011. Outside Scotland, the Euro area seems unlikely to have the same political or institutional shape at the end of our forecast horizon. In light of mixed but generally weak survey data we have revised down growth prospects for 2013 and 2014, and held our forecast for growth in 2012 constant at 0.4%. The number of jobs in Scotland have fallen by just over 20,000 each year of 2010 and 2011 and are forecast to decline to the end of 2012. Unemployment forecasts have been revised down as employee jobs series for Scotland have been themselves revised, and we are now forecasting that (on the ILO measure) that the unemployment rate will increase to 9.3% by the end of 2012.

In addition to our central forecast, we explore the consequences for the Scottish economy of two seismic events affecting the Euro area: the exit of Greece for the Euro currency, and the complete breakdown of the single currency area. These are discussed in Box A.

Monetary policy

The rate of inflation in the Consumer Price Index measured 3.0% in April 2012, falling from 3.5% in March. This was the first month since February 2010 that CPI inflation had been within the inflation target set by the Chancellor of CPI of 2% with $\pm 1\%$ band either side. Earlier, May's Inflation Report, produced by the Bank of England noted that underlying growth in the UK domestic economy remains likely to be weak through 2012 with no domestic pressure acting to increase inflation. While the Bank's Monetary Policy Committee have revised upward their expectations of the short-term path for inflation slightly, it remains likely in the Committee's judgement that inflation will fall below target towards the end of 2013.

At their most recent (June) meeting of the monetary policy committee, the nine members voted to maintain interest rates at 0.5%, and maintain the size of the bank's Asset Purchase Programme. Downside risks to UK growth, covered later in this commentary, mean that it appears expected that the size of the APP could be extended later in 2012 as inflation falls towards and below target.

Fiscal policy

Scottish budget changes for the financial year 2012-13 were addressed in November's Commentary. DEL elements of resource spending were transferred to capital spending – some £382 million between 2012 and 2015 above the previously forecast level of capital spending – principally securing increased funding for road and transport projects, rural broadband and public building projects. The declining public funds in real terms are forecast to be maintained as the UK government implements fiscal consolidation and budget reductions are passed on through the Barnett Formula.

Changes to the fiscal structure of public revenue in Scotland through the Scotland Act received Royal Assent on the 1st of May 2012 and means that from 2016 the Scottish Parliament will have powers relating to varying the income tax rate in Scotland, as well as £5 billion worth of borrowing powers. In addition, the Bill passes Stamp Duty Land Tax and Landfill Taxes to the Scottish Parliament. Earlier this month the Finance Secretary, John Swinney, announced the start of consultations on replacing Stamp Duty Land Tax (which raised around £330 million in Scotland in 2010/11) with "Land and Buildings Transaction Tax". Further, he announced that a new agency, Revenue Scotland, would be set up this year to administer and collect taxes under the newly-devolved powers.

Output

The latest figures reveal that Scotland saw a contraction in GDP of 0.1% in the final quarter of 2011. This was similar to the contraction in UK GDP registered for the same period. Preliminary figures for the first quarter of 2012 for the UK suggest that the UK has entered formal recession, with a second consecutive quarter of negative growth.

Over the year, Scottish GDP rose by 0.5% in 2011. Our forecast for 2011 GDP growth – published in February 2012 – was for GDP to grow by 0.8%. Some of the difference between our forecast for growth and the (first estimate) of growth was due to data revisions. Data for growth figures in 2011 were revised down in the latest release, largely due to downward revisions of estimates for growth in the construction sector, as well as revisions downward to the electricity and gas sector.

At a sectoral level, the construction sector figures display expected weakness, and register the fifth successive quarter of decline. This mirrors the decline in output for the sector at a UK level, affected significantly by reductions in investment spending, particularly public spending through 2011 on 2010. The service sector – accounting for around three quarters of Scottish output – has seen output expanding marginally for two quarters now, but with rates of growth below 1% this is insufficient to make up for weakness in construction and production, where growth is flat over the final quarter of 2011.

As noted elsewhere in the Commentary, survey evidence on the most recent developments in Scotland point to weaknesses in business and consumer confidence. Low rates of income growth, coupled to slow rates of growth in spending and the rate of growth in new orders slowing, indicates that it is likely that growth in the first quarter of 2012 has been slow, while the data we have for the second quarter (i.e. April and May) for the PMI index reports a sharp deterioration in activity. It is unclear however how much of the differences with one year ago from these survey is down to special factors in the first half of 2011 such as the Royal Wedding/Easter, reported on in last year's commentaries. What appears to be clear from the surveys is that any positive signs appear relatively muted in aggregate.

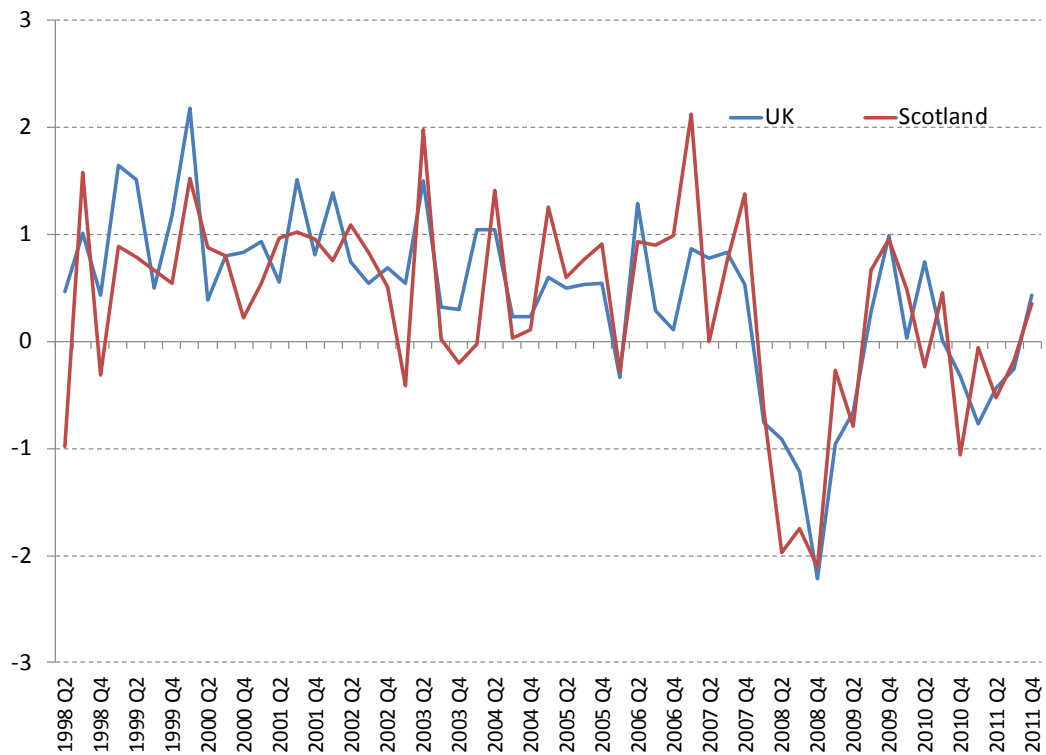
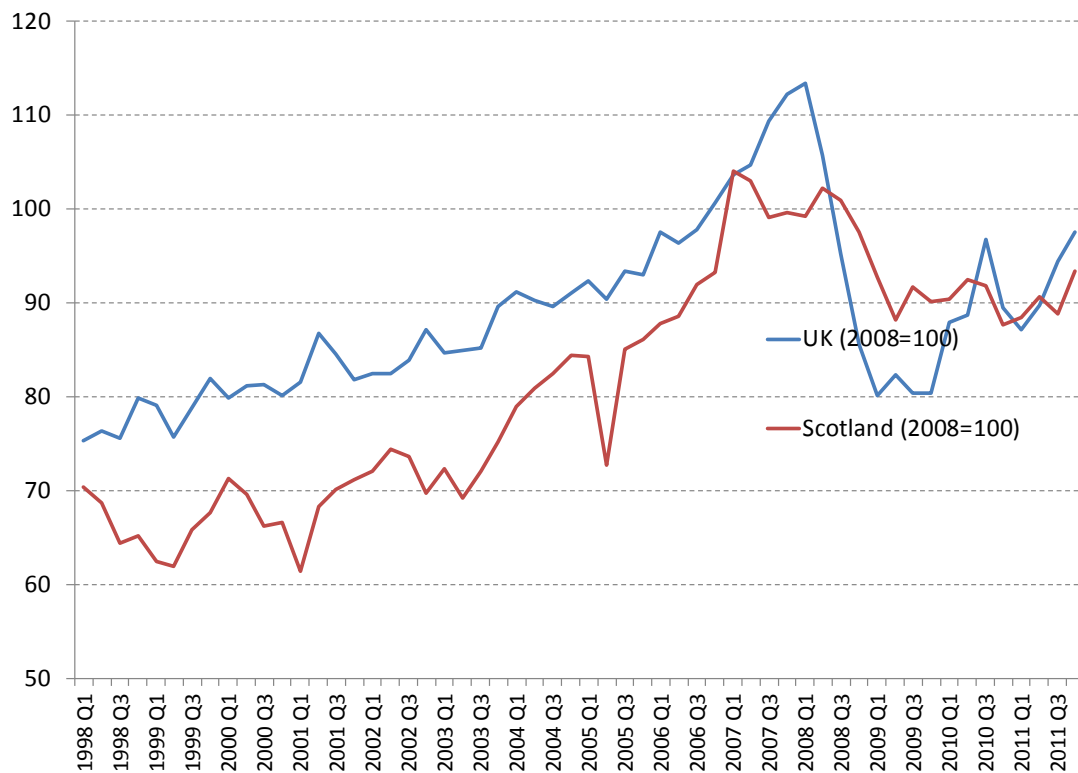
In April, preliminary figures for the UK confirmed analysts' fears that output had declined for a second successive quarter – marking an official "double-dip" recession in the UK. Output contracted by 0.2%, with particular weaknesses in construction and production sectors. Construction, in particular, is experiencing particularly tough times across the UK with output estimated to fall by 3% in the first quarter alone. Preliminary estimates are typically subject to revision as more data become available, but the ONS note that it is not impossible that construction figures could be revised down further. The services sector at the UK level, in particular financial services and public services appears to be contributing strongest to growth in the first quarter.

At the UK level the most recent survey evidence points to a falling business environment through the second quarter of 2012. The Purchasing Managers Index fell sharply between April and May, with a particular fall in "new orders". Evidence suggests that the particular weakness faced by firms was the domestic (i.e. UK) market, with little change to export orders. These, and other, UK survey data raised expectations of the MPC extending the Quantitative Easing programme earlier than perhaps was previously expected.

The average of new forecasts of UK growth in 2012 remains 0.4%, but there is a more skewed distribution of forecasts towards negative outcomes over the last six months. The Office of Budgetary Responsibility's forecast for growth in 2012 of 0.8% is lower than only four of the thirty-seven forecasts gathered by HM Treasury in May 2012.

Households

Household income growth remains sluggish across the UK. Wage growth (excluding bonuses) in the private sector has fallen from 2.9% in the first half of 2011 to below 2% in the first quarter for 2012. In part this reflects declining bonuses. Regular pay growth in the private sector (for the UK as a whole) has fallen slightly to just over 2% - broadly similar to their rate of increase one year ago. Unit labour costs continue to increase by long term average rate of around 2% with slow wage growth offset by slow productivity

Figure 1: Quarter on quarter change in real household consumption, Scotland and UK, 1998Q2-2011Q4**Figure 2: Real gross fixed capital formation, Scotland and UK, 1998Q1 to 2011Q3, 2008=100**

As previously noted, we use our calculated forecast errors from previous forecasts and first release outturn values to data are only for private sector pay settlements, with public sector pay freezes (for those earning over £21,000) entering a second year in April, and following low increases in 2009-10, the real income of public sector workers has reduced considerably over the last four years.

On the spending side, surveys of Scottish household spending continue to suggest a difficult trading environment for retailers across the country. This is despite official statistics indicating a rise in retail sales in the first quarter of 2012. As noted elsewhere in the commentary making comparisons between retail figures for 2012 based on 2011 are made more difficult by one-off weather and other trading events, e.g. Easter, panic buying of fuel, etc. Survey data from retail sites continue to point to poor sales and a weak trading environment.

The difficult micro picture is matched by official data on household expenditures, although these have ticked up slightly over the last two quarters into positive growth. Aggregate household spending in real terms in Scotland is around 5.9% lower in the latest quarter than in the first quarter of 2008 and broadly unchanged from the first quarter of 2009. For the UK, the decline since the first quarter of 2008 is slightly less at -5.2%. Consumer spending since the first quarter of 2009 (aside from a slight rise through the end of 2009 and start of 2010), has remained broadly flat. Looking at the quarterly changes, Figure 1 shows that the latest quarter (Q4) spending by households actually increased in real terms for both Scotland and the UK, for the first time since the third quarter of 2010. This followed four quarters of decline in both Scotland and the wider UK economy.

Investment

Latest official (experimental) data on investment spending in Scotland shows that there was a small (real) uptick in spending in Q4 of 2011, mirroring that seen in the UK. In real terms however over the year, investment spending was up marginally over the year, while falling slightly at the UK level. While the experimental nature of the Scottish data suggest we should interpret these as changes as illustrative, a more longer term analysis of investment spending in Scotland (Figure 2) suggests that spending in Scotland is below its pre-recession peak and (compared to 2008 levels) is below the UK figure by around 3 per cent. As previously noted, these data – prepared as part of the Scottish National Accounts Project – suggest that investment spending fell less heavily in Scotland initially following the 2008-9 recession. Most recent data suggest that investment spending in Scotland has not picked up as much as in the rest of the UK, where investment activity remains weak.

Trade

The latest data on exports from Scotland to the (non-UK) rest of the world – available from the index of Manufactured Exports published in April – show that in the fourth quarter

show the potential range of outcomes around our central forecast. We use estimated errors from “Summer” forecasts of 2011, Scottish goods exports remained flat, and grew by 4.8% in 2011 compared to 2010. Strong growth in the “Food, drink and tobacco” sector over the year, matched by growth of more than 5% in the chemicals/fuel sectors, as well as a strong performance in the (relatively small) textiles sector. Weak export performance across the manufacturing sectors, including metals sectors, pulled down Scottish exports through the year.

The recovery to growth in overseas markets appears to be sporadic and likely to have large risks to the downside over both 2012 and 2013. In the US – a major export market for Scotland – appears to be recovering, with the OECD’s Economic Outlook (May 2012) noting private sector led growth recovering with relatively strong asset recoveries and well developed household deleveraging. The OECD also addressed the scale of distance still to travel in the Euro area to re-establish the economy towards a more balanced path. Prospects for growth in 2012 and 2013 remain weak, with continued weak, or falling, confidence, volatile financial markets and less-developed deleveraging, as well as continuing financial imbalances and competitiveness differences between the core and peripheral countries. Add in elections in some countries within the Euro area, and a relatively strong showing by parties opposed to the conventional medicine of fiscal consolidation and reforms then political, as well as economic, concerns point to an uncertain future for the Euro area over the coming years.

It would not be outside the bounds of possibility that the shape of the Euro area could be radically different by the end of 2013 than it is now. Such changes could take the form either of institutional changes to the Euro area such as raising the inflation target to raise wages in the countries running a trade surplus, steps towards the issuance of “Eurobonds”, perhaps with tighter fiscal controls over the medium term. While unlikely, it is not impossible that countries might exit the currency or, in the absolute extreme, the breakdown of the Euro project with countries reverting to national currencies.

Our central forecast assumes that combinations of institutional and economic steps are taken such as to allow the Euro area to slowly recover to growth from 2014 onwards. As alternatives, we explore the potential impact of these two more extreme events – a single country such as Greece leaving the Euro area, and the complete breakdown of the Euro area – in Box A.

Growth forecasts for major (non-UK) export markets for Scotland are given in Table 1. Growth forecasts by both the IMF and OECD for these countries have generally improved in their most recent publications, but the increases in growth estimates are typically small. Growth prospects appear strongest in the US, but the IMF and OECD identified downside risks to growth from large fiscal consolidation due

Table 1: GDP growth forecasts for 2012 and 2013 for major overseas (non-UK) export markets for Scottish products, plus UK, Euro area as a whole and China, including changes from earlier forecasts where available

	2012				2013			
	OECD (May 2012)	Change from November 2011	IMF (April 2012)	Change from January 2012	OECD (May 2012)	Change from November 2011	IMF (April 2012)	Change from January 2012
USA	2.4%	+0.4%	2.1%	+0.3%	2.6%	+0.1%	2.4%	+0.2%
Netherlands	-0.6%	-0.7%	-0.5%	-0.8%	0.7%	-0.8%	0.8%	n/a
France	0.6%	+0.3	0.5%	+0.3%	1.2%	-0.2%	1.0%	No change
Belgium	0.4%	+0.1%	0.0%	n/a	1.3%	-0.3%	0.8%	n/a
Germany	1.2%	+0.6%	0.6%	+0.3%	2.0%	+0.1%	1.5%	No change
Ireland	0.6%	-0.4%	0.5%	n/a	2.1%	-0.3%	2.0%	
UK	0.5%	No change	0.8%	+0.2%	1.9%	+0.1%	2.0%	No change
China	8.2%	-	8.2%	No change	9.3%	-	8.8%	No change
Euro area	-0.1%	-0.3%	-0.3%	+0.2%	0.9%	-0.5%	0.9%	+0.1%

Sources: International Monetary Fund "World Economic Outlook", April 2012 and OECD Economic Outlook, May 2012

to begin in April 2013. Both organisations warn about the dangers of fiscal consolidation "pulling the rug" from under the nascent recovery. fiscal consolidation due to begin in April 2013. Both organisations warn about the dangers of fiscal consolidation "pulling the rug" from under the nascent recovery

Forecasts for the Scottish economy

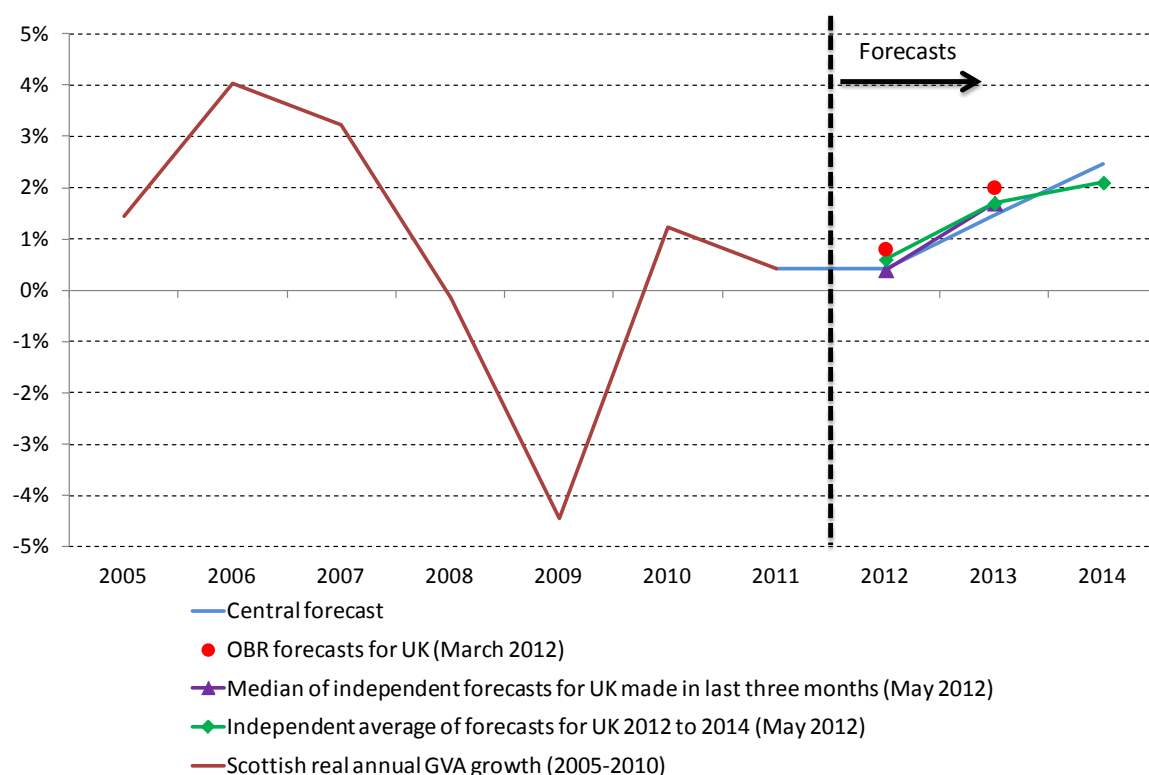
The major unknown around forecasts of the Scottish economy over the next three years is developments in the Euro area, and the future of the single currency. We have explored the potential impacts of two significant developments (a Greek exit from the Euro, or the complete break-down of the currency) elsewhere in this commentary. As well as continued uncertainty surrounding the future of trading partners, there is continued domestic weakness. It is likely that the first three months of the year saw a decline in output (mirroring the decline seen at the UK level), although it appears that Scottish survey evidence points to a weaker performance than the UK as a whole in the second quarter of 2012. Combined with weak household income and earnings data and confidence, supports our continued view that growth through 2012 and 2013 will be below trend.

The outlook for domestic demand remains weak, with wage growth slowing from levels during 2011 and public sector pay freezes continuing. Household deleveraging appears to be continuing with savings rates at unprecedented levels (for the period that data is available for Scotland). If households have moved to a permanently higher level of savings then the consequences for short-term developments in the Scottish economy would be worsened.

Our forecasts for household expenditure is for spending to increase slowly through 2012 in real terms as inflation eases, gradually rising to stronger growth by 2014.

Government spending continues to reduce in real terms, with significant reductions in current spending at the UK government level impacting on non-devolved areas of government activity in Scotland. The IFS suggested that by the end of financial year 2011-2, only 12% of the planned total cuts to spending had been made, with only 6% of the planned cuts to current spending (i.e. the largest reductions made in capital spending). With significant reductions already made to the capital budgets alleviated in Scotland by the movement of income from current to capital spending over the next three years, the reduction in current spending will be greater than previously assumed (albeit only marginally at the aggregate level). Recent evidence on inventories (for the UK) suggests that there has been a down-shifting of stocks through the first half of 2012, indicating a lack of demand for increased production.

With almost half of Scottish overseas (i.e. non-UK) exports going to the Eurozone, the prospects for an export-led recovery in the short-term appear slim. Both the IMF and OECD forecast that the euro area is forecast to decline through 2012, and return to positive growth in 2013. Growth opportunities in non-European markets appear stronger, such as the USA, although changes to the US fiscal policy stance could impact upon growth through 2013.

Figure 3: GVA growth for Scotland, 2012 to 2014 and comparisons to UK forecasts, annual real %

Results

Following February's forecasts, we forecast annual changes over the period 2012 to 2014. As previously noted, we are forecasting year-on-year real growth in Scottish Gross Value Added (GVA).

The aggregate forecasts for growth in GVA in Scotland for 2012, 2013 and 2014 are shown in Figure 3. This also shows (for comparison purposes only) the forecasts for the UK over the same period, from a number of different sources. These include the Office for Budgetary Responsibility, the median of new (i.e. within the last three months) forecasts produced by professional forecasters for 2012 and 2013, as well as the average of forecasts for 2014 taken broadly from these same (City and non-City) forecasting organisations. The average of forecasts for the UK between 2012 and 2014 are taken from the collection of forecasts gathered by the Treasury in May 2012.

We have held our forecast for 2012 constant at 0.4%, similar to the rate of growth seen through 2011. This forecast for annual growth would not be inconsistent with a quarter of negative growth in the first half of 2012, as of the survey indicators suggest. Overall this would represent a continuation of the slow recovery from the "Great recession" of 2008-9 we have been forecasting over the last two years, which would be consistent with previously observed recoveries from financial crises. Our forecast for 2013 is revised down and now stands at 1.5% (down from 1.7%), while our 2014 forecast is lowered by 0.1% to now stand at

2.5%. As alluded to earlier, and expanded on in Box A, the downside risks to these forecasts from seismic developments in the Eurozone and a "Credit Crunch II" remain, and have perhaps increased in likelihood since we last reported.

In addition to the aggregate growth forecasts, we present in Table 2 our forecasts for GVA growth by broad industrial grouping, i.e. for the "production", "services" and "construction" sectors.

Table 2: Growth by sector in the Scottish economy, 2012 to 2014

	2012	2013	2014
Gross Value Added	0.4%	1.5%	2.5%
Production	1.0%	3.6%	5.7%
Services	0.3%	1.0%	1.7%
Construction	0.3%	1.0%	1.6%

The outlook for household and domestic facing sectors look weak in the short term. These activities are expected to continue to bear the consequences of slow household spending growth, as well as falling current government spending. The construction sector has been principally

Figure 4: GVA growth in Scotland in central forecast and estimated errors around forecasts for different forecast horizons

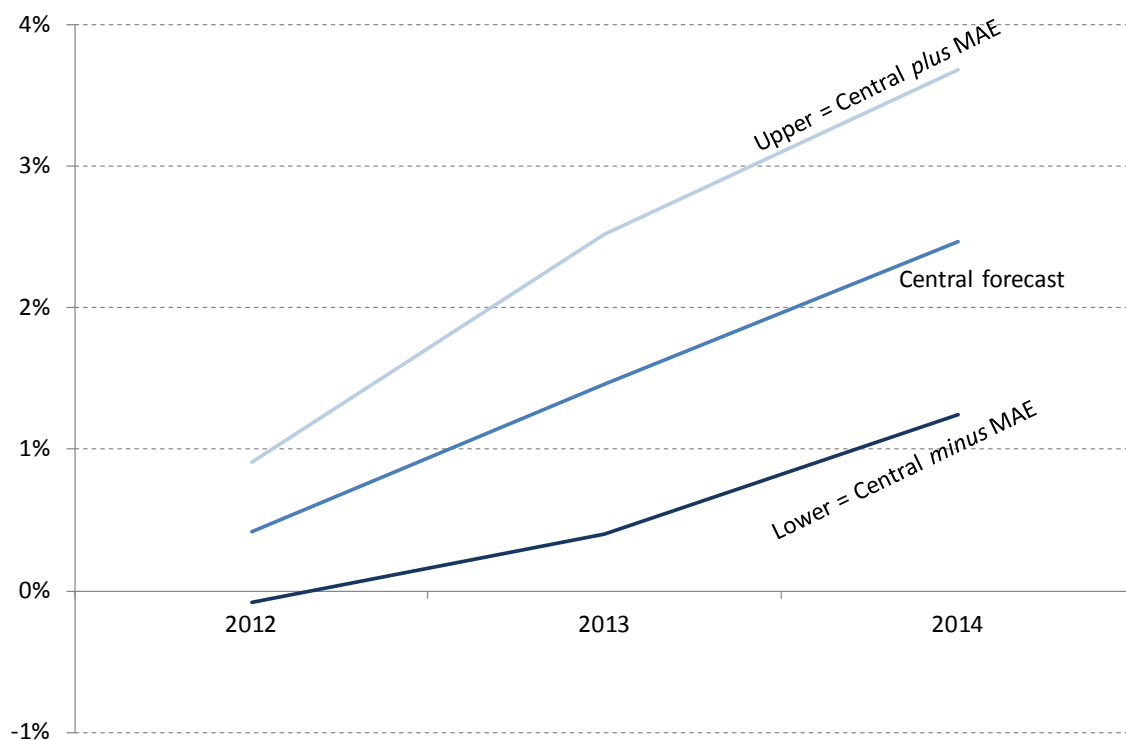


Figure 5: GVA growth forecast in Production sector in central, upper and lower cases, 2012 to 2014

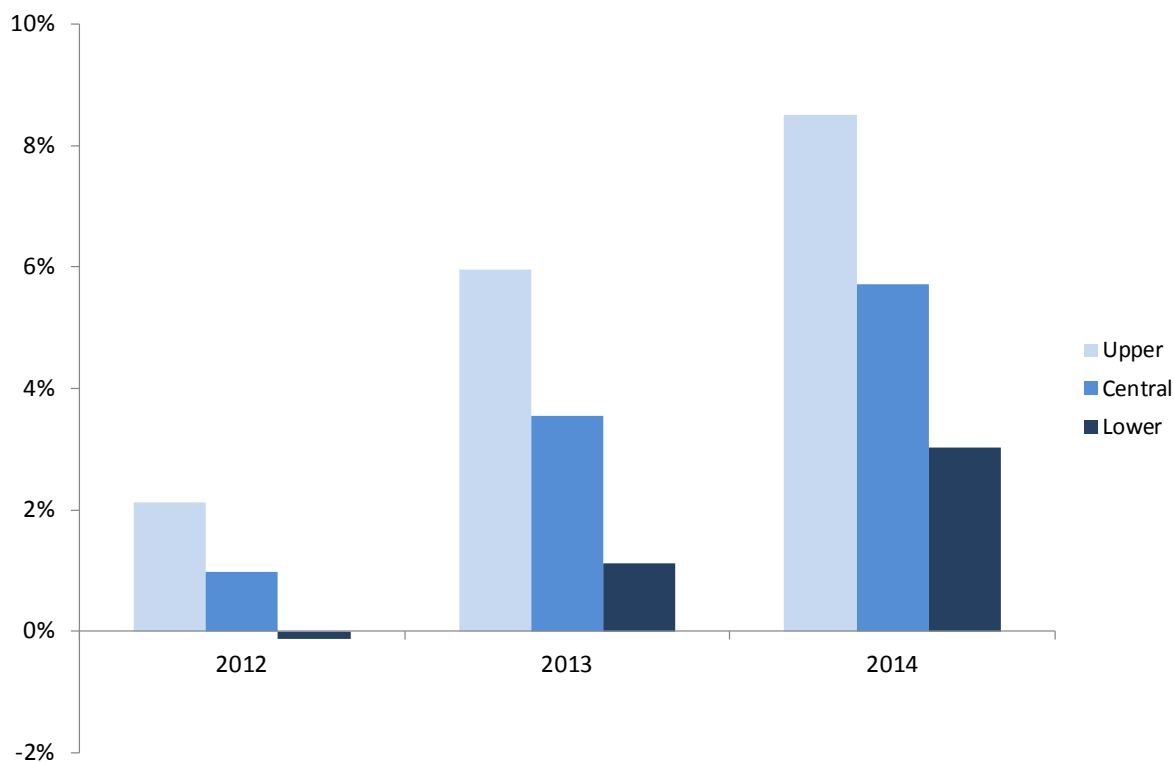
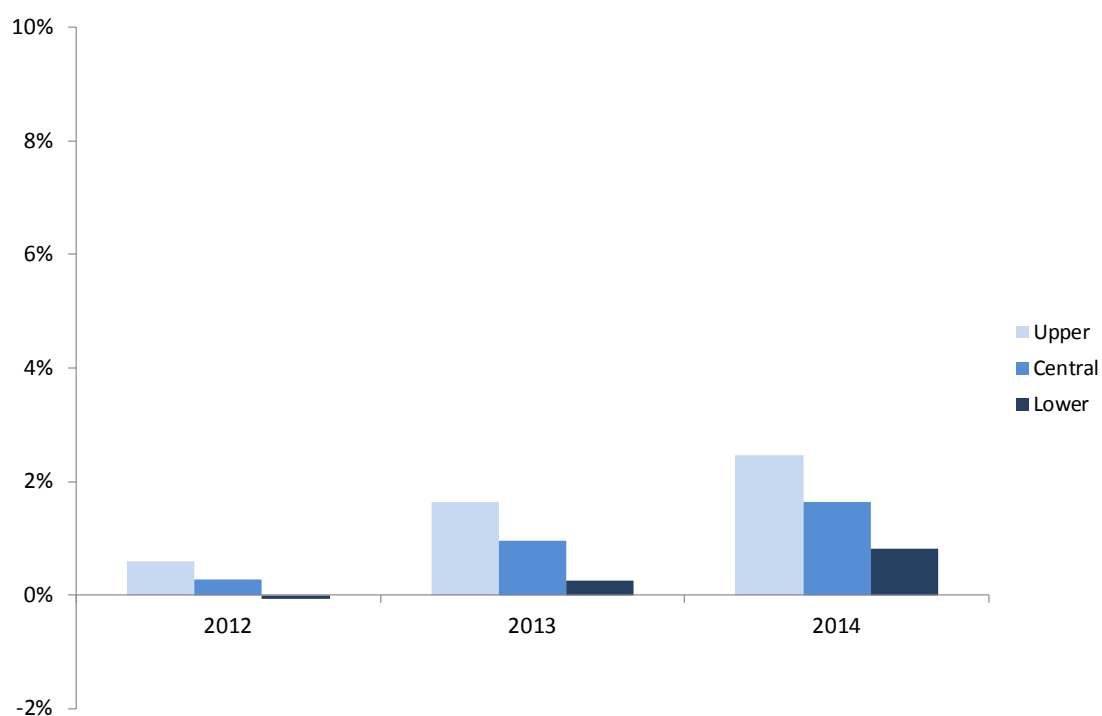
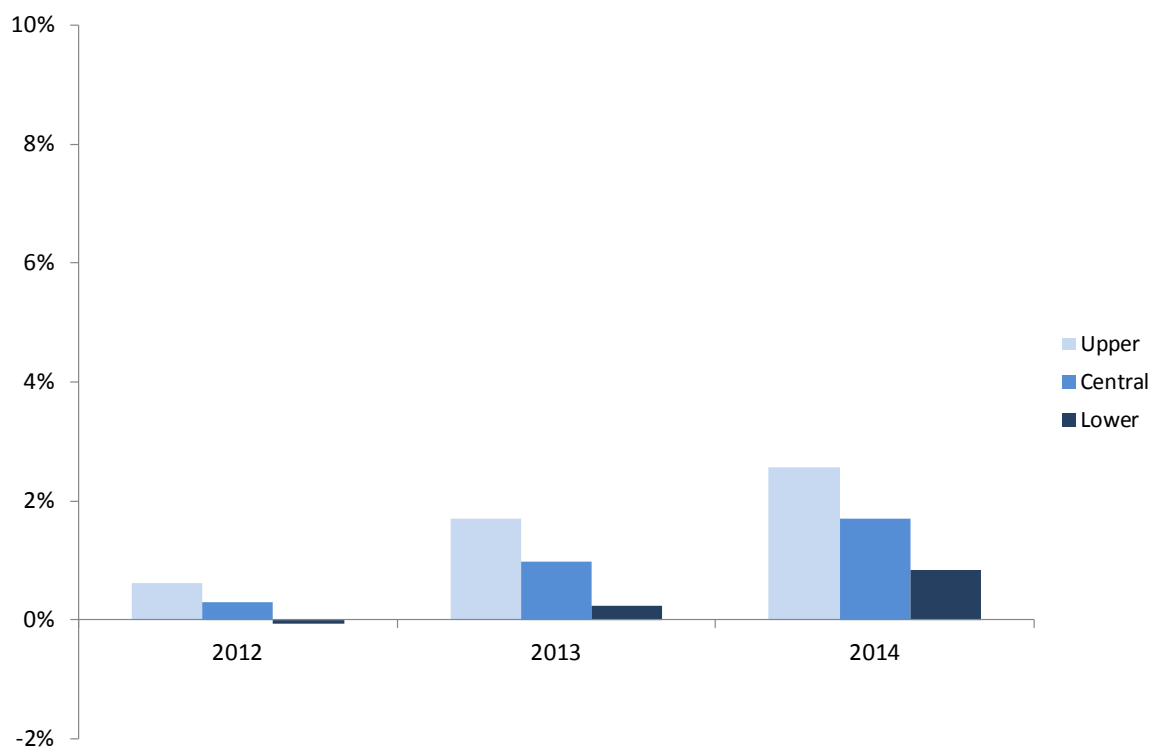


Figure 6: GVA growth forecast in Construction sector in central, upper and lower cases, 2012 to 2014**Figure 7: GVA growth forecast in Services sector in central, upper and lower cases, 2012 to 2014**

affected by declining public and private investment activity - the public spending reductions were heavily biased in first instance towards capital funding, which has exacerbated the fall in private investment. The construction sector is likely to respond quickly to upturns in private business investment. Weak export growth continues to restrain the growth of the production sector as a whole over our forecast horizon.

As previously noted, we use our calculated forecast errors from previous forecasts and first release outturn values to show the potential range of outcomes around our central forecast. We use estimated errors from "Summer" forecasts published over the last ten years (see Allan, 2011 for more details of our forecasting performance over the last decade). The measured Mean Absolute Errors (MAE) for "summer" forecasts for within year and following year are 0.495 percentage points and 1.06 percentage points, respectively. The MAE estimates are used to give ranges around the central forecast given above for these years. For 2014 – as we don't have a large sample of previous estimates made in the summer period for growth in two years' time – we use the longest forecast horizon error of 1.216 percentage points. In practice, this is likely to underestimate the forecast error at this (greater) forecast distance. The estimated range around our central forecast for growth in Scotland between 2012 and 2014 is given in Figure 4. Figures 5, 6 and 7 show the forecasted GVA changes in each of the aggregated production sectors (Production, Construction and Services) in 2012, 2013 and 2014 under the central forecast and the upper and lower estimates as given by our previous forecast errors.

Employment

The most recent data for employment in Scotland at the time of writing (which were published in May 2012) indicate that the Scottish labour market has improved in the first quarter of 2012. Employment of people of working age rose between January and March 2010 by 17 thousand, while the numbers unemployed of that same category fell by 11 thousand in the same quarter. Over the year however, the numbers employed fell and the numbers of unemployed rose. The employment rate if those of working age rose over the quarter by 0.5 percentage points, to 71.2%, while the number of people unemployed as a proportion of those economically activity (employed and unemployment), i.e. the unemployment rate – fell by 0.3 percentage points to 8.3%. This is up 0.4 percentage points over the same quarter one year ago. Detailed commentary on developments in the labour market – including some details of the data released on the 20th of June 2012 – are available in the Labour Market section of the *Fraser Economic Commentary*.

The most recent data on employee jobs are available to the end of 2011 (i.e. 2011Q4). These indicate that there were 2,261,000 jobs in Scotland, a fall of 5 thousand on the previous quarter, and some seven thousand higher than our forecast of the figure of employee jobs made in February's commentary. In all, the number of employee jobs in Scotland at the end of 2011 was 188,000 fewer than at the

end of 2008, and down 22,000 in 2011 (the same annual decline as seen in 2010).

Our forecasts for employee jobs in 2012 to 2014, including a breakdown between broad sectoral groups, are shown in Table 3. The number of employee jobs in Scotland in 2012 is forecast to continue to fall over the year by almost 15 thousand to 2,246 thousand by the end of 2012. Employee jobs numbers are forecast to increase in both 2013 and 2014, rising to 2,302 thousand by the end of 2014. This would return employee job numbers in Scotland to where they were at the end of 2009, and still 148,000 lower than their previous peak in summer of 2008. The employee jobs forecast consistent with our upper and lower forecasts for GVA growth are given in Table 4.

Table 3: Forecasts of Scottish employee jobs (000s, except where stated) and net change in employee jobs in central forecast, 2012 to 2014

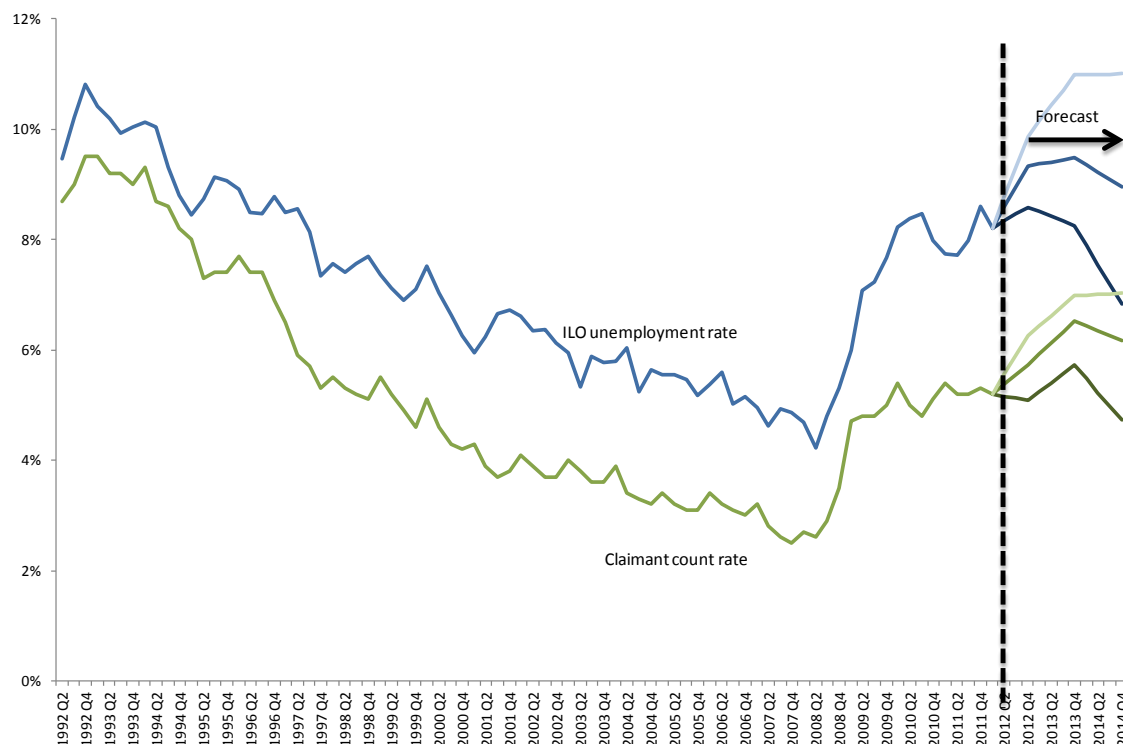
	2012	2013	2014
Total employee jobs (000s), Dec	2,246	2,266	2,302
Net annual change (jobs)	-14,950	19,950	36,050
% change from previous year	-0.7%	0.9%	1.6%
Agriculture (jobs, 000s)	32	33	35
Annual change	300	750	1,750
Production (jobs, 000s)	240	252	268
Annual change	2,400	11,100	16,000
Services (jobs, 000s)	1,850	1,856	1,871
Annual change	-15,500	5,650	14,650
Construction (jobs, 000s)	123	125	129
Annual change	-2,100	2,450	3,600

Note: Absolute numbers are rounded to the nearest 50.

Table 4: Net annual change in employee jobs in central, upper and lower forecast, 2012 to 2014

	2012	2013	2014
Upper	-5,200	41,000	61,750
Central	-14,950	19,950	36,050
Lower	-25,350	-1,700	10,450

Note: Absolute numbers are rounded to the nearest 50.

Figure 8: Scottish ILO and claimant count unemployment rate, history (1992 to Q4 2011, and forecast 2012 to 2014)

We show the history of both ILO and Claimant count unemployment rates, and our forecasts for these variables, between 1992 and 2014 in Figure 8

Table 5: Forecasts of Scottish unemployment in central forecast, 2012 to 2014

	2012	2013	2014
ILO			
unemployment	246,100	252,400	238,200
Rate1	9.3%	9.5%	9.0%
Claimant count	152,550	176,700	169,100
Rate2	5.7%	6.5%	6.2%

Notes: Absolute numbers are rounded to the nearest 50. 1 = rate calculated as total ILO unemployment divided by total of economically active 16+ population. 2 = rate calculated as claimant count divided by the sum of claimant count and total workforce jobs. The most recent labour market figures are detailed in the Labour Market section of the Fraser Economic Commentary

Grant Allan
13 June 2012

Box A: The possible impact on the Scottish economy of seismic events in the Euro zone: two scenarios

The Greek elections earlier in the year brought about the very real possibility that a party opposed to the continuance of Greece within the Euro area was elected the largest party. There has been much debate following that outcome of whether Greece would continue within the Euro area. While some of the heat might have been taken off the immediate possibility of Greece departing the single currency area, seismic developments in the Euro area would have large impacts on the Scottish economy. Abstracting from the possibility of such changes to the Euro area, in this section we discuss the possible economic consequences for Scotland of two distinct events (these events were quantified for the countries of the Eurozone, plus the UK, Japan and the USA, in a study published by ING, 2011):

- Greece leaving the Euro;
- The break-down of the Euro project, with all members reverting to national currencies.

There are many points along a spectrum between these events, and, indeed, both lie outside of the scenario assumed in our central forecast: that of a renegotiation of fiscal rules and increased transfers (explicit and implicit, i.e. Eurobonds) sustaining Greece within the Euro area through our forecast horizon.

What we conduct here therefore should be viewed as a “what-if” impact study, rather than a forecast. For this, we remove all other disturbances on and developments in the Scottish economy. The results reported therefore are those which could occur by the end of the third year following each event. It is assumed that these “events” occur at the start of year one, and we are examining the impact on the Scottish economy three years later.

We consider there to be four principal channels through which each event could impact on the Scottish economy. Scotland is a small open regional economy with heavy economic, banking and trade links to the Euro area and wider global economy. In attempting to quantify the scale of the impacts under the two events, we consider two channels through which a Greek exit from the Euro or a complete break-down of the Euro area could impact on Scotland. These are:

- Trade
- Impacts on business and consumer confidence

In addition, there are of course many other routes through which changes such as we are discussing could impact on the Scottish economy. These include:

- Exposure of banks to possible further (extreme) debt write downs and defaults
- Contraction in foreign direct investment flows to Europe and Scotland

Lack of data on these latter two issues means that we focus our analysis on quantifying the consequences for Scotland of impacts through the first two channels - reduced trade and weakened business and consumer confidence (with impacts on private investment and household spending, through reduced employment).

1. Trade

Non-UK trade: Context

Both of the Euro zone events will have a direct impact on Scottish exports as a fall in Euro zone economic activity means that overseas consumers will require fewer Scottish products.

What is unknown however is the extent of trade in goods and services between Scotland and Greece. The most comprehensive survey of Scottish exports – the Global Connections Survey – does not report trade separately for countries out of the “Top 10” destinations for Scottish exports.

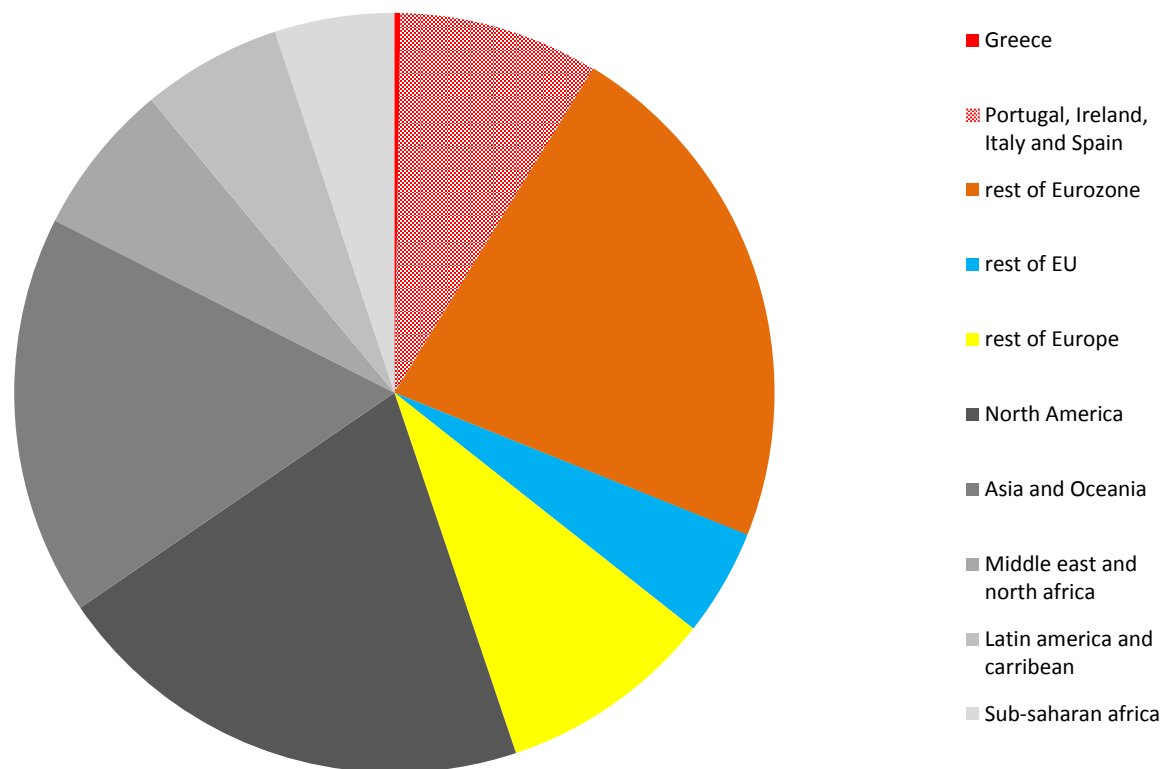
We can tell however the export destination of non-UK trade in goods from Scotland. HMRC trade data for 2011 estimates the value of Scottish goods exports to the rest of the world as £17.3 billion. Data produced by the Scottish Government through the Scottish National Accounts Project suggest that the value of all Scottish exports to the rest of the world in 2011 was £24 billion, therefore goods exports covers around seventy percent of the value of all Scottish overseas exports.

The same HMRC data indicate that Scottish direct exposure to Greece through conventional (goods) exports is minimal. In 2011, 0.3% of all Scottish overseas exports - a total of £45 million – were exported from Scotland to Greece in 2011.

Scottish exports are integrated across the rest of the Eurozone countries, with France, Germany, Netherlands and Belgium the prime destinations for Scottish goods exported to Europe.

Using the same HMRC statistics, 45% of Scottish overseas exports are destined for European markets, with Euro zone countries being the destination for two thirds of this (31% in 2011). The share of exports of goods from Scotland going to the Eurozone has in fact fallen from 47% in 2006, indicating just how much the events of the great recession have affected the traditional export markets for Scottish products. Figure B1 shows the share of Scottish goods exported by destination.

Figure 1: Shares of non-UK exports of goods from Scotland by destination, 2011



UK trade: context

As discussed in the February 2012 Fraser Economic Commentary, Scottish exports are increasingly reliant upon the rest of the UK market, rather than overseas export destinations. The share of UK exports has increased to almost 70% of exports from Scotland, up from 60% of exports in 1998. Part of this was the collapse in the period 2000-2003 of exports of electronic products to the rest of the world. As of 2011, SNAP statistics estimate that the rest of the UK was the destination for £35 billion of Scottish products, some £11 billion more than was exported to the rest of the World.

Trade impacts following two events

We have obtained data from ING on their modelling of the consequences of both events. Their data report the change in output (GDP) for countries of the Euro area and other major economies (the UK, USA and Japan) over a three year window, i.e. the cumulative impact on each country's output at the end of the third year after each event.

We use the HMRC data for exports of goods as a proxy for exports of goods and services from Scotland. By using each country's share of exports from Scotland and the ING forecasts of the change in output in each economy by the end of the third year following each event, we can construct a change in the rest of the world demand for Scottish exports. Note that we are only assuming there will be impacts on Scottish overseas exports to countries in the Euro area, the USA and Japan. This captures the majority of Scottish overseas exports, but not every market that goods are sold into, and so is likely to understate the consequences on Scottish overseas exports of both scenarios. Interestingly, given the Scottish economy's strong export link to the US, the relatively small impacts on US output forecast by ING have a large impact on the fall in Scottish exports we assume. The only export market for Scottish goods which has a larger impact on the modelled change

in total exports is France, even though this declines by considerably more than the ING analysis forecasts is the case for the US.

ING forecast that the UK economy could contract by 1.0% over three years under a Greek exit and 9.0% under a Euro area breakdown, and we assume that Scottish exports to the rest of the UK are reduced by this amount in each case.

After three years, the consequences for Scottish exports are:

	Greek exit	Euro area breakdown
Overseas exports	-0.6%	-4.3%
Rest of the UK exports	-1.0%	-9.0%

2. Impacts on business and consumer confidence

Confidence and expenditure

Following the “credit crunch” in late 2008, banking uncertainty caused turmoil in financial markets, business lending to households and businesses was curtailed sharply as banks cut back their exposure to risky investments. The result was more expensive borrowing for those borrowers able to obtain finance and a sharp reduction in investment activity. It is highly likely that a country exiting from the Euro could lead to banks seeking to extract themselves from exposure in peripheral economies of the Euro area. Given interconnections between banks it is likely that this could lead to a “Credit Crunch II”, into which Scottish firms and households would face prolonged and significant borrowing restrictions.

Spending impacts following two events

The first credit crunch saw a sharp increase in households saving ratios, as households paid down credit or didn't take on debt and spending fell quickly in real terms. The average households' saving ratio (gross savings as a portion of gross disposable income) before the first quarter of 2008 was 4.7%. In the second quarter of 2008, the average households saving ratio has been 9.6%, almost double the earlier period.

Uncertainty about future employment, provisions for pensions and a cutting back in expenditures and borrowing are all likely to increase the savings ration again following financial turmoil resulting from both the Euro zone events. We assume that in three years' time, in the absence of either event, the savings ratio would fall from its current level to 8%. Following Greek exit, we assume that the households' saving ratio in three year would remain at its post-2008Q2 average of 9.6%. Following the second event – Euro area breakup – we assume that households' saving ratio increases to the highest ratio seen since 2008 in Scotland. This was 15.7% in the second quarter of 2011. In each scenario, the assumed impact on household spending from increased savings in three years' time is given in the first row of the table below.

Similarly for business confidence, current figures suggest that investment spending in Scotland during 2011 was around 4% below its (real) level in 2008. We take this as the impact on investment which might occur three years following a Greek exit, with a 10% reduction assumed in the case of Euro breakdown.

	Greek exit	Euro area breakdown
Household spending	-1.8%	-8.7%
Investment	-4.0%	-10.0%

Additional channels

The exposure of Scottish banks to Eurozone economies

UK and Scottish banks are heavily exposed to developments in the Euro area. The December 2011 Bank of England “Financial Stability Report” noted that while banks have reduced their leverage since 2008, there was growing uncertainty in the Euro area. On some solvency indicators even at the end of 2011 there was an upward movement in leverage, indicating worsening credit positions. An “adverse feedback loop” between banks worried about losses raising the price of credit and tightening credit conditions could lead to weakness in the real economy, making it more likely that banks would suffer losses. The same Bank of England publication reported that major European banks had deleveraging plans of between 480billion euros and 2000billion euros. Royal Bank of Scotland – by these same estimates – had plans of deleveraging by between 93 and 121 billion euros.

UK banking exposure to Euro area countries is critical. As worried as banking systems are about developments in Greece, the UK sector is far more exposed to the Spanish than the Greek economy (an exposure of £57.5 billion to £6.0 billion).

Results

Table 1: Impact on GVA in three years following either Euro event, % differences from base level

	GVA	Employment
Greek exit	-1.2%	-49,000
By broad sector		
Production	-2.8%	-7,000
Services	-0.9%	-37,500
Construction	-0.8%	-3,500
Euro area breakdown	-5.3%	-144,200
By broad sector		
Production	-11.9%	-34,500
Services	-3.9%	-98,800
Construction	-3.9%	-7,200

Note: Absolute numbers are rounded to the nearest 100. Totals may not sum due to rounding.

Figures from the 2011 accounts of RBS show the bank had a total balance sheet exposure to the Eurozone countries of £203 billion. Half of this exposure was to the two largest markets for the bank, in Germany and Ireland, with Netherlands and France the next two largest markets. Exposure to Greece was, by comparison to these four countries, tiny at £1.2billion. Exposure to the troubled peripheral economies was the following: Spain (£15billion), Italy (£6.6billion), Ireland (£43.5 billion) and Portugal (£1.1 billion). No such details appear to be directly available for Bank of Scotland.

As things stand, we assume that the shocks to private consumption and investment reflect increases in the cost of capital and decreases in its availability, which would result from "Credit Crunch II" in the case of Greek exit or the Euro breakup. Any further impacts on the Scottish economy from changes in the scale or scope of the major banks based in Scotland are not included in this analysis. The results above therefore are likely to underestimate the true effects of these events in the Euro area, for this reason.

Contraction in FDI flows

Foreign Direct Investment is a major element of Scotland's economic performance over the last twenty years, and appears to have picked up over the recent past. We are unable to determine the extent of investment expenditure in Scotland which were made through FDI channels over the most recent years. For this reason changes to the volume of FDI – which would be likely to be heavily depressed in both events described above – are not modelled in this instance.

Acknowledgement

We are extremely grateful to ING for providing information about their scenarios.

Reference:

ING (2011), "EMU Break-up: Pay now, pay later", ING Global Economics, 1st December 2011

Grant Allan
13th June 2012

Review of Scottish Business Surveys

Overall

Once again the majority of surveys of Scottish business, in common with UK and European surveys, continued to highlight ongoing and deepening concerns as to the sovereign debt crisis in the Euro zone and signs of a more general global slowdown. These, together with forecasts of lower rates of growth in 2012, continuing consumer insecurity and pressures on household spending continued to dampen business confidence and activity. However, the Scottish Engineering Quarterly Review (Q1 and Q2 2012), Oil & Gas UK Index (q1 2012) and Aberdeen & Grampian Chamber of Commerce Oil and Gas Survey (Spring 2012) suggest a contrasting view for these sectors, and one of rising orders, activity and confidence – although export orders continue to remain weak in Scottish Engineering in marked contrast to this sense of a slowing down. Additionally, Visit Scotland occupancy data shows fewer signs of a slowdown, although Scottish Chamber data suggests occupancy rates may well be sustained by more room rate reductions, and widespread discounting continues in retail as the latest Scottish Retail Consortium figures for May indicate continuing weak sales trends.

PMI and Scottish Chamber data suggest a modest improvement in activity in the first quarter, but the monthly PMI surveys (both UK and Scotland) for April and May suggest a slowing down in activity, the extent to which this reflects seasonal and other differences between the first half of 2011 and 2012 is unclear, equally unclear is the outcome of the current financial issues in the Euro zone, reported elsewhere in this Commentary.

The impact of government spending cuts and reorganisation of public services continue to adversely influence consumer behaviour, and business activity and sentiment in Scotland and in the rest of the United Kingdom. Within Scotland there is the additional uncertainty over the referendum and calls from a number of companies for an informed debate on the key questions.

Oil and gas services

Following the 2011 Budget business confidence amongst operators and contractors remained stagnant, with little change evident in the first three quarters of 2011 (Oil and Gas UK Index Q3 2011), and, as we noted in the previous Commentary, the number of exploration and appraisal wells started in Q3 2011 declined to 12 compared to 21 in Q3 2010, and Deloitte reported offshore drilling levels falling to the lowest level since 2003, total output fell sharply in 2011 due to a combination of long term trends

and exceptional issues. Whilst a number of significant developments were announced in 2011 which suggested continuing high levels of investment in the sector these had received approval prior to the 2011 Budget changes.

By the end of 2011 there were signs (Oil & Gas UK Q4 2011 Index) that confidence was returning slowly to the offshore oil and gas industry reflecting sustained high oil prices, but with some concerns amongst contractors that marginal projects were being delayed as operators focus on larger developments. Confidence continued to strengthen through the first half of 2012 reflecting both global and UK developments. Globally the outlook for the oil and gas sector in 2012 remains positive, although with continuing geo political and economic uncertainties. In February 2012 the International Energy Agency forecast growth of 0.9% in the global demand for crude, a further reduction in its forecast from previous months. The outlook reflects growing demand in developing nations (2.8% according to the IEA) and relatively flat consumption in most advanced economies, with high oil prices threatening to dampen activity in developed economies. Brent crude remained within the range of \$100 - \$125 per barrel through the early part of 2012, but has eased to below \$100 per barrel following from concerns as to a weakening in global demand. Increasingly there is the view that in the longer term the global development of shale gas production offers the possibilities of transforming energy policies and leading some analysts to contemplate a reduction in energy prices and posing more questions as to the scale of subsidies necessary to support the continued development of renewables. Wood Mackenzie's review of the UK upstream industry (published January 2012) predicted continuing high levels of investment through to 2014 – due to stable high oil prices, and anticipated an 'increasing appetite for UK exploration acreage' but commented on the additional charges introduced in the 2011 budget as 'highlighting the instability of the UK fiscal regime', a theme noted in Oil & Gas UK's 2011 Economic Report, and evident in the increased applications for licences to drill in the UKCS. The latest licensing round for oil and gas drilling has seen a total of 224 applications submitted, the largest number since offshore licensing began in 1964, and 37 more than the previous round's high of 187.

Oil & Gas UK were successful in initially lobbying and subsequently persuading the Government to make changes, valued at some £3 billion, to decommissioning tax relief, the existing field allowance scheme and a number of other changes in the 2012 Budget, but as the UKCS moves further into maturity further fiscal changes and tax relief will be essential to maximise recovery and stability of the fiscal regime will be critical. These changes contributed to rising confidence as to both UK and internationally based activities being reported both by Aberdeen & Grampian Chambers 16th Oil and Gas Survey and Oil & Gas UK Q1 2012 Index (both published May 2012). Both surveys reported confidence amongst contractors increasing to record levels reflecting a number of major projects as well

as growth in export markets, whilst optimism increased more modestly amongst operators. Nevertheless, the legacy of the 2011 budget lingers in terms of perceptions as to the potential instability of the UK fiscal regime, and Aberdeen & Grampian Chamber's Oil and Gas survey noted the outturn in the net trends in investment by contractors was lower than had been anticipated prior to the 2011 budget. The demand for staff continued to improve, but this was more noticeable amongst larger and international companies, reflecting higher levels of activity internationally. Overall investment continued to be more directed towards developing new markets, cost reduction and staff development than towards other areas, but there were signs of respondents expanding and developing their UKCS and internationally based activities in Aberdeen.

Private sector

The Scottish private sector lost momentum according to the Bank of Scotland PMI (May 2012) as output and new business rose marginally, suggesting a slowing in the private sector as 'the Scottish economy is struggling to maintain growth momentum in the global slowdown' and continuing euro zone difficulties. The Lloyds TSB England Regional PMI for May noted a similar slowdown on the rate of business growth across the English regions. The average output index for England eased to 52.3 (a six month low) whilst for Scotland the index slipped to 50.8, a 17 month low and was the second lowest region (after the North West).

Production

The latest Business Monitor from LloydsTSB Scotland reported that recovery in the Scottish economy has yet to pick up pace. In the three months ending February 2012, 29% of the firms surveyed increased turnover, 36% experienced static turnover and 35% experienced a decrease. This net balance of -6% is a slight deterioration from the -3% of the previous quarter but a substantial improvement on the -20% of the same quarter one year ago. Overall turnover for production firms in the three months to the end of February this year was a net balance of +2%; a fall on the +9% of the previous quarter but significantly better than the -15% of the same quarter one year ago. The Bank of Scotland PMI for April noted manufacturing production falling slightly.

Manufacturing

The Index of Manufactured exports for the fourth quarter of 2011 was unchanged (0.0% growth) (compared to 0.2% in the third quarter) and grew on an annual basis by 4.8%. Food and Drink, Metal Products, Engineering and allied industries registered rises over the quarter. Once again whilst there were differences between the business surveys in the interpretation of trends there was more agreement in surveys of a slowing down in manufacturing activity in the second quarter of 2012. The exception to this pattern was Scottish Engineering reports for both Q1 and Q2 2012 – although official data from the Index of manufactured exports had noted a stronger trend for engineering and

allied industries (albeit for the fourth quarter of 2011). The Purchasing Managers Index (PMI) conducted by The Bank of Scotland concluded that the Scottish private sector economy lost momentum as activity rose only marginally and new business inflows were near stagnation in May, although manufacturing reported a modest growth reflecting new export orders. The Scottish economy continues to be affected by the slowdown in Eurozone economies and the more general global slowdown.

The Scottish Chambers' Business Survey (SCBS) reported that business confidence improved in Q1 with more than 80% of firms reporting no change/improved confidence levels; and similarly the Scottish Engineering Review in its first quarter survey outlined that business confidence was proving to be 'resilient if not optimistic'. The CBI reported a return to optimism for Scottish manufacturers (the highest for 18 months) fuelled by strengthening export order books coupled with confidence over future overseas demand.

For respondents to The Scottish Engineering Review trends in total new and export orders returned to a positive net balance after a quarter of decline with only small firms continuing to report downward trends, and SCBS manufacturing firms reported that the trend in total new orders improved to the highest net balance since Q4 2010 and the trend in total new sales also improved. Export orders rose strongly in Q1 and are expected to rise further despite concerns over trading conditions in many overseas markets for CBI respondents. For SCBS firms the outturn in total orders was significantly better than had been expected; the rising trend in export orders, which until a declined last quarter, had been a feature of the past four quarters, resumed and respondents now anticipate an increase. The Scottish Engineering review also reported a marginal rise in export orders and predict a further increase.

The CBI industrial trends survey noted that the return in business confidence had not yet lead to improvements in investment intentions. SCBS firms claimed that although continuing to rise, trends in investment in plant/machinery remained weak during quarter one for a net balance of firms. New investment was again mainly directed towards replacement or to improve efficiency. Capital investment plans among respondents to the Scottish Engineering Review rose for the seventh consecutive quarter.

Employment trends improved among SCBS firms, although more than two thirds reported no change and remained upbeat for respondents to the Scottish Engineering Review.

Construction

Wide swings in activity have been reported by the Markit/CIPS UK construction PMI for 2012. The report for February reported a sharp increase in growth driven mainly by commercial property construction and a return to modest growth in domestic house construction. Strong growth of new orders was seen as contributing to a rise in

construction sector activity in March and to rising confidence. The Markit/CIPS UK construction PMI reported further solid rises in construction output and new work, but at reduced rates in April, with moderate job creation and input cost inflation at its lowest since March 2010.

Construction output growth continued to slow in May and confidence in the business outlook dropped sharply since April. Balfour Beatty has been reported as having put considerable numbers of staff on notice, reflecting 'difficult headwinds' in the sector and Carillon is reported as undergoing restructuring. Comments from the sector note 'suicide bids by competitors' a rise in the number of bids for work from Ireland and problems affecting the sector due to the winding down of Olympic projects and other infrastructure projects. In April Persimmon noted some signs of an improvement in private house building especially at the higher end of the market. Official data showed sharp drop in construction output in Q1 2012.

In Scotland the Construction Skills report had forecast 2012 as a further year of declining output with growth not expected to return to the sector until 2013. It is estimated that some 200 Scottish building firms went into liquidation over the past four quarters. These trends were supported by evidence from Scottish Chamber construction respondents indicated business confidence remained weak in the first quarter of 2012, with only 8% of firms reporting a rise. Firms, on balance, were less pessimistic than in recent first quarters. The latest Scottish Construction Monitor conducted by the Scottish Building Federation members (SBF) for Q1 2012 reported that the general confidence rating declined by 9 points and now stands at -28 (6 points below the level at Q1 2011).

As anticipated by respondents in Q4 2011 the rate of decline in construction orders slowed in Q1 with 40% of firms reporting an increase in new orders, in part a possible reflection of increased work arising from the winter, repair and maintenance work was seen as the most positive outlook in the construction sector in the latest Scottish Construction Monitor. Private commercial orders showed the most improvement (although the net balance remained negative). All trends are expected to decline further in Q2. More than three-quarters, compared to over 80% of respondents in the previous survey, reported working below capacity. Cash flow trends are expected to level out, whereas turnover and profitability are expected to be weak over the next 12 months together with continued pressure on margins. Average capacity used, remained at 75%. The Scottish Building Federation chief executive commented that '2012 looks set to be a particularly bad year for public sector construction output...the annual rate of new house building in Scotland is now at the lowest since current records began in 1997'.

The downward trend in employment eased in Q1 for SCBS firms and once again few recruitment difficulties were evident. Average pay increases rose from 1.8% in Q4 to 2.5%. The Scottish Construction Monitor concluded that

most firms expect employment to remain unchanged although a third of respondents expected the number of people they employ to decline and only 9% expect a rise.

The service sector

The Lloyds TSB Scottish Business Monitor (Q 1 2012), reported that service businesses did not experience such benign conditions (compared to the production sector), with the overall net balance for turnover for the three months ending February at -11% - worse than the -8% of the previous quarter but, like the production sector, much improved from the -22% of the same quarter one year ago. In contrast the Bank of Scotland Scottish private sector PMI for March noted stronger services growth due to stronger travel and leisure businesses, but the UK pattern was one of slowing growth, with upside limited by difficult trading conditions and cutbacks in Government spending. The Bank of Scotland PMI for April noted stronger growth in the services sector

Retail distribution

Teasing out the trends in retail sales continues to be problematic. Once again comparisons between 2011 and 2012 have to factor in marked differences in the weather (March 2011 snow and March 2012 good weather), differences in the dates for Easter, the effect of extra public holidays and 'panic' buying of fuel. Additionally structural changes continue to affect the sector. Tesco increasingly plans to focus on smaller stores and to stress on line business (both click and collect and delivery) and other supermarkets are expected to follow suit. In contrast Sainsbury's reported continuing to increase floor space in Scotland. The Edinburgh retail trade is reported as continuing to be badly affected by the tram works with a 100 businesses in Princes Street to get rates reductions and over 220 Edinburgh shops are reported to have lodged compensation claims.

The overall retail picture in Scotland appears to be one of an underlying lack of consumer confidence although the Retail Sales Index for Scotland (Q1 2012) noted a 0.7% rise in the volume of retail sales and a 0.9% increase in value (both at constant prices). The Scottish Retail Consortium and retail respondents to the Scottish Chambers' survey continued to report harsh trading conditions.

The February UK retail figures (British Retail Consortium) suggested any revival in retail sales remained illusory as increases in sales continued to lag behind inflation and non-food sales weakened further. Overall consumers were reported as buying less than a year ago and discounts were continuing to reduce margins. The Scottish retail (value) figures for February 2012 echoed the UK trends, and were down 0.6% on a year ago, the weakest trends since the survey began in 1999, (this reflected a rise of 3.4% in food sales but a decline of 4.4% in non-food sales).

The Scottish Retail Consortium figures for March showed an increase of 1.8% year on year, the first positive figures since Christmas, but there was much to suggest this was a weather related boost. A number of retailers continued to face a struggle for survival as sales often remain reliant on deep discounting. The failure of Clinton indicates the problems of increased competition from supermarkets and on line providers together with high rents. Likewise Scottish Chambers' retail respondents reported poor sales trends in the first quarter of 2012.

Scottish retail figures sales values for April were down 4.1% on same month a year ago, but a year ago good weather and royal wedding boosted sales. Like-for-like sales were down 5.2% compared to a year ago when they had risen 3.4%. Non food sales were down 7.3% compared to a year. In May sales values rose by only 0.1% compared to the same month of 2011 (sales in May 2011 were extremely weak at 1.1% down on sales for May 2010).

Conditions in the retail sector among SCBS firms did not improved significantly during the first quarter with declining consumer confidence and sales trends easing only marginally. Only 11% reported and only 6% expect increased sales, as continuing concerns over consumer confidence remain evident. Cost pressures remain severe, although those concerned with increasing suppliers costs eased from 69% to 66%. Transport costs and utility costs continued to be of concern. Pressures on margins remain widespread with over half expecting declining profitability and turnover over the next year. Labour market activity continued to decline but the rate of decline was the slowest since 2007; however a third of firms expect a decline during the second quarter. Recruitment problems eased. Only 6% of firms reported increasing pay, and the average increase remained at 2.5%.

The CBI's Distributive Trades survey (UK wide) for May noted that retail sales remain below average for the time of year but that optimism had improved. Retailers expect sales volumes to grow further in May but many remain cautious with unemployment, slow wage growth and weak consumer confidence impacting on future sales.

Tourism

The latest PKF's monthly survey of three and four star hotels (March 2012) indicated occupancy in Scotland fell by 0.1% during March raising some concerns as to the fragility of the Scottish hotel sector. Aberdeen was reported as again outperformed the rest of Scotland's cities with an increase in occupancy of 0.1% to 75.8%, while revenues rose there by 7.4% to £58.74. Glasgow also fared well during March, with an increase in room yield of 4.6% to £45.99 despite a fall in occupancy of 1.9%. In contrast Edinburgh recorded a drop of 3.9% to 66.4%, while revenue fell by 8.9% to £43.66. As the report authors noted "It would be unwise to read too much into one month's figures but it is clear that the sector continues to face considerable instability, mirroring the uncertainties in the

wider economy. There is no reason to assume that 2012 will be a great year for Scottish hotels at this stage."

In contrast a different image was reported by the Scottish Hotel Occupancy Surveys, January and February 2012 bed and room occupancy was fractionally higher than for the comparable months in 2011 and 2010 – with Aberdeen & Grampian and Dundee & Angus reporting improvements in both room and bed occupancy compared to a year earlier. March figures were better than the preceding three years, in both January and March the highest occupancy figures were recorded by Edinburgh & the Lothians and Glasgow and Clyde areas. The latest data as to trends in visitor numbers to tourist attractions (2011) indicated that 9 of the top 10 visitor attractions were located in the central belt, differences between urban and rural tourism was a theme noted by Scottish Chambers in their comments as to the results for Q1 2012. Scottish Chamber tourism respondents reported a decline in business confidence eased during the first quarter of 2012, although was significantly lower compared to Q1 2011.

The rising trend in total demand ended during Q1 for a net balance of SCBS tourist respondents although a rise is expected in the second quarter. The decline was not as severe as had been forecast by respondents from the previous survey.

SCBS average occupancy declined (from 56.8% to 53%, broadly comparable to Scottish Hotel Occupancy Survey figures) although was marginally better compared to the same quarter a year ago. During the three months to the end of March 2012, trends in bar/restaurant trade and for conference/ function facilities continued to decline.

Almost half of hotels reported reducing average room rates and the widespread pattern of 'special offers' seems set to abate slightly during quarter two with a net balance of 9% expecting to increase room rates. Two-thirds, compared to three-quarters in the previous quarter, reported that the lack of tourist demand remained the primary business constraint; poor transport infrastructure, high fuel costs and weak marketing of their area also remained a concern to hotels. 43% (compared to 48% in the fourth quarter) of SCBS firms sought to recruit staff; employment trends, as forecast declined in quarter one and the declines were loosely as had been expected. A net balance of 23% expect a rise in total employment levels in Q2 2012.

Logistics and wholesale

Data from the Scottish Chambers' Business Survey showed that the problems in the Scottish wholesale distribution sector largely continued. Business confidence amongst Scottish wholesale respondents eased further with fewer than half of firms reporting a decline in business confidence. Business confidence was once again considerably lower compared to one year ago. A net balance of almost 40% of firms in the previous survey had expected a decline in sales however the outturn was -12%;

and a net balance expect a further decline in the second quarter of 2012.

More than 90% of wholesalers continued to report increased pressures from transport costs. Cost pressures generally eased during the three months to the end of March. More than three-quarters of firms expect to increase prices over the next three months, and cash flow trends remain weak. Once again concerns over turnover and profitability remained. Once again most firms reported no change to investment plans; nevertheless there appears to have been a marginal decline.

Wholesale respondents on balance recruited staff during the first three months of 2012 although a net balance expected to shed staff in Q2. Fewer than a third sought to recruit staff; largely for replacement. The average pay increase in Q4 was 3.4% compared to 3% in Q4.

Outlook

The signs of a weak recovery in the UK and Eurozone economies in the first quarter tended to fade in April and May, with the exception of the engineering and oil & gas sectors. Continuing consumer insecurity and reduced domestic spending, combined with the impact of government spending cuts again dampened business confidence and activity. The pickup in activity in construction in Q1 2012, reported by some surveys appeared to be based more on repair and maintenance rather than new build. Once again corrosive effects of uncertainty both in Europe and at home coupled with weak consumer confidence will combine to make 2012 a difficult year for Scotland, as evidenced by rising numbers of company failures, takeovers and mergers.

At the end of 2011 the trends in demand and activity in construction were largely unchanged from a year ago, with widespread declining trends and pressures on margins being widely reported, once again the exceptional weather conditions are likely to impact on trends, especially in the first quarter given the need for repair and renewal following the winter storms. In tourism the outturn was weaker than anticipated and little changed from a year ago.

Marked differences in the weather, public and other holidays affected patterns in both the retail and tourism sectors and compound the difficulties in assessing the impact of the slowdown in economic activity on consumer spending. The impact of the Olympics on overall tourism numbers in the UK again remains unclear, as is the impact on the Scottish tourism sector. However, as we noted in the previous Commentary there is much to suggest that weak consumer confidence and spending will continue at adversely affect these sectors through 2012.

Once again labour market activity remained subdued in most sectors, except engineering and the oil and gas sector. The SCBS (q1) noted that the trends in all sectors,

except tourism, were better than anticipated three months ago, rising trends in employment were reported in manufacturing and in construction and retail the declining trends eased in the first quarter. Once again recruitment difficulties remained subdued in all sectors.

Pay increases in the first quarter, reported by Scottish Chamber respondents ranged from 2.5% in construction and retail to 3.8% in tourism. Over the past year pay increases have averaged 2.6% in construction, 2.95% in manufacturing and 3.3% in retail and tourism – well below the rate of inflation and implying real declines in household income.

Cliff Lockyer/Eleanor Malloy
June 2012

Current trends in Scottish Business are regularly reported by a number of business surveys. This report draws on:

1. Aberdeen & Grampian Chamber of Commerce Survey no 16 May 2012;
2. The Confederation of British Industries Scottish Industrial Trends Survey for the first quarter 2012;
3. Scottish Bulletin Index of Manufactured exports 4th quarter 2011;
4. Lloyds TSB Business Monitor Issue no. 57 for the quarter December 2011 – February 2012 and expectations to August 2012;
5. Markit/CIPS UK Construction PMI for February, March, April and May 2012;
6. Scottish Engineering's Quarterly Review Q1 and Q2 2012;
7. The Bank of Scotland Markit Economics Regional Monthly Purchasing Managers' Indices for February, March, April and May 2012;
8. Lloyds TSB England Regional PMI for May 2012;
9. The Scottish Retail Consortium's KPMG Monthly Scottish Retail Sales Monitors February, March, April and May 2012;
10. The Scottish Chambers of Commerce Quarterly Business Survey report for the first quarter of 2012;
11. Oil & Gas UK quarterly Index Q4 2011 and Q1 2012;
12. ONS Retail sales Q 1 2012;
13. Visit Scotland Occupancy Survey for December 2011, January, February and March 2012;
14. The Scottish Construction Monitor Q1 2012;
15. 2012-2016 Construction Skills Network Scotland

Overview of the labour market

Note: The publication of this issue of the Commentary coincides with the publication of the latest data on employment; as such it has not been possible to update all the tables in this section. Figure 1 and Table 1 have been updated, the headings for other tables and figures indicate whether the May or June first release figures have been used.

Inevitably interest in the Scottish labour market continues to focus on the levels and trends in employment and unemployment and again we return to these themes. In addition the UK Government has announced proposals to regionalise public sector pay and a number of public sector trade unions continue to take action of proposed changes to pensions and work arrangements (both discussed in the Public Sector employment section of this Commentary). Attention again focussed on senior executive remuneration with a number of well publicised shareholder reactions to remuneration proposals, as yet not Government proposals have been forthcoming. However, the employment law proposals contained in the Beecroft Report attracted the most critical comment, both within the cabinet with Vince Cable particularly critical of proposals for 'no fault' dismissals, and with criticism from employment lawyers and trade unions and more generally in the wider community. The Beecroft report had been commissioned by the Department for Business, Innovation and Skills (BIS) as part of a wider programme to simplify bureaucracy and to identify areas of employment law that could be improved or simplified as part of a series of measures to stimulate employment, especially in the private sector. A number of these recommendations have already emerged as proposed reforms (see the February issue of the Commentary).

Modernising and simplifying employment law or a Dickensian Charter?

The Beecroft Report contained recommendations on sixteen areas, the Government has indicated it will either not consider at this stage or take no action in four areas. Most comment has focussed on the proposals for amending unfair dismissals – allowing employers “to dismiss anyone without giving a reason provided they make an enhanced leaving payment” with the payment based on redundancy payment principles up to a maximum of £12,000. A compensated no fault dismissal. In addition to compensated no-fault dismissals, Beecroft proposed the extension of the unfair dismissal qualifying period, which rose from one to two years in April.

A second area of proposals related to simplifying and reducing the regulations in the current Transfer of

Undertakings (Protection of Employment) Regulations (TUPE), the regulations applying when public sector employees are transferred to the private sector.

Further proposals included the reduction of the consultation period for collective redundancies be reduced from 90 to 30 days and to lower levels in certain circumstances; the repeal of the third party harassment sections of the current Equality legislation; reforms to industrial tribunals (including simplifying the procedure and charging fees to those who apply to an employment tribunal).

In the comment following the publication of the Report there appeared to be less than convincing evidence as to the demand from businesses for such reforms, that a number of such reforms would breach current EU regulations, concerns were voiced as to whether the new proposals were workable, or would lead to claims being progressed through other legal routes.

Recent trends and statistics

The latest Comparable figures on the labour market between Scotland and the United Kingdom in the quarter February to April 2012 are summarised in Table 1. Labour Force Survey (LFS) data show that in the quarter to April the level of employment in Scotland rose by 18 thousand, to 2,481 thousand. Over the year employment in Scotland rose by 4 thousand. for the same period, UK employment rose by 42 thousand. The Scottish employment rate (16 – 64) – those in employment as a percentage of the working age population – was 71.1 per cent, up 0.2 per cent compared to one year earlier. For the same period the UK employment rate was 70.6 per cent, unchanged compared to one year earlier. Scottish unemployment, in the quarter to April, fell by 13 thousand to 220 thousand, a rise of 13 thousand over the year.

In considering employment, activity and unemployment rates it is important to remember the bases and relationships of these figures. LFS data (estimated) is provided for: (1) all aged 16 and over and (2) for all aged 59/64. The first measure (all aged 16 and over) leads to higher numbers in employment, in the total economically active and economically inactive – but reduces the economic activity rates and unemployment rates, but at the same time increases the economically inactive rate. Conversely the second measure (all aged 16 to 59/64) leads to lower numbers economically active, in employment and economically inactive – but leads to a higher economically active, employment and unemployment rates but lower economically inactive rates. Figures derived from the Labour Force Survey differ slightly from those derived from the Annual Population Survey.

The relationships between employment, unemployment, totally economically active and inactive are important in appreciating changing levels of employment and unemployment, and changes in the employment rates should be seen in conjunction with changes in the activity rates. If people leave employment and become

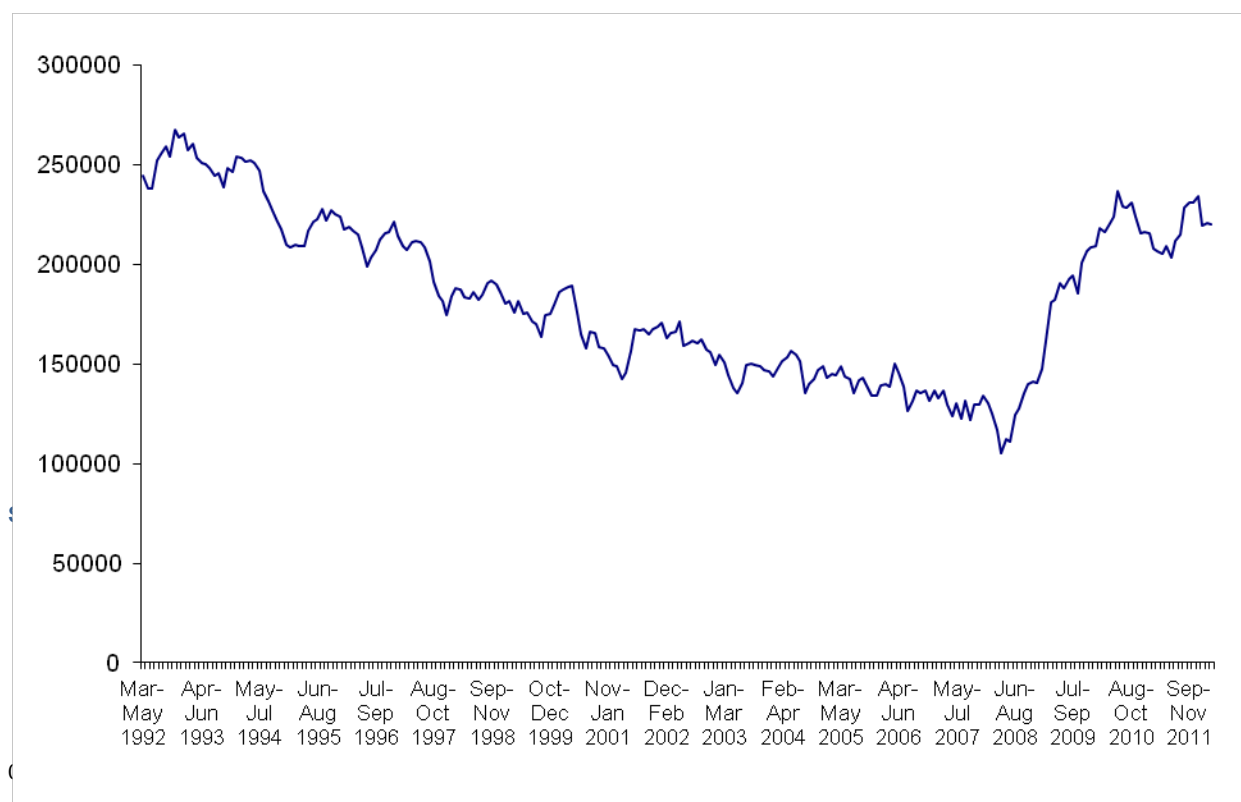
unemployed (but are still economically active) the unemployment rate increases, but the economically active rate remains unchanged. However, if people leave employment and do not seek employment, as seems to be a continuing pattern, they are categorised as economically inactive, as such the unemployment rate remains unchanged whilst the activity and inactivity rates change. Equally the changing pattern between full and part time employment is of interest and we return to this issue later in this section. This is clearly shown in table 1. Over the year to April 2012, the numbers employed rose by 7 thousand, whilst unemployment rose by 14 thousand – and the numbers of those aged 16-59/64 who are economically inactive fell by 23 thousand and the numbers economically active rose by 18 thousand.

Table 1 shows that for Scotland the preferred International Labour Organisation (ILO) measure of unemployment rose

to 220 thousand, between February to April 2012, a rise of 14 thousand over the year. The ILO unemployment rate rose in the three months to April 2012 and now stands at 8.3 per cent. This represents no change over the last quarter and no change over the year. The comparable ILO unemployment rate for the UK stands at 8.4 per cent, and is down 0.2 per cent over the most recent quarter.

Figure 1 illustrates the trend in unemployment in Scotland since 1992. Unemployment peaked in October – December 1992 at 268,000, it took almost five years - to August - October 1997 - to be consistently below 200,000 and a further five and a half years - to February – April 2003 - to be below 150,000 and reached the lowest number (111,000) in May – June 2008. If the same pattern is repeated, and unemployment does not rise in future months, then it may take approximately three years for unemployment to fall below 200,000.

Figure 1: Trend in Scottish unemployment 1992 – April 2012 (thousands)



The economically active workforce includes those individuals actively seeking employment and those currently in employment (i.e. self-employed, government employed, unpaid family workers and those on training programmes). Between February – April 2012 the numbers economically active (16+) rose by 4 thousand and the activity rate was unchanged at 63.1%. There were 2,701 thousand economically active people in Scotland during February – April 2012. This comprised 2,481 thousand in employment (2,417 thousand aged 16 – 64) and 220

thousand ILO unemployed. The level for those of working age but economically inactive rose by 2 thousand in the latest quarter, and fell by 23 thousand over the year to 762 thousand people; this indicates a fall of 2.9 per cent in the number of people of working age economically inactive over the last year.

Table 1: Headline indicators of Scottish and UK labour market, Feb – April 2012 (thousands)

Feb – April 2012		Scotland	Change on quarter	Change on year	United Kingdom	Change on quarter	Change on year
Employment*	Level (000s)	2,481	16	7	29,281	166	42
	Rate (%)	71.1	0.3	0	70.6	0.3	0
Unemployment**	Level (000s)	220	-14	14	2,587	-55	175
	Rate (%)	8.3	-0.5	0.5	8.4	-0.2	0.5
Inactivity***	Level (000s)	762	2	-23	9,229	-69	-139
	Rate (%)	22.4	0	0	23.0	-0.2	-0.4

Source: Labour Market Statistics (First Release), Scotland and UK, June 2012

* Levels are for those aged 16+, while rates are for those of working age (16-59/64)

** Levels and rates are for those aged 16+, rates are proportion of economically active.

*** Levels and rates for those of working age (16-59/64)

Data on employment by age, derived from the Annual Population Survey, is available up to September 2011. In the year to September 2011 employment rates fell for all age groups except those aged 25 – 34 and those aged over 65, with the employment rate for those aged 16 – 64 falling by 0.4 percentage points and with the largest

percentage point falls being recorded for those aged 18 - 24 (down 1.6%). Employment rates for women again fell more than those for men. Table 2 illustrates the changing employment rates by age group for the four years October - September 2008 – 2011 and illustrates consistent declines across all age groups, except 65+.

Table 2: Employment rates thousands (%) People by age for the four years October 2007 – Sept 2008 to October 2010 – Sept 2011 (based on May 2012 first release)

	All 16+	16 - 64	16 - 17	18 - 24	25 - 34	35 - 49	50 - 64	65+
Oct 2007 - Sep 2008	60.9	74.2	40.1	67.9	81.6	83.7	66.0	6.0
Oct 2008 - Sep 2009	59.4	72.3	37.1	64.4	80.1	82.1	64.6	6.7
Oct 2009 - Sep 2010	58.2	71.0	31.1	62.7	78.0	81.1	64.2	6.5
Oct 2010 - Sep 2011	57.8	70.7	31.0	61.0	79.3	80.7	63.6	6.6

Source: Labour Market Statistics (First Release), Scotland and UK, May 2012

In the year to September 2011 (based on the May First Release) inactivity amongst 16 – 64 rose by 3 thousand, a 0.3% increase over the year and the inactivity rate (16 – 64) stood at 23.1%. Inactivity for men aged 16 – 64 rose by 3 thousand over the last quarter and remained level over the year. Inactivity for women rose by 2 thousand over the year.

In the year to September 2011 inactivity (16 – 64) rose by 3 thousand to 787 thousand. The main increases reported for the reasons for inactivity over the year were: looking after family/home up 3 thousand, retired up 3 thousand and long term sick up 8 thousand. The numbers temporarily sick fell by 1 thousand. The majority, 593 thousand did not want a

job – but 194 thousand were inactive but wanted employment.

The most recent (seasonally adjusted) figure for Jobseekers allowance claimants (16+) in Scotland stood at 141.8 thousand in May 2012, up 1.7 thousand or 1.2% over the year (these figures are taken from table 8 in the Labour Market Statistics [First Release] June 2012. The claimant count rate at June 2012 stood at 5.2 per cent, or 6.9% for men and 3.3% for women (note these figures are taken from table 7 in the Labour Market Statistics [First Release] June 2012 figures and measures the number of claimants on the second Thursday of each month). The latest unemployment data at the Scottish constituency level is available in a SPICe Briefing.

Table 3: Employment, unemployment and inactivity rates by Local Authority Area 2007, 2008 and October 2010 – September 2011 (%) (based on May data)

Geography (Residence Based)	Employment rates			Unemployment rates 16+*			Economic inactivity rates		
	2007	2008	Oct 2010/ Sep 2011	2007	2008	Oct 2010/ Sep 2011	2007	2008	Oct 2010/ Sep 2011
Scotland	76.0	75.6	70.7	4.7	4.9	7.9	20.1	20.3	23.1
Local Authority Area									
Aberdeen City	79.1	79.4	75.8	3.7	3.6	5.4	17.3	17.6	18.9
Aberdeenshire	82.6	82.2	79.6	2.5	2.6	3.9	15.6	15.5	16.9
Angus	79.1	80.0	72.2	4.5	4.6	6.8	16.2	15.6	21.6
Argyll & Bute	80.0	77.6	73.1	4.0	4.3	6.3	16.3	18.4	21.9
Clackmannanshire	69.4	70.9	68.2	5.5	5.4	9.7	25.3	25.4	25.1
Dumfries and Galloway	77.4	76.2	69.7	4.2	4.5	7.2	19.1	19.5	23.6
Dundee City	72.1	71.5	69.4	6.6	6.3	9.2	22.4	23.9	23.9
East Ayrshire	73.1	74.6	67.5	6.3	6.1	10.5	21.5	20.4	24.6
East Dunbartonshire	78.9	77.6	71.8	3.1	3.9	6.0	19.0	18.7	23.2
East Lothian	79.2	77.9	72.6	3.5	3.5	7.0	18.0	19.4	21.6
East Renfrewshire	77.2	76.5	74.7	3.4	3.6	5.2	19.1	20.5	21.4
Edinburgh, City of	77.4	76.6	72.7	4.3	4.5	6.4	19.5	19.8	22.5
Eilean Siar	79.4	78.7	65.2	4.2	4.6	7.0	17.7	16.3	31.0
Falkirk	78.1	78.9	71.5	4.6	4.4	8.5	18.5	18.3	22.2
Fife	75.9	76.5	70.6	5.6	5.8	9.1	18.8	17.7	21.9
Glasgow City	66.9	66.6	63.0	6.8	6.9	11.2	28.2	28.8	28.4
Highland	82.0	81.7	77.7	3.2	3.5	5.1	16.0	16.3	18.9
Inverclyde	68.4	72.5	68.2	7.1	6.4	10.0	24.8	23.0	23.1
Midlothian	80.7	79.9	73.6	4.2	4.2	7.8	15.1	16.2	20.0
Moray	80.4	81.8	78.4	3.5	3.8	5.1	17.2	15.0	18.4
North Ayrshire	71.5	71.8	61.9	6.4	7.4	12.2	23.5	22.0	28.8
North Lanarkshire	73.2	71.0	68.4	5.4	5.9	10.4	22.6	23.8	23.6
Orkney Islands	86.4	83.9	78.5	2.7	2.9	4.0	11.2	14.2	17.6
Perth and Kinross	78.1	78.7	74.1	3.5	3.7	5.3	18.8	17.9	21.4
Renfrewshire	75.0	76.0	66.4	5.1	5.5	9.6	20.9	18.9	26.7
Scottish Borders	81.4	80.6	73.0	3.1	3.6	5.9	16.2	15.8	22.4
Shetland Islands	88.1	88.0	82.3	2.6	2.8	3.4	10.4	10.8	17.1
South Ayrshire	77.2	75.4	67.1	5.0	5.4	9.3	18.9	20.5	25.1
South Lanarkshire	78.9	76.7	70.5	4.2	4.4	8.0	18.5	20.6	24.8
Stirling	76.8	75.2	70.0	3.9	4.5	6.9	19.2	20.2	25.0
West Dunbartonshire	73.9	71.2	67.6	6.3	6.9	11.1	20.8	23.3	23.5
West Lothian	77.8	79.1	73.0	4.8	4.6	7.8	17.7	17.4	21.3

Source: 2007 and 2008 data from Annual Population Survey (Jan to Dec)

July 2010 – June 2011 data from Labour Market Statistics (First Release), Scotland and UK, May 2012 (Source Annual Population survey, Job Centre Plus administrative system and Annual Business Inquiry)

Notes: See sources for definitions and original sources

Table 3 indicates the continuing significant differences in employment, unemployment and inactivity rates at the local authority level. However, between 2008 and 2009 the gap between the areas with the highest and lowest employment rates widened by 5.8 percentage points. In the year October 2010 – September 2011 employment rates varied from over 80% in Shetland to between 65 - 70% in ten local

authority areas and below 65% in two local authority areas. Likewise unemployment rates were again lowest in Aberdeenshire, Orkney and Shetland and highest, in North Ayrshire, Glasgow and West Dunbartonshire, and inactivity rates were highest in Eilean Star, Glasgow City and North Ayrshire.

Table 4: Total workforce jobs* by industry, Scotland, June 2005–2011 and Dec 2011 (thousands) (May data)

Industry	June 2005	June 2006	June 2007	June 2008	June 2009	June 2010	June 2011	Dec 2011
A : Agriculture, forestry and fishing	51	54	60	60	59	66	50	50
B : Mining and quarrying	25	28	30	30	29	31	30	31
C : Manufacturing	233	226	228	212	201	187	189	190
D : Electricity, gas, steam and air conditioning supply	10	10	13	16	19	21	18	19
E : Water supply; sewerage, waste management etc	16	18	17	16	14	113	19	17
F : Construction	181	194	203	199	185	173	179	172
G : Wholesale & retail trade; repair of motor vehicles etc	382	384	380	396	398	380	388	370
H : Transportation and storage	125	118	123	123	111	112	112	130
I : Accommodation and food service activities	189	190	188	191	186	179	180	187
J : Information and communication	72	73	79	69	68	69	67	73
K : Financial and insurance activities	114	107	91	98	100	91	96	90
L : Real estate activities	25	29	30	32	32	27	29	27
M : Professional, scientific and technical activities	145	154	161	176	174	171	183	190
N : Administrative and support service activities	174	180	192	200	185	197	191	197
O : Public administration & defence; social security	180	177	181	177	146	162	154	149
P : Education	199	200	192	208	208	197	200	197
Q : Human health and social work activities	384	399	383	398	401	381	372	358
R : Arts, entertainment and recreation	75	81	75	84	71	78	76	71
S : Other service activities	63	65	63	58	59	68	74	79
Column Total	2,644	2,685	2,690	2,740	2,651	2,571	2600	2589

Source: Labour Market Statistics (First Release), Scotland, May 2012

* Workforce jobs are a measure of jobs rather than people

Note: There are revisions from previous figures and as of September 2011 ONS are highlighting figures with a coefficient of variation greater than 25%

The most recent figures for the number of workforce jobs by industrial activity are detailed in Table 4. Total workforce job figures are a measure of jobs rather than people. Total seasonally adjusted jobs for the quarter ending December 2011 (the latest available figures) stood at 2,611 thousand (2,262 thousand employee jobs, 311 thousand self employed jobs, HM forces and supported trainees 16 thousand) although it is necessary to note significant recent revisions to the figures noted in the November 2011 Commentary. Table 4 provides some indication of both the impact of the recession and the recovery on sectors, although the trends need to be considered with some caution.

Table 5 outlines the changing patterns of full time and part time employment, and highlights the growth in the numbers of part time workers in Scotland, the available latest data (Oct 2010 – Sept 2011), indicates that since the peak in employment (October 2007 – September 2008) total employment (employees, self employed, unpaid family workers and those on government supported training and employment programmes) has fallen by 3 thousand. Table 6 indicates the numbers of full time workers in Scotland since the peak in employment have declined by 122 thousand whilst part time employment numbers recovered very

quickly and are now 40 thousand higher. The changing trends in full and part time employment since October 2007 – September 2008 are shown in figure 2. The number of self employed is now 3 thousand above that reported in October 2007 – September 2008, suggesting some substitution of self employment for employment. The number of those working part time because they could not find a full time job is 51 thousand higher than the peak in employment, suggesting that increasing numbers of workers were taking part time employment in the absence of full time work (the same argument applies to temporary work).

Figure 2 (May data) illustrates that full time employment is still 3.66 percentage points below the level before the recession, whilst part time employment is 6.44 percentage points higher than that recorded before the recession. It clearly shows how the employment 'recovery' has been driven more by an increase in part time employment.

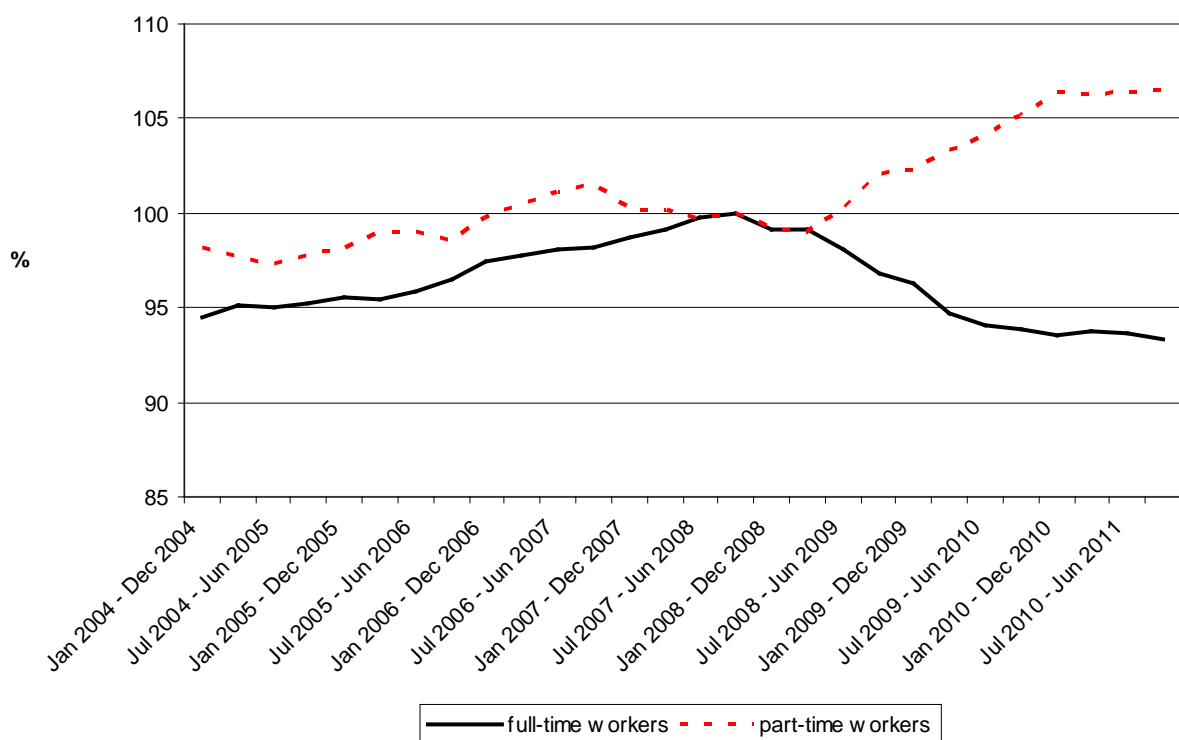
Tables 6 and 7 of the Labour Market statistics (first release) provide information of the claimant count. The figure for May indicates a total of 142.6 thousand claimants, up 0.4 thousand for the year. Of interest are the differing trends in

Table 5: Trends in total, full, part time, temporary and part time who could not find a full time job

	All in employment							Could not find full-time job
	Total	Employees	Self employed	Full-time workers	Part-time workers	Workers with second jobs	Temporary employees	
Jan 2007 - Dec 2007	2,525	2,244	263	1,892	631	93	128	60
Apr 2007 - Mar 2008	2,533	2,248	267	1,900	630	96	126	60
Jul 2007 - Jun 2008	2,544	2,254	271	1,912	629	98	125	61
Oct 2007 - Sep 2008	2,550	2,262	269	1,916	631	98	119	61
Jan 2008 - Dec 2008	2,529	2,243	268	1,900	626	99	116	64
Apr 2008 - Mar 2009	2,527	2,245	267	1,899	624	101	117	65
Jul 2008 - Jun 2009	2,515	2,235	264	1,880	632	103	123	73
Oct 2008 - Sep 2009	2,503	2,220	265	1,856	644	102	127	81
Jan 2009 - Dec 2009	2,492	2,211	265	1,844	645	102	133	84
Apr 2009 - Mar 2010	2,470	2,185	267	1,815	652	101	132	90
Jul 2009 - Jun 2010	2,462	2,179	265	1,802	656	99	126	96
Oct 2009 - Sep 2010	2,466	2,183	264	1,798	663	98	127	99
Jan 2010 - Dec 2010	2,469	2,181	268	1,793	671	97	124	106
Apr 2010 - Mar 2011	2,471	2,182	270	1,796	670	97	125	110
Jul 2010 - Jun 2011	2,469	2,179	274	1,794	671	95	131	113
Oct 2010 - Sep 2011	2,463	2,165	283	1,788	672	96	126	114

Source: Labour Market Statistics (First Release), Scotland, May 2012

Note: 1. Includes people who did not state whether they worked part time or full time
2. The split between full time and part time employment is based on respondents' self classification

Figure 2: Trends in full time and part time employment since Jan 2004 – December 2008 (October 2007 – September 2008 = 100)

Trends in public sector employment are now considered in more detail a separate section in the Commentary. As the section indicates public sector employment in Scotland continues to decline. The latest data at the time of writing this section (Q4 2011) indicates that there were 586,600 (553,000 excluding public sector financial institutions) employed in the public sector in Scotland, a decrease of 23,800 (3.9%) over the year. Employment in the devolved public sector declined by 19,100 (3.7%) to 490,400, due mainly to a decline in local government employment (down 12,000 over the year).

Outlook

As we have noted in previous Commentaries any recovery in employment is likely to be slow and limited. The ILO has recently suggested that internationally youth unemployment will remain high to 2016 and has called for 'job rich policies'. There is continuing evidence of

rationalisation, mergers, transfers and reductions in jobs in the private sector.

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Public sector employment in Scotland

Industrial action over proposals to change pension and related conditions continued in the public sector and widened with industrial action planned by the BMA. In 2008 doctors had agreed to changes which meant they would work longer, increase their contributions to their pensions and accept the risk of increased contributions in the future – they believe this agreement has been ignored in recent changes.

Public sector employment in Scotland continues to decline. The latest data at the time of writing this section (Q4 2011) indicates that there were 586,600 (553,000 excluding public sector financial institutions) employed in the public sector in Scotland, a decrease of 23,800 (3.9%) over the year. Employment in the devolved public sector declined by 19,100 (3.7%) to 490,400, due mainly to a decline in local government employment (down 12,000 over the year).

As Table 1 indicates public sector employment (excluding public sector financial institutions) rose between 1999 and 2007, but since 2007 has declined by 77,000. Although the movement of local authority staff both in and out of arms' length organizations, typically charities, makes comparisons slightly harder.

Table 2 indicates the changes in headcount by local authority and indicates both a decline in Local Authority employment of 12,000 (4.1%) over the year. Proposals for West of Scotland councils to share a range of back office functions have been weakened by two councils opting out of the scheme, elsewhere there are examples of two councils sharing education and social work departments. As noted in the previous Commentary, attempts to rely on voluntary measures and natural wastage may prove to be less successful than expected, as normally turnover rates ease during a recession, there will be more pressure on other methods to reduce employment levels. Pressures on spending levels will lead to employment reductions. Evidence as to changes in organization and employment policies in Local Government in England suggests a number of approaches to reducing labour costs that may well be adopted in Scotland (Work in Progress, The Audit Commission. December 2011). These included:

- The potential for localising pay rates to reflect local market conditions;
- Increased emphasis on part time working – especially for those approaching retirement;

- Less spending on external expert services;
- Reduced use of agency staffs;
- De-layering with an emphasis on cutting management and senior posts (but recognising the potential loss of organizational memory on efficiency);
- Outsourcing services at reduced costs to voluntary and other associations as well as to commercial organizations;
- The ending of automatic annual pay increments.

Leaving to one side the Government's introduction, and subsequent removal, of tax limits to charitable donations, which led to considerable concerns being voiced by charities as to their income streams and ability to provide support. The voluntary sector is facing major changes in two areas. First, there are changes to contracts, and as the NPC notes there has been the rise of payments by results contracts, personal budgets and a move away from tariff and block based contracts. The pattern of work is changing with charities working in consortia and partnerships (NPC 2012:6). Additionally there is more competition between companies, charities and public sector organisations. The NPC survey of the main charities in England and Wales found that a majority believed the new funding arrangements will have a negative effect on their financial security. Almost half reported working in consortia to deliver public services, but this pattern of work requires more time and resources to manage the arrangement effectively. A third reported cuts to government income with charities working in crisis and emergency work and sports and recreation more affected. Cuts in local authority funding were seen to be particularly severe. 65% reported having closed or expect to close front line services as a result of cuts and redundancies, and pay freezes were reported by more than 50% of respondents. A third expect more cuts in 2013.

Education

Within the education sector the numbers employed in Scottish Further education colleges had declined by 1,800 (10.8%) over the year to Q4 2011 to 15,000) and further reductions are inevitable. As noted in the previous Commentary the publication of the Scottish Government's Reform of Post 16 Education and subsequent consultation paper outlined the Government's proposals for a very rapid restructuring of 35 colleges into 12 regions with a programme of mergers, collaboration, sharing services and courses. Four different structures for the regional model were outlined in the consultation paper: full mergers, regional federations of colleges, lead colleges with contractual arrangements with other colleges and collaboration where each college is funded directly but with collaboration required. By April it was estimated that up to a

Table 1: Number of people employed in Scotland (headcount)

		Public Sector						
		Total Employment	Private Sector			Public Sector		Excluding public sector financial institutions
		Level	Level	%	Level	%	Level	%
Q4	1999	2,276,000	1,725,500	75.8%	550,700	24.2%	550,700	24.2%
Q4	2000	2,354,000	1,803,300	76.6%	550,700	23.4%	550,700	23.4%
Q4	2001	2,324,000	1,764,900	75.9%	559,100	24.1%	559,100	24.1%
Q4	2002	2,374,000	1,807,000	76.1%	566,700	23.9%	566,700	23.9%
Q4	2003	2,393,000	1,813,000	75.7%	580,400	24.3%	580,400	24.3%
Q4	2004	2,436,000	1,842,000	75.6%	593,800	24.4%	593,800	24.4%
Q4	2005	2,450,000	1,848,900	75.5%	601,400	24.5%	601,400	24.5%
Q4	2006	2,524,000	1,925,200	76.3%	598,900	23.7%	598,900	23.7%
Q4	2007	2,541,000	1,942,700	76.5%	598,000	23.5%	598,000	23.5%
Q4	2008	2,532,000	1,890,800	74.7%	641,600	25.3%	598,000	23.6%
Q4	2009	2,464,000	1,835,200	74.5%	628,800	25.5%	592,000	24.0%
Q4	2010	2,480,000	1,869,700	75.4%	610,400	24.6%	575,600	23.2%
Q4	2011	2,464,000	1,877,500	76.2%	586,600	23.8%	553,800	22.5%

Source: Quarterly Public Sector Employment series, Scottish Government, Office for National Statistics

Notes:

1. Figures have been rounded to the nearest hundred. Total employment has been rounded to the nearest thousand.
2. Public sector financial institutions include Northern Rock (classified to the public sector from Q4 2007), Royal Bank of Scotland Group plc and Lloyds Banking Group plc (both classified to the public sector from Q4 2008).
3. Between Q3 2010 and Q2 2011 estimates for the civil service include temporary field staff recruited to carry out the 2011 census.

third of Scottish colleges could experience cuts. The current proposals include the seven colleges in Glasgow being reduced to three.

Reform continued in the Higher education sector with a number of universities seeking to restructure some activities and continuing with voluntary severance schemes.

Health

The numbers (headcount) employed in the NHS fell by 3,600 to 154,400 in 2011, a decline of 2.3%. Concerns surfaced as to a number of measures designed to reduce costs, most notably reductions in bed numbers, delays in replacing staffs and consultants' support staffs.

Emergency services

As noted in the previous Commentary the background to the Police and Fire Reform (Scotland) Bill and the current concerns are well summarised in A SPICe Briefing published 20th February 2012. Financial issues of the proposed reforms have been discussed in the Police Reform Programme, Outline Business Case September 2011 and more recently the issues have been summarised in a SPICe Briefing (20th February 2012).

Once again developments in England give some indications as to possible policies and issues in Scotland. In March the London fire brigade was reported as outsourcing emergency call handling to Capita with an estimated saving £5 million over 10 years and with 120 staff transferring to Capita. In May private sector operators boycotted proposals to replace NHS Direct with the new national 111 24 hour help line as the first line for all non-emergency care and advice with concerns that the current proposals lacked clarity and would be difficult to work. The BMA voted against the proposals (concerned that the reliance on call handlers who would have had only 90 days training rather than using medically trained staffs would add additional pressure to A & E and GP services).

The plans by West Midlands and Surrey police forces to contract out up to £1.5 billion worth of services include under consideration for private support (contract): strategy (developing strategy, policy and plans and managing partnerships); managing performance (maintain professional standards, assuring compliances, managing risk and providing legal services); bringing offenders to justice (investigating crimes, detaining suspects and working on cases); supporting prosecution (managing incident scenes, investigating incidents and supporting victims and witnesses); managing public engagement (patrolling

Local government

Table 2: Local government employment by local authority (headcount) Q4 2006 – Q4 2011 (not seasonally adjusted)

Year Quarter	2006 Q4	2007 Q4	2008 Q4	2009 Q4	2010 Q4	2011 Q4	Annual Change Headcount	Annual Change %
Local Authority / Joint Board								
Aberdeen City	11,600	11,600	11,400	9,800	8,800	8,800	-100	-0.6%
Aberdeenshire	13,900	13,300	14,200	14,800	14,400	14,000	-500	-3.2%
Angus	5,700	5,700	5,800	5,700	5,500	5,500	-100	-1.1%
Argyll & Bute	5,600	5,700	5,500	5,500	5,300	4,900	-400	-7.6%
Clackmannanshire	2,800	2,900	2,900	2,800	2,700	2,500	-200	-6.9%
Dumfries & Galloway	8,400	8,400	8,200	8,400	8,300	7,800	-500	-6.1%
Dundee City	8,400	8,400	8,000	8,200	7,900	7,200	-700	-9.4%
East Ayrshire	6,900	6,800	6,800	6,700	6,600	6,400	-200	-3.0%
East Dunbartonshire	4,600	4,900	5,100	5,000	4,800	4,500	-400	-7.7%
East Lothian	4,900	5,000	5,000	4,900	4,700	4,800	0	0.5%
East Renfrewshire	4,600	4,800	4,800	4,800	4,500	4,500	-100	-1.5%
Edinburgh, City of	20,600	20,800	19,400	19,200	18,500	17,700	-800	-4.3%
Eilean Siar	2,500	2,600	2,600	2,600	2,500	2,500	-100	-2.5%
Falkirk	7,700	7,900	8,100	8,100	7,900	7,400	-500	-6.4%
Fife	24,000	23,400	22,500	23,200	22,300	21,300	-900	-4.2%
Glasgow City	35,800	32,300	31,800	23,500	22,100	21,400	-700	-3.3%
Highland	12,800	12,800	12,700	12,800	12,600	11,900	-700	-5.7%
Inverclyde	5,100	5,000	4,900	4,700	4,600	4,300	-300	-6.9%
Midlothian	4,700	4,800	4,800	4,800	4,600	4,500	-100	-1.4%
Moray	4,800	5,100	5,200	5,200	5,000	4,900	-100	-1.7%
North Ayrshire	7,400	7,500	7,400	7,300	7,000	6,700	-300	-4.4%
North Lanarkshire	18,100	18,000	18,000	17,800	16,800	16,200	-600	-3.7%
Orkney Islands	2,200	2,100	2,500	2,400	2,400	2,400	-100	-2.7%
Perth & Kinross	5,900	6,100	6,100	6,300	6,000	6,000	-100	-0.9%
Renfrewshire	9,200	9,000	8,800	8,700	8,400	7,500	-900	-10.6%
Scottish Borders	5,700	5,800	5,700	5,700	5,700	5,600	-200	-2.9%
Shetland Islands	3,700	3,800	3,900	4,200	4,200	4,000	-200	-5.2%
South Ayrshire	6,000	5,700	5,600	5,500	5,800	5,200	-500	-9.4%
South Lanarkshire	16,300	16,000	15,600	15,700	14,800	14,600	-200	-1.3%
Stirling	4,600	4,600	4,500	4,500	4,400	4,200	-200	-5.0%
West Dunbartonshire	6,000	6,300	6,400	6,600	6,300	5,900	-300	-5.2%
West Lothian	8,300	8,400	8,400	8,400	8,300	7,900	-400	-4.8%
Total Fire Joint Boards	5,800	5,800	5,800	5,900	5,600	5,600	0	-0.7%
Total Police Joint Boards	24,600	23,600	23,900	24,800	24,500	23,900	-600	-2.6%
Total Valuation Joint Boards	700	700	700	600	600	600	0	-4.3%
Total Regional Transport Partnerships (SPT)	700	700	700	700	600	600	0	-7.0%
SCOTLAND	320,700	316,000	313,600	305,800	295,500	283,500	-12,000	-4.1%

Source: Joint Staffing Watch Survey, Scottish Government

- Notes:**
1. Figures are rounded to the nearest hundred.
 2. Totals may not add up to the sum of the parts due to rounding
 3. Figures for fire service staff exclude volunteer and retained fire-fighters
 4. There are minor adjustments to police numbers for Dumfries and Galloway and Fife
 5. Figures for Dundee City and Falkirk reflect some transfer of staff to charitable trusts

neighbourhoods, managing public relations, and reporting on performance); protect the public (protecting vulnerable people, disrupting criminal networks and managing licensing and road safety); supporting operational services (managing forensics, gathering police information and managing intelligence) and managing resources (helping to manage suppliers, finance, people, information technology and facilities). Elsewhere G4S has signed a £200 million contract to staff and build a police station in Lincolnshire and G4S envisages that in five years 2 or 3 companies will be providing back office functions. South Yorkshire police is considering giving police community officers more powers so they can replace local beat officers as the first line of contact with the public.

Within Scotland, whilst it was noted that the single force in Northern Ireland was a success, a number of operational concerns were raised. In February concerns surfaced that the pressures to make £88 million in cuts could adversely affect plans to merge the current 8 forces into the single Police Authority from 1st April 2013, equally concerns were voiced as to the likelihood of getting an estimated 2000 volunteers to accept redundancy, given the current policy of no compulsory redundancies. Other concerns focussed on the likely further centralisation of emergency call handling and the priority call handling systems which could cause confusion re problems of interpretation. In May the Association of Scottish Police Superintendents raised concerns as to the adequacy of resources and appropriate numbers of staff in place for the new scrutiny agency, the Police Investigation and Review Commissioner.

The consequences of cuts in public sector staff and the introduction of new polices surfaced in May when reduced Border force staff and increased visa checking contributed to excessive queuing times at Heathrow. The review by the Chief Inspector of Borders and Immigration commented critically on the absence of any plan to deal with staff cuts and hence long immigration queues.

Pay and conditions

The chancellor's Autumn Statement last November included reference to proposals to link public sector pay to local, rather than national markets. Public Sector Review Bodies have been given until mid-July to "consider how to make pay more market facing in local areas". Underpinning these proposals is the view in some quarters as significant and hence unfair differences between public and private-sector pay. The government has taken the view that across the UK, the public sector is paying between 2 and 15 percent above local market rates, as a result of salaries being set at a national level in negotiation with national trade unions.

The Institute for Fiscal Studied Green Budget 2012 includes a well-argued and detailed review of the issue (see chapter 5 Public Sector Pensions and Pay). Their measured conclusions noted:

'The analysis in this section has found evidence of a public sector pay premium, after controlling for observed characteristics. This estimated premium has increased during the recent financial crisis as private sector earnings grew less quickly.'

'We also find evidence of considerable variation in the estimated public sector pay premium across the regions of the UK. This suggests that, on average, more generous pay awards in, for example, the South East and less generous pay awards in, for example, Wales and Northern Ireland might be appropriate. But our analysis also suggests that the pattern across regions might not be the same for all public sector occupations. So while a shift to centrally-set, but regionally-varied, pay awards might be appropriate, these should be carefully implemented.'

In contrast, other organisations ignored the caveats and reservations as to the varying pattern of the 'public sector premium' typically arguing that ending national pay bargaining 'would mean better value for taxpayers, better services for those who rely on them, and a fairer deal for public sector workers overall' (the Taxpayers' Alliance). 'Such a generous premium in some areas is clearly a bad deal for taxpayers. It is also extremely harmful for the economies in the lower-cost, lower-income regions as local companies can't compete with the generous national public sector pay deals to get the right staff. Over time that means an anaemic private sector and an increasing dependence on public spending' (Taxpayers' Alliance).

Notwithstanding arguments within the coalition, Nick Clegg has argued the government was only looking at some localised bargaining in the public sector and cited the developments in the Courts Service as both an example and possible model. However, proposals, emanating from the Cabinet Office's Reward, Efficiency and Reform Group, assisted by the Hay group, have appeared in the media to put some 434,000 civil servants into four geographical pay zones, with those living in the south-west, on the south coast, Wales, much of the Midlands and the north-east earning least. Those in inner and outer London will be highest paid, followed by civil servants working in a corridor stretching from Bristol to the Thames estuary, and those in pay "hotspots" in Manchester and Birmingham. In 2011 Incomes Data Services produced a research report for UNISON examining current practice in location-based pay differentiation; this provides a timely review of current practice in pay management. It noted that most large multi-site private sector organisations have national pay structures with additions for London and the South East, and that whilst zonal pay has become more common in the private sector it typically is based around London, the south east and the rest of the country, with possible additions for 'hard to recruit areas'. Finally the report noted 'complex local system, by contrast, is rare due to the complications

and resources involved in implementing and managing such schemes.

As Hatchett (2012) notes it is wrong to assume that local-level managers in large private sector companies have the freedom to vary pay without reference to head office. The need to control pay costs and to meet any equal pay challenges dictates that companies have orderly and largely centrally controlled pay structures. He added, in many aspects of pay modernisation in the public sector in recent years local pay flexibility around national pay spines has been a key feature. Most large public sector bodies have inner London, outer London and South East allowances and in some cases they have London regional pay bands, or some other combination of national structures with some flexibility, thus doctors tend to have national structures, whilst ancillary staffs more localised structures.

In many respects national pay structures with orderly variation are the least bad option from all perspectives, they are simple and less time consuming to manage, minimize claims of unfairness, limit competitive bidding for scarce skills, can recognize labour market segmentation, that some occupations have national and even international labour markets, whilst others operate in local labour markets.

The Scottish Government deserves much credit for publically opposing these current UK proposals.

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Economic perspectives

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The growth dynamics of technology-based firms in Scotland

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1. Introduction

In recent years high growth firms (HGFs) undertaking rapid, transformative growth, have been identified as important contributors to economic growth (Acs et al, 2008; Anyadike-Danes et al, 2009; OECD, 2010). For a wide variety of reasons, notably their contribution to employment growth, high export intensity, strong contribution to productivity growth and innovation, HGFs have been hailed as vital drivers of economic competitiveness (Henrekson and Johansson, 2010). As a consequence, these firms (often referred to as 'gazelles'), have been accorded a central role in many economic development strategies at both national and regional levels, especially during a time of economic austerity where employment growth has been an overriding policy goal for many governments (BERR, 2008; NESTA, 2011; OECD, 2010; Scottish Enterprise, 2011). Yet despite the strong policy focus on the promotion of HGFs in recent times, much remains unknown about these organisations and how best to support them (Henrekson and Johansson, 2010; Anyadike-Danes et al, 2012; Mason and Brown, forthcoming).

Scottish Enterprise recently commissioned research on Scotland's population of HGFs (Mason and Brown, 2010). This was the first comprehensive analysis of these firms ever conducted in Scotland and some of the findings were published in this journal (Brown and Mason, 2010). One of the most significant conclusions from this study was that they are extremely heterogeneous in terms of their age, size, ownership and industry sector. Few fit the stereotypical 'gazelle' definition which refers to young high growth firms that are less than five years old. The vast majority are over 10 years old, with some significantly older (Mason and Brown, 2010). Furthermore, only a relatively small proportion of these firms are in high-tech areas of the economy. According to some scholars, there is 'no

evidence that Gazelles are overrepresented in high-technology industries' (Henrekson and Johansson, 2010, p.240). Despite their strong prioritisation by policy makers, the reality is that the representation of technology based firms (TBFs) in the population of HGFs is roughly on a par with their proportion in the economy (Mason and Brown, forthcoming).

In view of these twin priorities of promoting high growth in general and high tech firms in particular, Scottish Enterprise commissioned further research to explore HGFs, especially in high tech areas of the economy. The objectives of this paper are twofold: to provide an update on the level of HGFs in Scotland and to assess the population of TBFs in Scotland. The paper proceeds as follows. First, the terms high growth and technology-based enterprises are defined. Second, the methodology is outlined. Third, the aggregate evidence on the levels of HGFs in Scotland is presented. Fourth, the population of TBFs in Scotland, including analysis of high growth TBFs is profiled. Fifth, some of the key characteristics of high growth TBFs in Scotland are examined. Sixth, some of features of these firms which were captured during the qualitative part of this research process are summarised. The paper finishes with some brief conclusions and issues for further research.

2. Defining high growth and high tech

Firm growth is generally an uneven, discontinuous process with high growth representing a transitory phase in a firm's lifespan (Garnsey et al, 2006). Quite often a period of high growth is interspersed with a period of moderate or low growth (or sometimes even contraction). High growth is therefore typically a temporary phase and does not designate a particular cohort of firms. The OECD (2008) defines HGFs as: 'enterprises with average annualised growth in employees or turnover greater than 20% per annum, over a three year period, and with more than 10 employees in the beginning of the observation period'. Unless otherwise stated, the analysis in this paper uses growth in turnover as the main criterion for measuring high growth.

Although HGFs are very important generators of employment within economies, they constitute a very small proportion of the overall business population in Scotland. The OECD definition of three consecutive years of growth of 20% or above (for firms with 10+ employees) is a very exacting growth threshold. It is important to stress that the analysis in this paper refers only to enterprises with 10+ employees, which account for 5% of all private sector enterprises in Scotland (including self employed enterprises) and 69% of private sector employment (equivalent figures for the UK are 5% and 75% respectively).

During this research we specifically examined high tech firms (so-called TBFs)¹. It is important at the outset to define what is meant by high technology and how 'high

tech' firms can be identified. A pioneering approach in the UK was undertaken by Butchart (1987) which identified specific four digit categories in the 1980 Standard Industrial Classification (SIC) as being high technology. These firms had higher than average expenditures on R&D as a proportion of sales or employed proportionately more 'qualified scientists and engineers' than other sectors. This definition is now somewhat outdated. This study therefore adopts the definition used by Glasson et al (2006) in their study of high tech industry in Oxfordshire which was based on an updated and extended Butchart definition. The definition, which is based on the 2003 SIC, includes both high-tech manufacturing and high-tech services and also allows for the definition to be modified to take account of local/regional circumstances such as the oil and gas industry in Scotland (see Mason and Brown, forthcoming). This combination of rigour, derived by using measurable criteria, plus an element of subjectivity to take account of local circumstances, has considerable appeal.

3. Methodology

The analysis reported in this paper is based on an extensive, multi-method programme of research on high growth TBFs within Scotland conducted between January 2011 to January 2012 (Mason and Brown, 2012). Recent assessments of mixed methods studies have found them to be a useful methodology for undertaking business-related, entrepreneurship research (Molina-Azorin, et al, forthcoming). Funded by the regional development agency, Scottish Enterprise, the main focus of the work was to provide an up-to-date analysis of the nature of HGFs in Scotland, including a specific focus of the growth of TBFs. The work involved a team of researchers from Aston University, Scottish Enterprise and Strathclyde University.

The programme of research is based on three main sources of information. First, quantitative analysis was undertaken on the aggregate nature of HGFs in Scotland. This aggregate analysis utilised the Inter Departmental Business Register (IDBR)-based Business Demography dataset held by the Office for National Statistics (ONS)². The main benefit of using this dataset is the ability to compare Scotland with other parts of the UK. This data source has been used by other organisations such as Nesta to examine HGFs in the UK (Anyadike-Danes et al 2009; Nesta, 2011). This quantitative analysis also included examination of the size of the population of TBFs in Scotland, including analysis of high growth TBFs. Second, in-depth interviews were conducted with a sample of high growth TBFs in Scotland. Finally, the work has involved close consultation with account managers from Scottish Enterprise who work intensively with some of the companies interviewed as part of this study.

4. High growth firms in Scotland: aggregate volume and characteristics

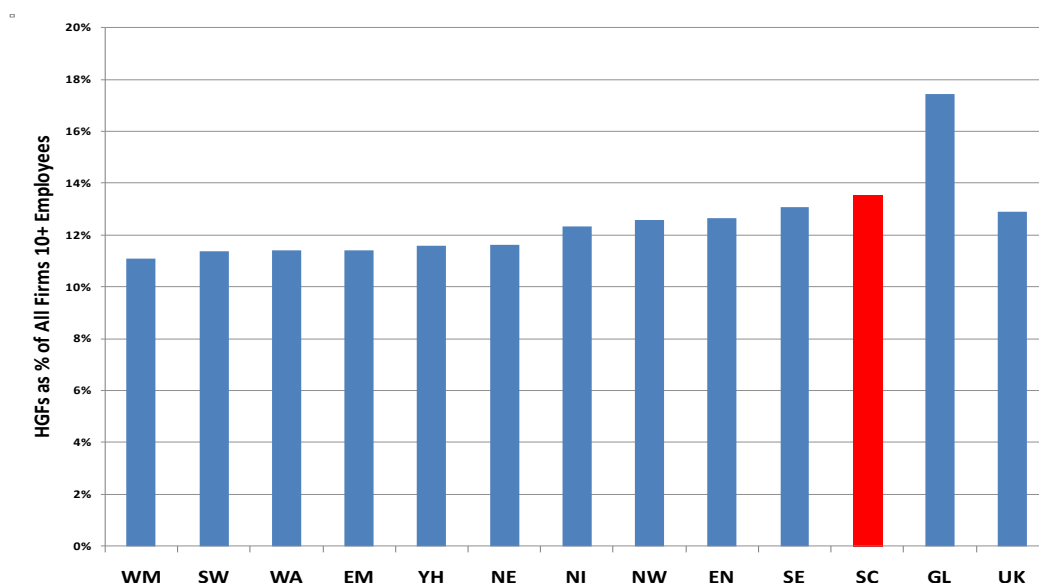
The latest ONS data shows that between 2007-2010, Scotland had 1,544 HGFs (13.5% all firms with 10 +

employees) – a rate above the UK average (12.9%). Because of the different data sources in this study this figure is significantly higher than in the previous work on Scottish HGFs (see Brown and Mason, 2010)³. Using an employment definition (to be consistent with the previous NESTA work), between 2007 and 2010, 7% of Scotland's businesses with 10+ employees were HGFs, which again is just slightly above the UK average (6.9%) (Nesta, 2011)

In recent years Scotland has outperformed much of the UK in terms of the percentage of businesses that are HGFs. In fact, data from the most recent time period available, 2007-2010, reveals that compared to all UK regions Scotland had the second highest proportion of businesses (behind Greater London) that were high growth (see Figure 1 below).

The 1,544 Scottish HGFs employed 285,146 people in Scotland in 2010 – an increase of 23% over the three years (+54,190 jobs). The equivalent percentage increase for the UK was 39.5% over the same time period. This suggests that Scottish HGFs are not as prodigious employment generators, in terms of domestically located employment, as UK HGFs. The precise reasons for this are unclear, but may partly be attributable to the small nature of the domestic market in Scotland coupled with the highly internationalised operations of many Scottish HGFs. During the previous high growth research for Scottish Enterprise, it was noted that Scottish HGFs often have significant overseas operations, hence a substantial amount of the employment that they generate is located outwith Scotland (Mason and Brown, 2010).

Figure 1: High-Growth Firms in the UK Regions 2007-10 (as a proportion of all firms with 10+ Employees)



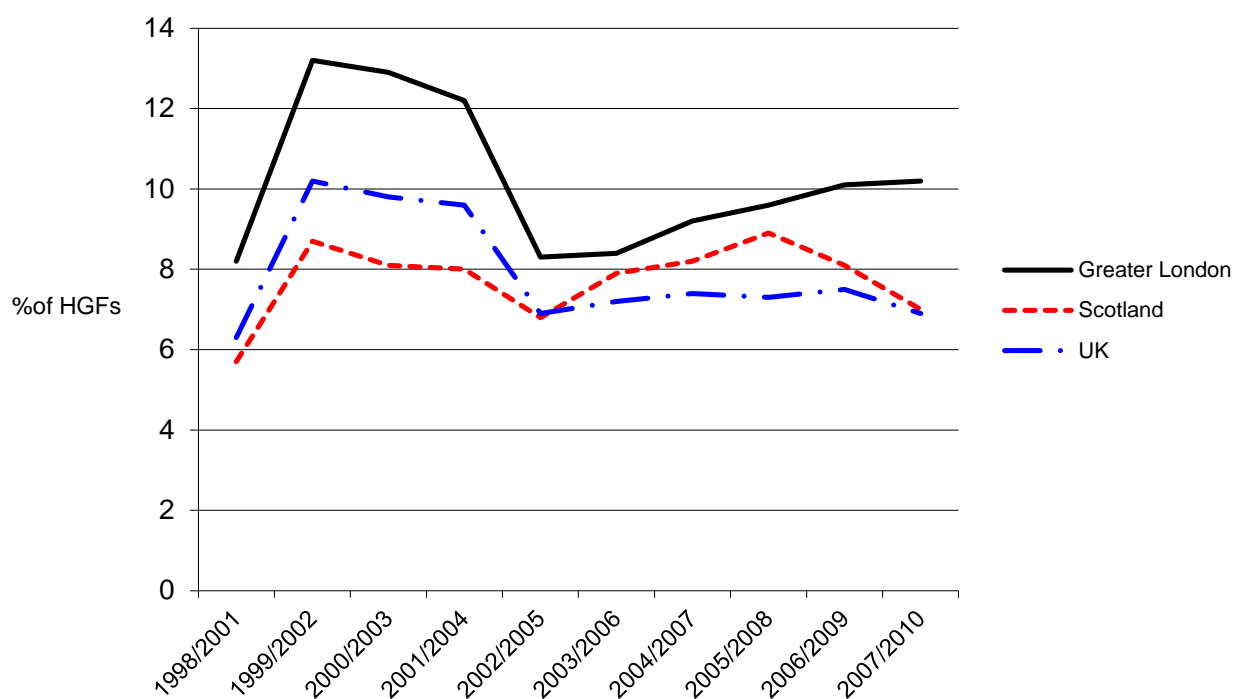
Source: ONS Business Structure Database

Key characteristics of the 1,544 HGFs in Scotland are as follows:

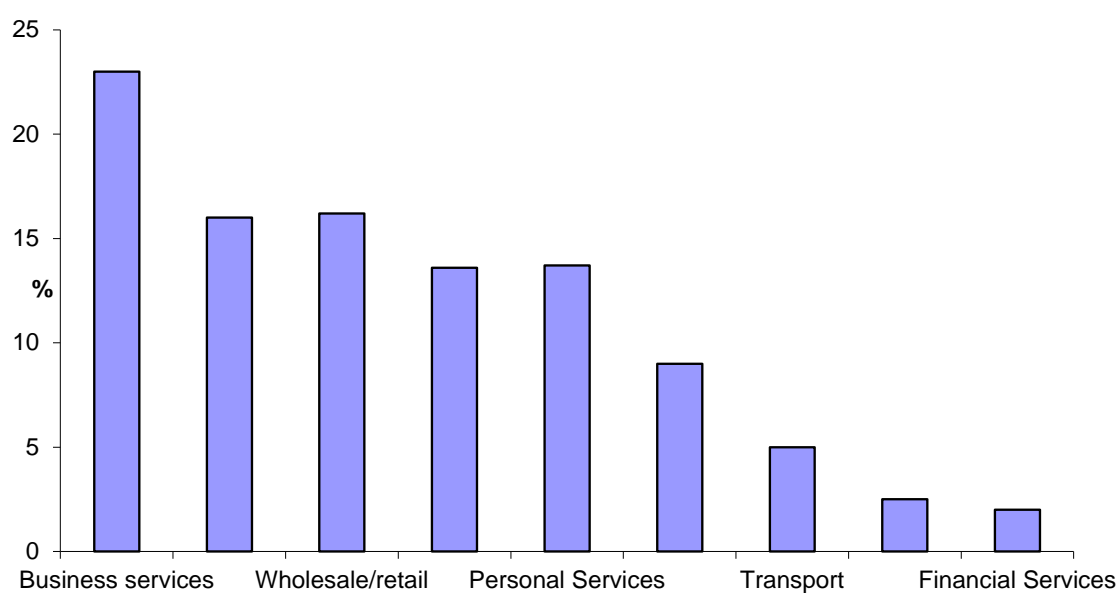
- they employed 285,146 people in the three year time period between 2010;
- they are relatively small – 45% have 10 to 19 employees and almost 80% employ 10 to 49 people;

- they are well established - just over half (53%) have been established for 10 years or more.

Figure 2 shows time series data on the incidence of HGFs in Scotland during the last decade and how this compares to the UK average. Throughout this period, the top performing UK region was Greater London. During the first half of the decade the performance of Scotland's HGFs was around the UK average, but since the mid 2000s it has been slightly

Figure 2: High Growth Firms in Scotland and London compared to the UK average

Source: ONS Business Structure Database

Figure 3: High Growth Firms in Scotland by broad sector, 2007-10 (%)

Source: ONS Business Structure Database

above the UK average. The decline in the proportion of HGFs in both Scotland and the UK as a whole between 2007-2010 suggests that the recent economic downturn and recession has had a negative effect on the ability of companies to achieve high growth.

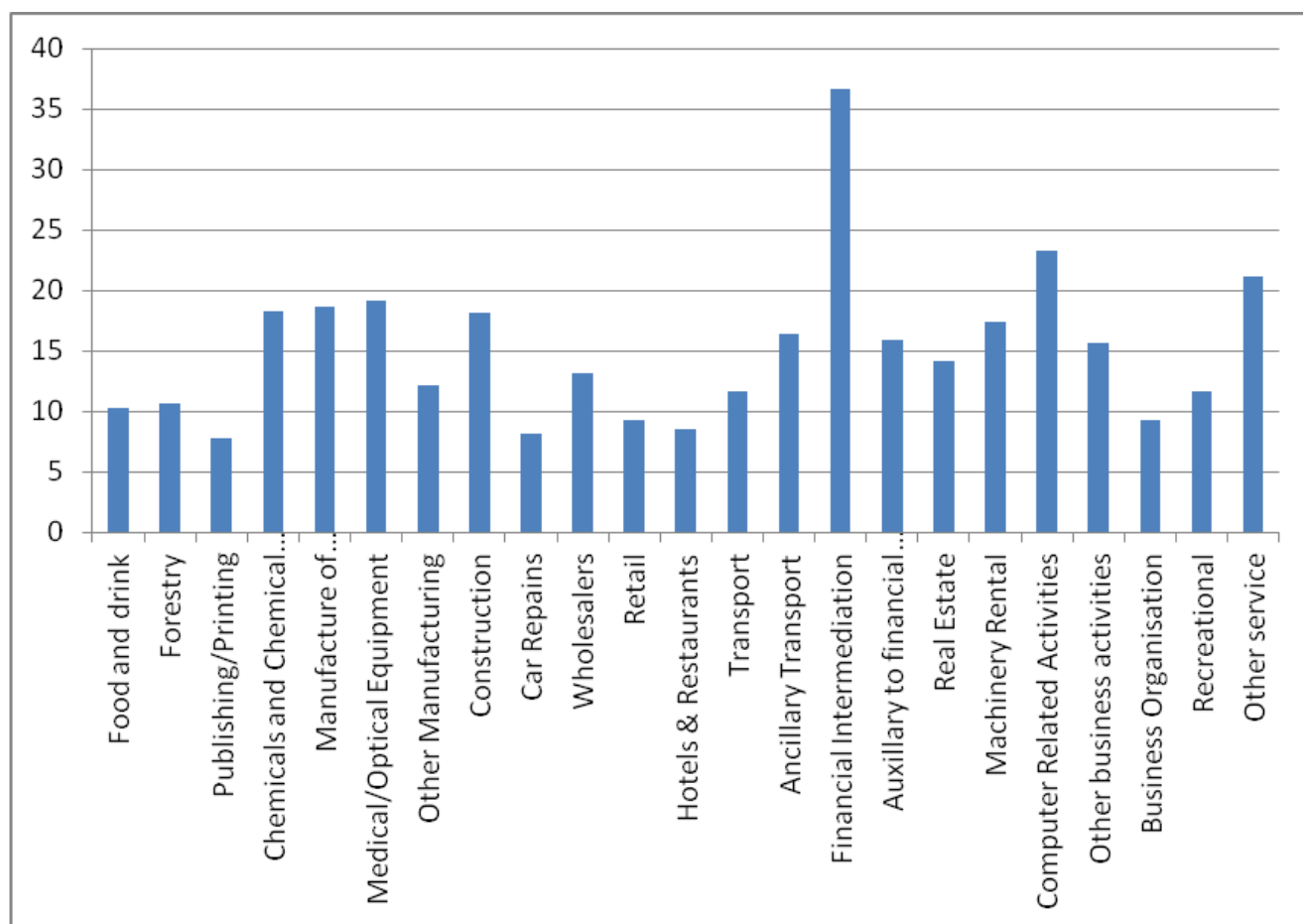
One of the most important features of HGFs firms is their extremely diverse sectoral composition (Figure 3). The largest single contributor of HGFs is the business service sector. Other sectors with high proportions of HGFs include construction, wholesale/retail, manufacturing and personal services. In common with other studies, there is not a particularly strong representation of technology-based firms among HGFs (Henrekson and Johansson, 2010).

Closer inspection of the data reveals that some discrete sectors are more likely to produce HGFs. Analysis of their sectoral composition using two-digit SIC codes highlights that HGFs are more common within high-tech areas like financial intermediation, computer-related activities, 'other' services, chemicals, electrical equipment, medical and optical equipment (Figure 4). The single strongest performer is financial intermediation with nearly 40% of firms in this sector achieving high growth status between 2007-

2010. Given the problems confronting the financial services industry during this time this performance seems remarkably robust. However, the very small number of overall companies in this sector (49) suggests that this should be viewed with a certain amount of caution.

Conversely, there are sectors with relatively low levels of HGFs (Figure 4). Sectors which have a relatively low proportion of HGFs (i.e. less than 10%) include: printing and publishing, hotels and restaurants, retail and car repairs. Other sectors which are below the Scottish average of 13.5% are food and drink, forestry and transport. So, while some sectors have considerable numbers of HGFs, for example hotels and restaurants (129), the large number firms in these sectors results in a 'conversion rate' (the proportion within the sector that achieve high growth) that is below the Scottish average. What is also of note is that the high tech sectors which are traditionally the focus for public sector support (software, manufacturing, medical devices, chemicals etc) appear to display quite strong incidence levels of HGFs while sectors which are not traditionally assisted, such as retail and hospitality, show a lower propensity for firms to become high growth.

Figure 4: Percentage of HGFs within Different Sectors, 2007-2010



Source: Hart et al (2011) for Scottish Enterprise

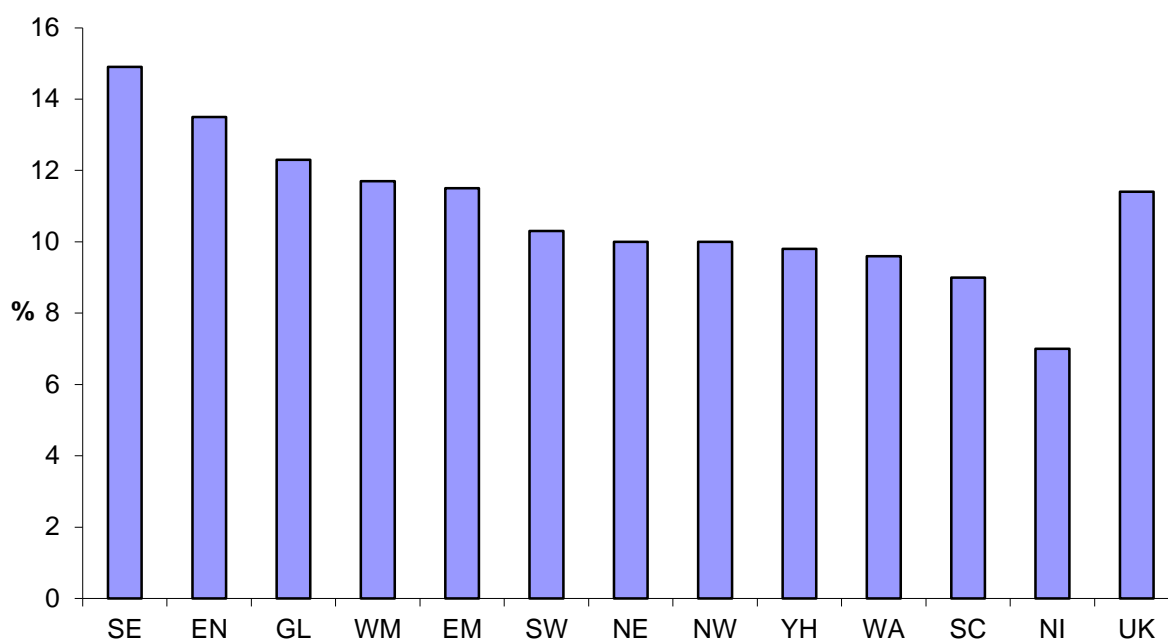
In terms of their spatial distribution Scottish HGFs can be found across the whole of Scotland. However, their distribution is spatially concentrated in Scotland's major urban conurbations of Aberdeen (229), Edinburgh (168) and Glasgow (232). While Glasgow has the largest aggregate proportion of Scottish HGFs, Aberdeen is the top performer in per capita terms. This is attributable to the strong role played by the oil and gas sector in the local economy. Other areas with relatively high numbers of HGFs include Aberdeenshire, Fife and North/South Lanarkshire. Less economically prosperous (e.g. Inverclyde, West Dunbartonshire) and more remote or rural areas (e.g. Western Isles, Scottish Borders) contribute much less in terms of the overall HGF population.

5. High-Tech, High Growth Firms in Scotland

Research suggests that high-tech firms are not over-represented amongst HGFs (Henrekson and Johansson, 2010; Mason and Brown, 2010). To explore this in more

detail for Scotland, ONS data was analysed using a standard classification of technology-based firms (see section 2 above). One of the most significant findings from this analysis is the fact that Scotland, along with Northern Ireland, has one of the lowest proportions of businesses that are in high-technology sectors (Figure 5). Over the 2007-10 period, there were 7,462 high-tech firms in Scotland of which 1,021 had 10+ employees (accounting for 8.6% of all 10+ employee firms in Scotland). While it might be expected that Greater London and South East England would have high proportions of enterprises that were high tech, the differences between Scotland and parts of England such as the West Midlands and North East is a less expected finding. The reasons for this are hard to ascertain but may arise from Scotland's historic reliance on large scale employers in traditional industries (and low levels of corporate spin-offs) coupled with the strong role played by inward investment since the mid-1950s (Brown and Mason, 2012).

Figure 5: Proportion of enterprises (10+ employees) that are high technology, UK Regions (2007-10)



Source: ONS Business Structure Database

Despite this weak overall showing in terms of the proportion of firms that are high-tech, the proportion of high-tech enterprises achieving high growth status (18.4% – or 188 firms) is in line with the UK average (Figure 6). In fact, only three other regions (Greater London, Northern Ireland and South East England), are above the Scottish figure. This suggests that Scotland is better than many other regions at 'converting' its high tech businesses into high growth businesses. This also suggests that having a small

population of high tech firms is not a direct impediment to the emergence of rapid growth high tech firms.

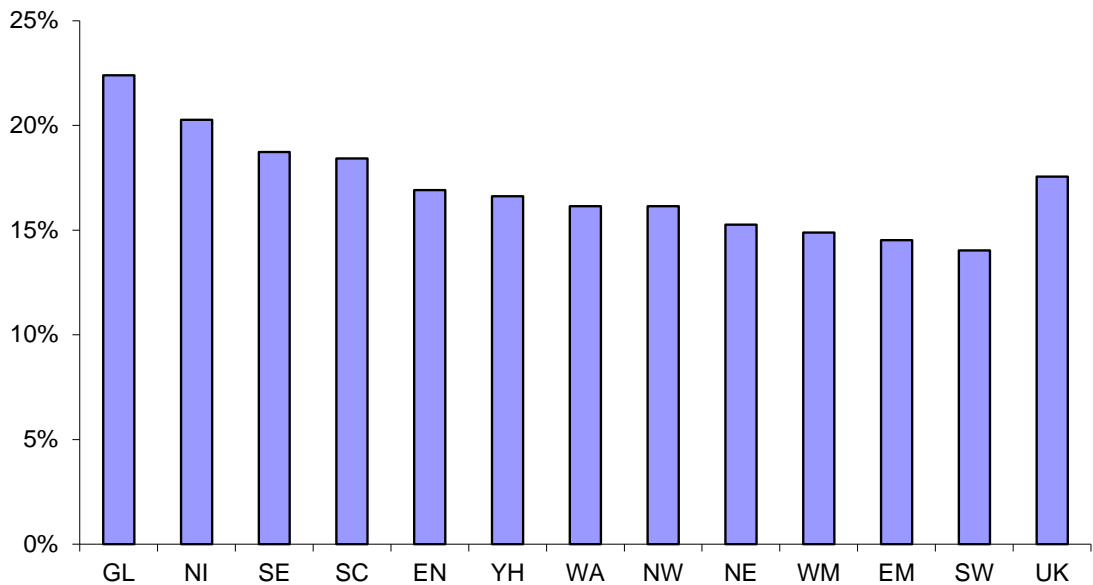
For each UK region, the proportion of high tech enterprises that are also high growth is significantly higher than the proportion of non-high tech enterprises that are high growth. This suggests that incidence levels of HGFs are higher in high tech sectors than non-high tech areas (Anyadike-Danes et al, 2012). This seems to be particularly the case in

Greater London, South East England, Northern Ireland, and Scotland (Figure 6). In other words, high tech firms have a stronger ‘conversion rate’ to high growth than non-high tech firms and this holds for all parts of the UK.

Nevertheless, in most UK regions, high tech firms are a low proportion of the HGF population. For example, in Scotland only 12.2% of Scotland’s HGFs are high tech. This is a

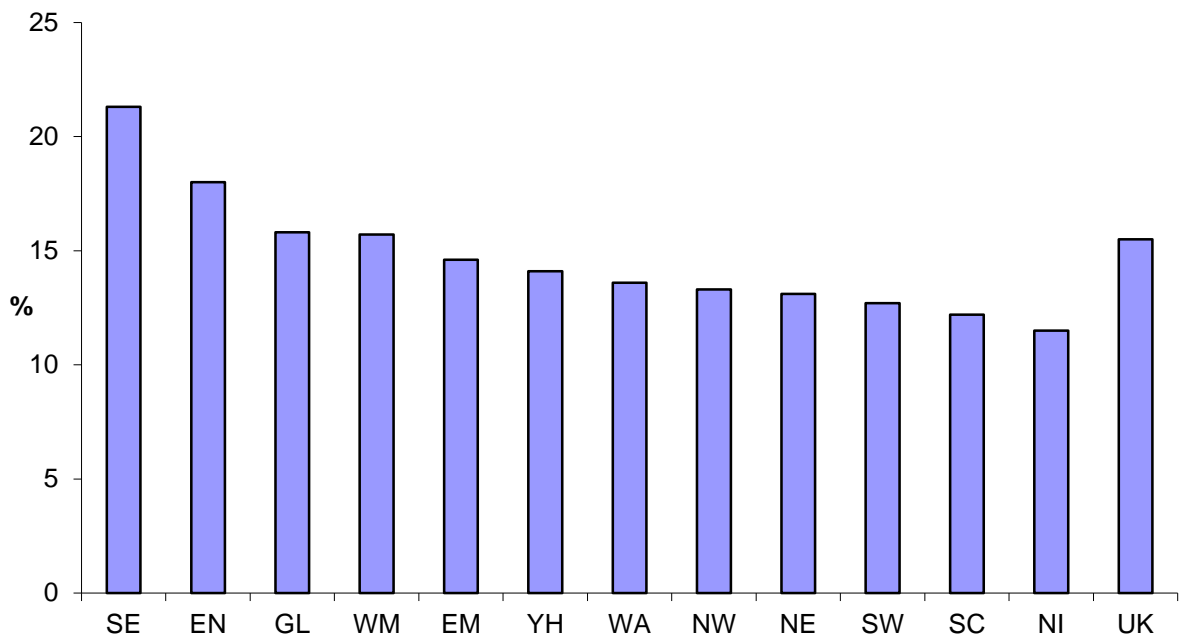
lower proportion than most UK regions (Figure 7). This would appear to be attributable to Scotland’s low stock base of high technology enterprises as highlighted earlier which imposes a constraint on the number of high tech HGFs which it generates, especially because high-tech HGFs often emanate from such existing businesses (Mason and Brown, forthcoming). However, more evidence is needed to provide a fuller explanation for this finding.

Figure 6: Proportion of high tech enterprises (10+ employees) that are high growth, by region



Source: ONS Business Structure Database

Figure 7: Proportion of high growth firms that are in high technology, UK regions (2007-10)



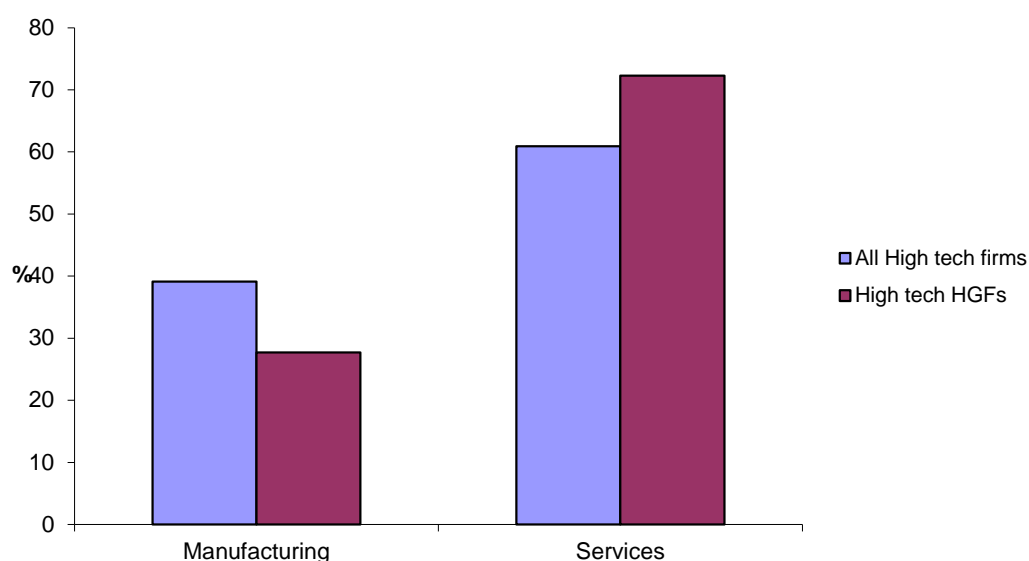
Source: ONS Business Structure Database

6. Characteristics of High-Tech High Growth Firms

Scottish high-tech HGFs tend to be younger and smaller than the overall population of Scottish HGFs. With regard to the size distribution, there are more smaller high-tech HGF employing between 10 and 19 employees (19.3%) than the overall population of Scottish HGFs (12.6%). Similarly, there are fewer large (100+ employees) high-tech high growth enterprises (9.8%) than in the overall high growth population (12.3%). Also of note is the fact that there is a greater proportion of high-tech HGFs (13.8%) which are more than 10 years old than the population of HGFs as a whole (10.3%). This suggests that technology-based firms may take a longer period of time before they embark upon a period of rapid growth than the business population as a whole. This certainly corresponds to the long time to market for some technology products such as life sciences where time consuming regulatory approval is often required before a firm can achieve significant turnover growth.

Because of the disclosure constraints stipulated by the ONS, the precise sectoral distribution of the Scottish high growth high-tech firms cannot be disclosed. However, we are able to make a distinction between service and manufacturing high-tech HGFs. Of the population of 1,012 high-tech firms with 10 or more employees, 39% are manufacturing firms and 61% are service-based firms. Manufacturing companies are therefore heavily over-represented in terms of their contribution to the population of high tech firms. Of all the 188 high-tech HGFs, 27.7% are manufacturing firms and 72.3% are service firms (Figure 8). Although service firms dominate the overall population of high-tech HGFs in volume terms, by contributing nearly one-third of the high-tech high growth cohort, manufacturing firms are strongly over-represented compared to services. Analysis of some of the larger high-tech TBFs in Scotland revealed that the majority of these businesses are foreign-owned (Mason and Brown, forthcoming).

Figure 8: High tech companies and high tech HGFs by broad sector (2007-10, 10+ employees, %)



Source: ONS Business Structure Database

The population of Scotland's 188 high-tech HGFs is highly spatially concentrated. Only five local authority areas in Scotland have more than 10 high-tech HGFs: Aberdeen, Edinburgh, Glasgow, South Lanarkshire and Fife. Again, this highlights the importance of urban economies as generators and hosts of HGFs (Mason and Brown, 2010).

7. Qualitative Analysis of High Growth Technology Based Firms

In-depth interviews were conducted with 20 TBFs as part of this research to add further insight into Scotland's indigenous technology sector. In summary, the findings

from this part of the study endorse the findings from other research on HGFs, with certain important caveats (Mason and Brown, forthcoming). Most of the businesses interviewed had been established by people with high levels of human capital, with the majority being graduates or postgraduates. Scottish founders who had worked previously within industry (sometimes the same industry) strongly benefited from this experience, especially the 'insider' knowledge to make contacts and knowing what was required to grow a business within their area of expertise. Entrepreneurs who had previously worked in larger firms

also seemed more ambitious than those from smaller business backgrounds. This suggests that there may be 'untapped' sources of entrepreneurial talent locked up within existing larger firms in Scotland.

The one area where the Scottish experience seemed to be somewhat contradictory to wider research findings surrounds the area of entrepreneurial orientation and growth ambition. Many of the successful Scottish TBFs were driven by ambitious entrepreneurs but some seemed to place 'ceilings' on their overall growth ambitions. Despite the fact that they were growing rapidly, some considered that they had peaked in terms of their growth capacity while others felt that they needed to 'exit' the business for it to achieve its full potential. Clearly, levels of growth ambition differ between individuals and not all people want to grow their turnover and employment to become a significant company of scale.

Similar to the population of HGFs as a whole (Mason and Brown, 2010), the companies interviewed exhibit considerable diversity in terms of their age, size and the nature of their business, with many far removed from the 'white coats' stereotype of a technology business. They were predominantly small and medium sized businesses, typically with less than £10m in sales and less than 50 employees. Most were engaged in B2B activities and a wide variety of business models were in evidence. The majority are end-user and customer focused with close links to customers for feedback and as a source of innovation. Most had overseas sales and a significant proportion derivemost or all of their sales from overseas exports. Several of the larger companies have international operations which reduces their Scottish economic footprint.

High tech companies typically compete on the basis of their technical and domain knowledge, capabilities and offering. Both IP and formalised R&D activity were less common than might have been expected. Universities are of minor importance as a source of innovation. Only two companies could be classified as university spin-outs and neither has any remaining links with their former institution. Two other companies emerged from failed university ventures and only one company has strong research links with a local university.

Most of the interviewed companies have been growing, many quite fast, but some were hit hard by the economic downturn in the late 2000s and are only now resuming growth. The majority are anticipating further growth, albeit at varying rates. However, some are at, or anticipate hitting, growth ceilings which, in some cases arise from financial constraints.

In the main, the companies interviewed were based in Scotland because that was where their founder was living. There were few significant advantages of a Scottish location, except for companies selling into the North Sea oil and gas sector. The distance from customers, restricted

airline routes and lack of indigenous markets were seen as the biggest disadvantages of a Scottish location. Many of the companies had been approached by potential buyers and several owner-managers seemed likely to sell in the foreseeable future. This raises questions about the pros and cons of the acquisition of Scottish technology companies, the size of the companies that get acquired, and the benefits of growing more companies of scale.

8. Summary

Scotland performs well in relation to the rest of the UK in terms of the presence of high growth businesses. However, Scotland performs less well in terms of high growth, high-tech firms. The primary reason for this most probably owes to the fact that Scotland's proportion of high tech firms in its business base is the second lowest amongst UK regions. As a consequence, the overall proportion of its high tech businesses that are high growth is low.

However, the proportion of high tech firms in the UK which achieve high growth is greater than non-high tech firms. This is particularly the case for Scotland. Therefore, contrary to what seems to have been reported previously (Henrekson and Johansson, 2010), incidence rates of HGFs are 'detectably higher in a number of hi-tech and knowledge intensive services' (Anyadike-Danes et al, 2012). On the face of it, this would appear to justify the emphasis which policy-makers give to technology-based firms as a source of HGFs.

High tech-high growth firms in Scotland tend to be smaller than the overall population of HGFs, and there are relatively few large firms. They are also younger, although the proportion of high growth-high tech firms over 10 years old is higher than that for the proportion of HGFs as a whole. This suggests that high tech firms take time to mature before they can become 'growth-oriented' businesses. The research also revealed that the oil and gas industry plays a vital and disproportionate role in fuelling the growth of Scottish high tech HGFs.

The qualitative element of the research revealed that many of the smaller HGF high tech firms encounter growth constraints in relation to recruitment, access to both debt and equity finance, and distance from major markets. One of the responses is to sell to a larger international company. And, indeed, many Scottish high-tech firms become acquired in recent years. Therefore, the issue of corporate acquisition and its impact on the Scottish economy seems worthy of further empirical investigation.

Endnotes

¹Throughout the remainder of this paper we use the terms high tech and technology based firms (or TBFs) interchangeably.

²The statistical data used here is from the Office of National Statistics (ONS) and is Crown copyright and reproduced with the permission of the controller of HMSO and Queens Printer for Scotland. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. The analysis upon which this report is based uses research datasets which may not exactly reproduce National Statistics aggregates.

³The main data source used for the initial work on high growth firms in Scotland used the business dataset: financial analysis made easy (FAME) (see Mason and Brown, 2010). However, owing to the nature of FAME it tends to underreport firms who are ineligible to lodge their accounts with Companies House. Therefore, FAME tends to under-represent smaller firms who achieve significant levels of growth.

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Scottish higher education: a continuing debate

Professor Jim Love, Department of Economics, University of Strathclyde

Introduction

The period since the May 2011 Holyrood elections has seen a continuation of the debate over the future of Scottish Higher Education. This debate has contained several elements, including: continuing commitment to the policy of not charging tuition fees for undergraduate places supported by the Scottish Government, a better-than-expected post-election public funding settlement, discussion of senior management selection and remuneration, a governance review of Scottish universities, the mooting of the possibility of institutional mergers, the setting of student fees by individual universities for RUK students, the fining of institutions for breaching undergraduate number targets, the highlighting of issues around access for students from disadvantaged backgrounds, the extent of recruitment of fee-paying students from other parts of the UK, the potential eligibility of RUK students with dual nationality for tuition-free status in Scotland, concerns about gender balance among senior academic staff, and discussion of some institutions' decisions on discipline closures and associated job security. Such a list, albeit not exhaustive, highlights the types of matters which have been the focus of much media attention, and frequently universities have found themselves reacting to issues raised by politicians, campus unions and student organisations.

One picture which has emerged strongly in the past year is that of a growing divergence between the Scottish and English sectors. This divergence has been driven primarily by the strongly related issues of tuition fees and public funding. Positions on these issues, like much else in the debate about universities, are often couched in terms of their importance for the future of the sector. One year on from the Holyrood elections, it is perhaps apposite to explore the question of 'Where stands the vision for the future of Scottish Higher Education?'

Undergraduate students: fees and numbers

Both before and since the 2011 election the SNP Government has been resolute in its view that Scottish undergraduate students in Scottish universities should not pay tuition fees. The Scottish Labour Party had a pre-election conversion to this policy, despite tuition fees in England having been introduced by Labour. Thus, there

appears to be a measure of agreement in the dominant Scottish political parties about a fees policy regime quite different from that in England. Unsurprisingly, average student debt is lower in Scotland, and differentials will increase as further years of tuition fees kick in elsewhere and as the Scottish Government's minimum maintenance stipend evolves.

In addition, the control numbers policy pursued through the Scottish Funding Council, although impacting on non-STEM disciplines, has not been as draconian for these disciplines as the withdrawal of funding support in England, where changing levels and patterns of funding have raised the spectre of some possible closures among more heavily indebted institutions. Whereas English universities are increasingly dependent on private fee income from students, the Scottish Government has sought to provide Scottish universities with funding levels comparable with those down south by means of public revenues. There is also increasing speculation, in England particularly, that traditional sources of overseas recruitment of both undergraduates and postgraduates may start to erode as UKBA immigration requirements continue to present a negative picture of the UK's willingness to allow entry.

While recent debate in Scotland has highlighted the eligibility of, for example, Irish or English students with dual nationality for tuition fee exemption on the same basis as EU students, Scottish universities set fees in the Autumn of 2011 for RUK students, with some variation in levels. Presumably each institution, seeking to safeguard or enhance their financial base, engaged in financial modelling of the implications of different fee levels on demand for the specific sets of courses they offer and of the associated impacts on future income streams before their governing bodies arrived at decisions on these fees. Setting of fees for particular markets is common practice across universities internationally.

Scottish universities engage actively in markets for fee-paying students, often with staff employed for that purpose. There are well-established overseas markets for Scottish programmes with international students paying substantial fees at undergraduate, Masters and PhD levels. In addition, UK and EU students can pay for access to graduate-entry undergraduate courses and postgraduate programmes. Publicly-funded students represent the dominant proportion of the undergraduate population in Scottish universities and generate sizeable amounts of revenue for the institutions. Fees charged to non-publicly-funded students are considerably higher than fees paid by the Scottish Government. This has led to allegations from student leaders that some universities are driven by a profit motive in their recruitment practices. It is a moot point, however, whether Scottish universities could perform as well as they do without the financial headroom provided by the resource base generated from fee-paying students.

Much media attention has been directed at the levels of fees for English students set by different universities, calls for the Scottish Government to intervene in the setting of these fees, and fears about potential declines in recruitment from south of the border, although there were also issues raised about one university possibly recruiting more English than Scottish students. The co-existence of fee-paying undergraduate markets and the SFC control numbers arrangements also leads to occasional tension, with comment overlaid by concerns about access for Scottish students from disadvantaged backgrounds. Access issues continue to be much discussed, and one of the campus unions has argued for reserved entry quotas for the better qualified students from disadvantaged areas regardless of their performance relative to that of students from other backgrounds.

Access and regulation

Many Scottish school-leavers in disadvantaged areas are unable to attain university entrance standards. There are increasingly well-recognised causes in terms of shortcomings in primary and secondary schools, perhaps both reinforcing and resulting from social and economic characteristics of disadvantage: disillusionment, disengagement and low household incomes. Issues around such causes are complicated by debate over whether school-leaving qualifications are reliable indicators of demonstrated ability or of the potential to take advantage of higher education: an area that is now compounded by the imminent shift to different forms of recorded attainment under Curriculum for Excellence.

Over the years there have been schemes relaxing entry qualifications for disadvantaged students, but grades in school-leaving qualifications remain the dominant currency. Despite successive governments' exhortations and institutions' efforts in the forms of access and articulation arrangements, there has been no real progress overall in raising relative participation of students from disadvantaged areas. There are differences across Scottish universities. Generally, institutions with better (weaker) league positions internationally attract lower (higher) proportions of students from more disadvantaged (advantaged) backgrounds.

Whatever the weights of different causal elements, governments, local authorities, communities and schools have failed to produce environments conducive to enabling those from disadvantaged areas to participate in Higher Education in similar proportions to the more advantaged. Efforts to impose access quotas on universities and possibly to enshrine requirements in legislation with the potential for fines for failing to meet quotas seems to transfer the consequences of systemic shortcomings to the universities for resolution. Notwithstanding measures that may be deemed necessary in pre-university education, this approach is, of course, but one way to tackle the problem at university level: two other approaches are set out here as possible avenues.

(a) Incentives to potential students

One approach begins by recognising that for many potential applicants from disadvantaged areas there are considerable uncertainties about the benefits and costs of higher education: quite apart from a common lack of family experience of university, these uncertainties embrace, for example, the costs of university attendance, while possibly foregoing income from employment, and the prospects of employment and income after graduation. Such uncertainties are compounded where the increased supply of graduates over the past two decades, particularly against the backdrop of recent low economic growth rates, has resulted in growing graduate unemployment, erosion of the graduate premium and well-publicised reservations among graduates, now unemployed or unable to find 'graduate' jobs, about the wisdom of having opted for higher education.

At present the Scottish Government offers poll subsidies, with subject differentials, in the form of tuition fees for all those obtaining a university place. The proposed student stipend, although with some initial bias towards students from less advantaged areas, might well add to the poll subsidy regime. With present participation patterns, fiscally-regressive arrangements such as these represent a substantial subsidy to more affluent groups and do little to improve the access prospects of students from poorer areas.

In relation to maintenance, Government might concentrate instead on guaranteeing disadvantaged students a minimum scholarship with the possibility of means-tested grants based on household income, if they attain university qualifications. Such an approach would provide incentives for attainment and help make university attendance more financially feasible for potential participants from low-income households. Moreover, it is based on positive grounds, in contrast to the more negative features of a quota system which selects students with lower grades because they are disadvantaged. At first sight an incentive-based scheme might seem less certain in its numerical outcomes than a quota system. If, however, financial considerations are an important component of households' decision-making processes, there is no guarantee that a quota system per se will encourage higher participation. The proposed minimum stipend does help relieve some hardship but much more might be achieved in raising the relative participation of disadvantaged groups if resource were committed there and not to more affluent groups.

For Government the use instead of enforceable quotas to achieve participation targets may well hold some attractions: any costs of operating quotas are likely to be devolved to universities, which are also likely to attract opprobrium in the event of quotas not being met. There would tend to be attention directed at universities, perhaps away from the range of factors operating at earlier stages in the education system. Through quotas, Government would be extending its explicit influence over undergraduate populations in Scottish universities.

(b) Centralised control over admissions

A more explicit and direct approach would be for government to achieve the balance of students, by background, it wishes to see by taking responsibility for admission procedures covering those numbers of undergraduate students it wishes to fund through a centralised admissions agency. Universities could publish entry requirements as at present and indicate desired numbers by subject areas. Students could express preferences for courses and universities as through UCAS. For its part, Government could allocate students by institution, incorporating its views on access for students from disadvantaged areas, and offer 'packages' of students to universities.

A radical change such as this would not be easy and would encounter vested interests, not least among those employed in recruitment roles in universities and in institutions where discretion over departures from published entry requirements is frequently exercised. A primary advantage for Government is control over the selection process for those places it wishes to fund from public monies. Government could promote transparency over selection criteria. For universities there could be a release of academic and professional services staff to focus on other activities around teaching, research and knowledge transfer, as well as on recruitment from non-SFC-funded sources at both undergraduate and postgraduate levels. A centralised system might also avoid replication of services common to all the universities.

Against the advantage of possibly achieving its access targets directly, Government would be accepting direct accountability should things go awry. Government might also not enjoy attracting hostility from ostensibly qualified applicants and their families in more advantaged groups where rejection is based on access arguments. Such complaints about Government could easily be compounded by critics with arguments about inherent inefficiency in state agencies.

These two options are presented to highlight the availability of different approaches and to encourage full discussion of their merits before deciding on how the long-standing and, thus far, fairly intractable issue of access for students from disadvantaged backgrounds can be effectively addressed. The solution is unlikely to be simple, given the complexity of the underlying causes, and may involve an amalgam of features of different possible approaches. Debates about undergraduate numbers also highlights important issues such as the role of the undergraduate population in shaping the university sector and the nature of the relationships between universities and government.

Undergraduate students and shaping of the university sector

Undergraduate provision is a key role of the sector. Such provision in Scotland is influenced by two factors: the pattern and scale of the control numbers operated by the

SFC and the pattern of discipline demand among fee-paying students. The former factor reflects, in broad terms, the national priorities of the Scottish Government, and through these controls Government exerts influence on the composition of discipline offerings. The discipline distribution and scale of the control numbers may differ from the pattern and depth of potential applicants' preferences (as well as from the patterns of entry standards posted by institutions, and from the peer standings and reputations of different disciplines and departments) but they define the places Government is prepared to fund from tax revenues.

Where universities are recruiting fee-paying undergraduates, student preferences, at least in principle, may influence the shape of provision. Typically, across the Scottish universities, however, filling control numbers with Scottish and EU students, is a higher priority activity for universities than attracting fee-paying undergraduates. Government is the single most important customer for undergraduate places in Scottish universities, and frequently, although there are differences across institutions, revenues from undergraduate activities represent a goodly proportion of universities' total income.

With control numbers the Scottish system is more directive than that in England where student preferences and willingness/ability to pay fees are potentially more influential on the pattern of provision. Indeed, there is continuing concern among English commentators that the choices of 16- and 17-year old students have considerable influence on disciplines offered, and, consequently, on recruitment of staff and on the research activities undertaken. Indeed, the withdrawal of public fees for non-STEM subjects in England has raised the spectre of discipline closures and perhaps institutional closure where there is heavy dependence on such disciplines.

Relationship between government and universities

Universities are autonomous institutions with charitable status, and usually have bicameral systems of governance. They are governed by Courts with predominantly lay membership and by Senates composed of university staff. Although titles may vary, the former are responsible, put somewhat baldly, for financial planning and strategy and the latter for academic matters. While the roles may overlap and certainly interact, neither Courts nor Senates contain representatives of Government.

Universities are not part of the public sector, although there is occasional confusion over their status. It is easy to appreciate, however, how such confusion arises. Government funds large numbers of undergraduates and some postgraduates. Funding for research has been provided by Government, some at Scottish and some at UK levels, through RAE/REF-based formulae, the Scottish Funding Council's Research Pooling Initiative and the Research Councils. Academic staff have participated prominently in demonstrations on public sector pensions,

and some staff and students make recourse to calls for Government to tackle issues over which they have concerns. Ministers also make frequent statements about universities, for example, praising the sector's achievement in having five universities among the top two-hundred institutions in international league tables of the 'best' universities, or questioning decisions on subject /discipline contractions or closures (even when the subject/disciplines are not priority areas for Government funding and this leads to fewer funded student places).

Government, like many other bodies and organisations, recognises the central role of universities in the development of civic society and the economy. Additionally, it is binding on Government to ensure value for money for the tax-payers' monies committed to universities. There is always a difficult line for Government to tread between justified intervention and unwarranted interference in the affairs of autonomous institutions. In the course of the current academic session, indeed, one Principal, while welcoming Government support and encouragement, has cautioned publicly against 'interference' in internal matters.

The balance between intervention and interference and the extent of the influence Government has, or should have, in the affairs of universities are key elements when one considers questions around a future vision for Scottish universities.

Universities, government and the future

At periodic intervals universities produce plans, setting out their future paths. These plans typically contain visions about the progress they wish to make in research, education and knowledge transfer and about their role within the academic community and wider society. They also embody a set of strategic steps or initiatives devised to facilitate delivery of the vision. Institutions temper their ambitions in the light of their history, past achievements and the realities of current and projected staffing, facilities and finances. While there is a degree of commonality of ambition, the specific details of these plans necessarily reflect institutional differences, and are often intended to emphasise such differences in order to create a distinctive presence. Given universities' autonomous status, the publication of institutional plans takes place separately, at different times and in isolation, one from another.

Government's frequent statements on universities contain policies and prescriptions affecting the future of universities. As noted above, there is a clear policy on zero tuition fees for Scottish and eligible EU undergraduates funded by Government. Through the priorities identified in its control numbers policy Government can affect the composition of the undergraduate population and, through that may influence the pattern of universities' activities. Likewise, Government's approach to research exercise-related funding can impact on universities' activities. Government has also sought to achieve access objectives, albeit with little success, and to ensure good standards of governance

within universities. In addition, there have been recurring rumblings about structural change: with references to rationalisation of common services, greater institutional specialisation and avoidance of replication in subjects/disciplines, and possible consideration of mergers, takeovers and closures.

Despite the degree of attention afforded to universities by successive Governments, it would be difficult to argue that the range of policies, prescriptions and comments amount to Government having a clear vision for the university sector. In addition, universities produce their own visions and strategies. Against such a landscape, there may be fears that 'big' questions will not be asked and addressed. Per contra, perhaps there is an element of a Smithian 'invisible hand' at work, with the efforts of individual universities and Government producing generally acceptable outcomes in respect of the 'big' questions. This latter view might amount to suggesting that the sum of the partial visions available is acceptable to Government and to wider civil society in Scotland and that seeking to do more to create and deliver a more comprehensive vision for Scottish higher education is of little real merit or consequence.

Big questions

It is interesting to speculate on what are the big questions for the Scottish university sector. In doing so, there must be appreciation that there is unlikely to be ready unanimity over the identification of issues: universities, Government, and other institutions and organisations will have their own perspectives, given their particular interests. Some may prefer, indeed, that big questions remain unasked for fear of the answers. Even if there were broad agreement on the questions, there is unlikely to be consensus over the nature of responses.

An attempt to identify the big questions might involve several inter-related elements, and addressing each of the following areas would demand the identification of clear criteria, sound analysis and logical conclusions.

- a) **Structure** The questions here might involve asking how many universities Scotland should have and whether there should be additions to the present number, takeovers and mergers involving existing institutions, and possible closures.
- b) **Balance of activities** Universities engage in education, research and knowledge transfer. To a considerable extent the international and peer standing of universities is shaped by their research reputations. Strong reputations help attract high-quality staff and students, particularly at postgraduate levels. There might then be questions around whether all or some of Scotland's universities should be engaged in high-level research as well as education and knowledge transfer and be seeking inclusion in league tables

of the world's top-ranked universities, or whether some should concentrate on education at undergraduate level. Related to broad structural questions are the issues of whether institutions should be fairly 'full range' in terms of their discipline/subject coverage or whether there should be institutional specialisation avoiding similar coverage in different institutions.

- c) **Composition of the student body** Universities recruit students for undergraduate, taught postgraduate and research programmes. The student body embraces home/EU, RUK and international students whose participation is funded by governments and privately. Related to issues around the balance of activities, there are questions of what should be the appropriate balance of characteristics of the student population at both aggregate and institutional levels.
- d) **Degrees and delivery** First degrees in Scotland vary in length from three to five years, and tend, in large part, to be offered across a fairly customary academic session. On a wider horizon, there are increasing numbers of universities internationally offering programmes in English, availability of programmes of different lengths, and increasing flexibility of programme start times and delivery across the calendar year. In addition, advances in technology continue to alter the timing and point of delivery, the scale of the student numbers able to participate remotely, the costs of delivery and fees charged. Issues then arise over the length, timing and nature of delivery of programmes offered by Scottish institutions and whether there are further implications over time for IT/Estates infrastructure.

Universities grapple with many of these issues, such as the international and national environments, their own subject/discipline portfolios and delivery modes on a continuing basis. Their responses to some issues will be entirely rational both individually and possibly also for the sector as a whole. Individual institutions will probably also have their own views on more Scottish-wide issues such as the appropriate number and structure of universities and on the criteria relevant to mergers, takeovers and other forms of alliances. Their own thinking on issues such as portfolio balance and the composition of their student body might differ, however, if, for example, there were wider change. In addition, Governments, campus unions and student bodies all make reference to important issues but this tends not to be on a sustained or comprehensive basis. This then raises the issues of whether big questions should be addressed beyond individual universities and of where responsibility for such deliberation might take place.

Location of big questions

Change does take place in the higher education sector. In the past two decades there has been the creation of the

1992 universities and subsequent development of The University of the Highlands and Islands, and the incorporation of colleges, notably the colleges of education, into existing universities. These changes have tended to involve, in the former cases, elevation of status and expansion of programme portfolios, and, in the latter, at the very least maintenance of existing activities. Moreover, such changes have been promoted by Governments.

It is probably correct to suggest, however, that there is a fair degree of conservatism within the university sector, particularly where change might have negative implications for individual institutions. In terms, for example, of questions about number and structure, universities are inclined to hold what they have and certainly not be prone to raising such issues if they feel that their institutions and activities might be at risk of closure, rationalisation or takeover. For campus unions, student unions and alumni, as has been evident where individual universities have addressed internal change, the reaction is almost always one of opposition for fear of programme reductions and job losses and because of allegiance and affection for the places in which they work and study and from which alumni have graduated. Such reactions to change are understandable and seem to provoke ready sympathy from sections of the Scottish media and from politicians.

Universities Scotland represents the interests of all of Scotland's universities. It presents agreed positions to Government and frequently reacts to matters, such as access, raised by unions, the media and politicians. By its very nature, the public positions it takes must be based on identifying the common interest of its different members. It is then hardly likely to be radical in its views and it is difficult to identify issues on which Universities Scotland has led the way in defining new departures. This is not a criticism of Universities Scotland but a recognition of its position as, in effect, something akin to a trade association acting on behalf of its members.

Just as universities can operate collectively through Universities Scotland, Government delegates delivery of policies relating to public monies to the Scottish Funding Council. The Funding Council deals primarily with delivery of Scottish Government funding for teaching and research and the implementation of the control numbers policy. Perhaps the single most important contribution of the Council has been the introduction of research pooling which has brought together research capacity in certain disciplines from different universities, and has raised the research profile and reputation of the Scottish sector. Over recent years there have been references to institutional mergers and collaborations, but there have been no substantive proposals. Indeed, it might seem odd were a Government agency to propose change for autonomous institutions unilaterally, although it might act as a broker for consenting parties, something which, in principle, might also be done by Universities Scotland. And thus far there is no sense of the big questions being addressed systematically by

Government, either by expressing its own views or by working in concert with the universities.

As described above, decision-making and thinking about the future of the sector tends to be distributed across the system. A year on from the Holyrood elections, there is no real public manifestation of a view, from the universities, Government or elsewhere, that the sector might benefit from an over-arching review which might define a future vision of how the sector should develop. This may reflect satisfaction with the present system, inertia or aversion to the possible consequences of change. It does leave open, however, the questions of whether Scotland's interests in relation to big questions such as those above are best served by the current approach and of how and by whom those interests might be judged most effectively.

Summary

The year since the Holyrood elections has been one of much debate about universities. From the range of issues, it is evident that universities face considerable challenges. It is also evident that the Scottish system is evolving in different ways from that south of the border. A perennial problem for Scottish universities is that of access for students from disadvantaged backgrounds, and a possible solution has been identified from within the sector in terms of enforceable quotas. This paper suggests that there is no ready solution to this issue and that other approaches, or parts thereof, may be worth investigating. A similarly recurring theme is the nature of the relationship between Government as an important funder and the universities as autonomous bodies.

Government has its own funding priorities, as reflected, for example, in their funding for priority and non-priority student places. For their part, universities all have their own senses of vision and strategy. There is no means of drawing these differing perspectives together and asking whether in the aggregate they provide effective answers to bigger questions beyond the province of individual institutions and the specific interests of Government. It may be that all is well with matters as they are. Alternatively, there may be need for change. One year on from the Holyrood elections the issue of whether or not there needs to be a vision for the big questions confronting Scottish universities and the related matter of how such an issue might be addressed remain elusive.

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Economic growth – past trends and future prospects of advanced economies

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Introduction

The main purpose of this article is to consider the future prospects for economic growth in advanced economies, including the UK and Scotland, in the light of recent past trends.

In general, the data used throughout this article is shown in terms of GDP per capita (in constant price terms). Both academic economists (eg. Nick Crafts¹) and economic institutions (eg. OECD²) consider that changes in GDP per capita are more relevant than simple GDP growth, in terms of judging the shifts in real living standards.

However, in most of the following discussion, the same general conclusions would also be valid in a GDP growth context.

Part One looks at how slow any bounce-back in economic growth has been, following the latest recession, especially in comparison to other recessions.

Part Two looks at changes to economic growth rates over the past four decades for advanced economies and what this might imply for future growth rates.

Part Three looks at sources of economic growth and what areas of economic policy need to be re-considered in order to improve future prospects.

Part Four provides a brief summary.

PART 1 – THE CURRENT RECESSION VERSUS PAST RECESSIONS

It is well known that the developed countries, or 'advanced economies', of the world have struggled to emerge from the current 'Great Recession'³. In comparison to previous world downturns the bounce-back has been anaemic and in some cases insufficient to regain the peaks seen in 2008.

Worldwide performance

Figure 1 shows the position for the world as a whole, for advanced economies and for emerging market economies,

in terms of growth in GDP during this recession and the three previous slowdowns.

What can be seen in Figure 1 is that:

- for the 'advanced economies', the recovery has been very shallow, imitating what happened in the 90s. However, in contrast to the 90s, the size of the current downturn is much greater, hence the expectation that the bounce-back would be strong, and the disappointment that it has been so weak;
- for emerging market economies, the recovery has been stronger than after any earlier downturn in the past 50 years;
- for the world as a whole, the recovery has been above average and in line with that seen in the 70s.

UK performance

This 'advanced economies' performance is mirrored in the performance of the UK economy, in comparison to previous downturns. Figure 2 illustrates this point.

UK GDP remains about 4% below its 2008 peak, a poorer performance than during any of the previous downturns over the last 50 years, or indeed compared with the 1930s. By this stage of the cycle, in earlier downturns, GDP had returned to, or risen above, its earlier high.

Scottish performance

The current 'Great Recession' saw an overall fall in Scottish GDP of around 4½%. This is much more than in any of the previous recessionary periods (see Chart 1 and Box1). In addition, the length of the downturn in Scotland is only comparable with that seen in the 80s, though again, the position now, four years after peak output, is much worse than at the same point in the 80s (-3% on peak output now versus -½ % in the 80s).

Scotland during downturns

Mid 70s – No growth in 1974, fall of output 1.5% in 1975, followed by 3 years of around 2% growth.
Early 80s – Fall of 2% and then 1.5% in 1980 and 1981, followed by 2 years of growth around 1.5% and then 2 years of above trend (ie, over 1.8%) growth.
Early 90's – Growth of only 0.1% in 1991, followed by growth of 1.4% then 2 years of above trend growth.

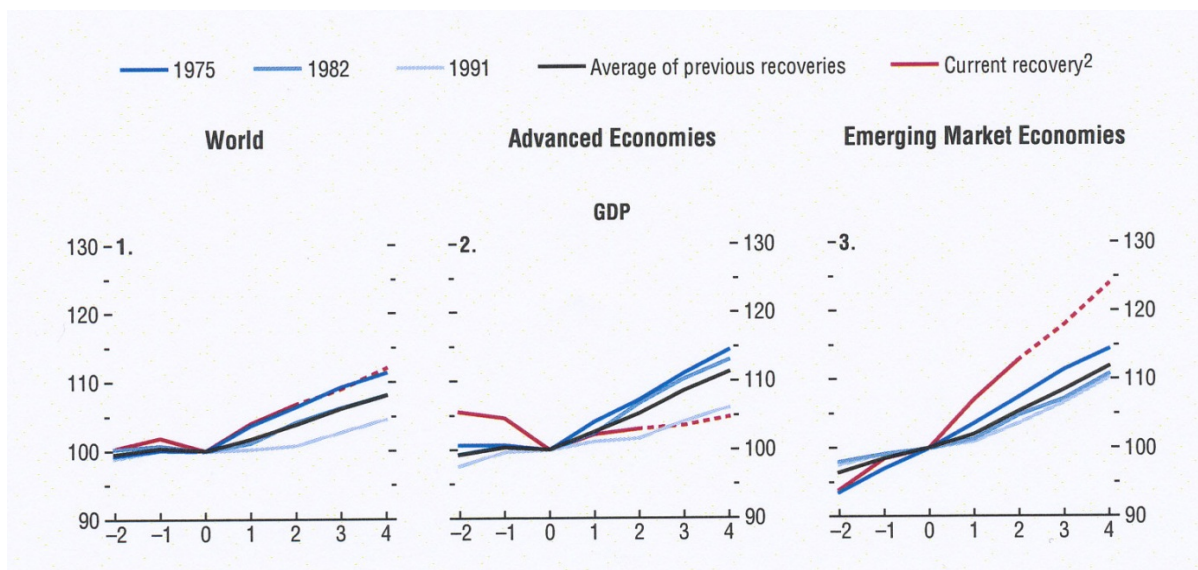
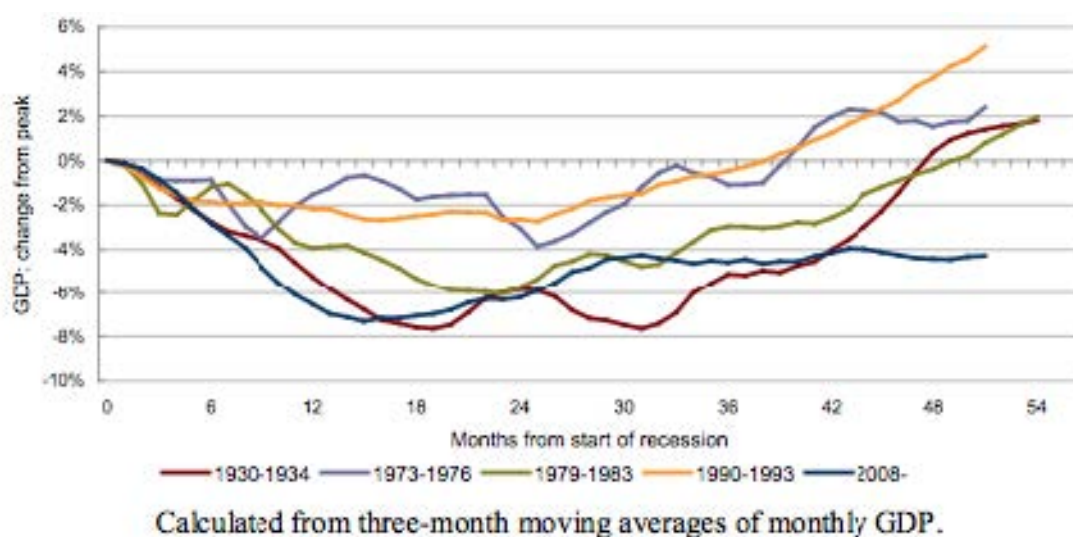
What might be the cause(s) of this poorer recovery in economic performance in advanced economies?

Depth and breadth of worldwide recession

Part of the explanation is relatively simple. In previous recessions the downturn for advanced economies was not so universal and not so deep.

Figure 1: Dynamics of global recoveries

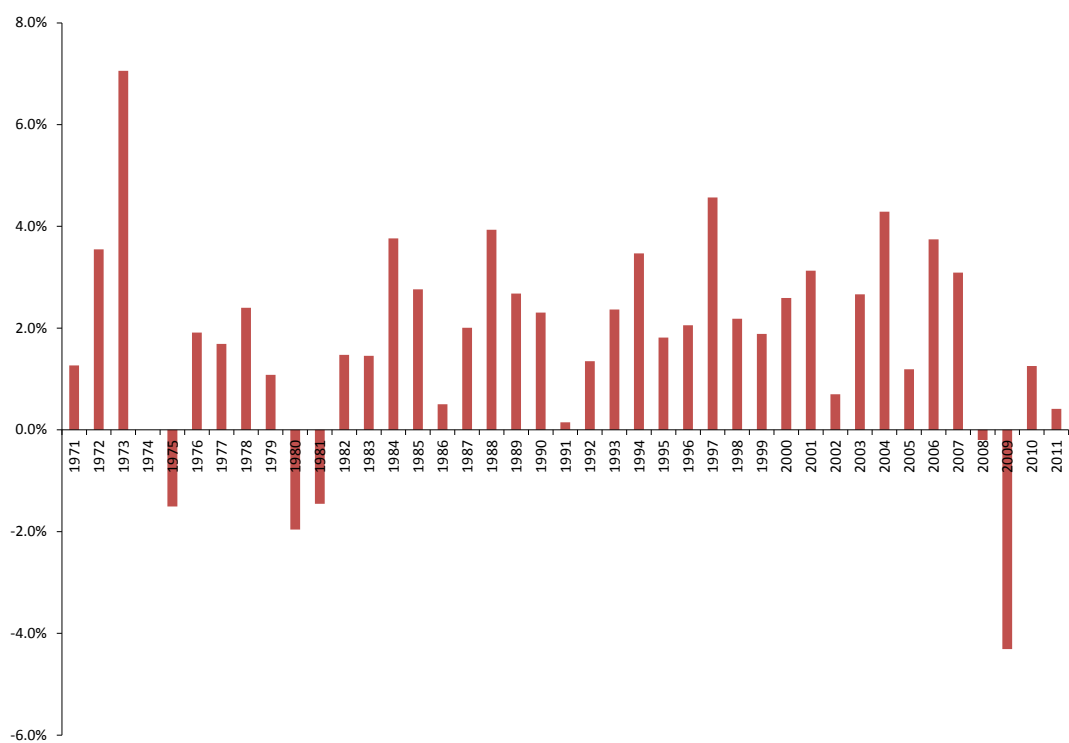
(years on x-axis; t=0 in the year of the trough; indexed to 100 at the trough; in real terms)

**Figure 2: The UK profile of recession and recovery**

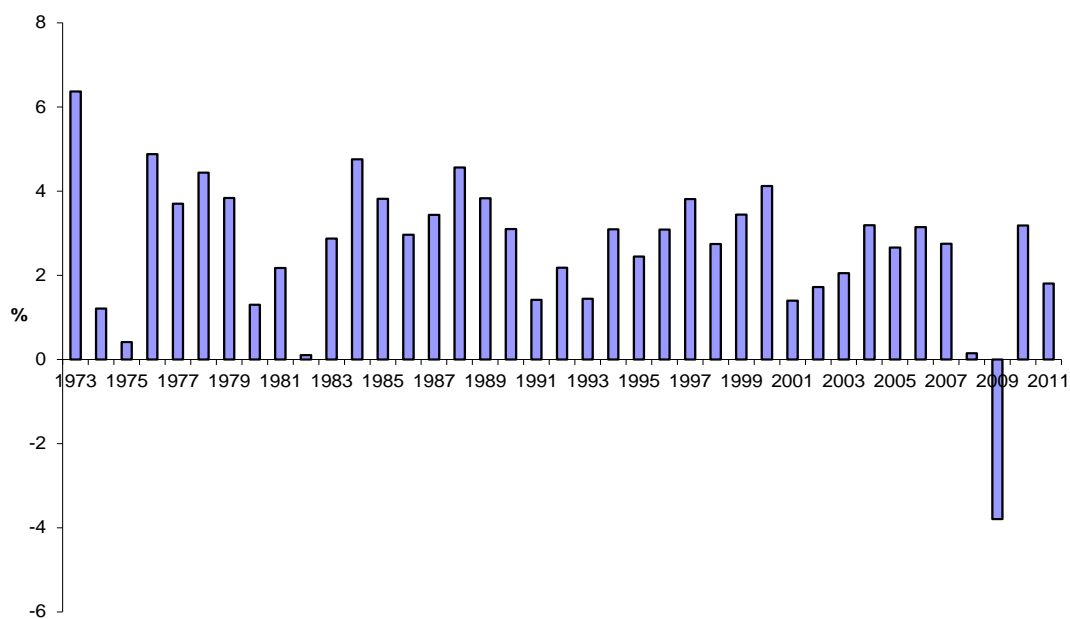
It is clear from Figure 1, as well as from OECD data⁴, that the depth of this recession far exceeds that of any of the preceding recessions back to the 70s. In fact, prior to 2010 (when output fell by 4%), at no time, back to 1970, did the OECD area suffer an annual fall in output (see Chart 2).

Even in GDP per capita (ie. living standards) terms, each of these earlier recessions had involved a fall of less than 1% of GDP and only lasted for 1 year, while, the latest recession lasted 2 years and involved an overall decline in GDP per capita of 5% during that time.

In particular, past recessions that we remember in the UK tended to coincide with those experienced in the US, hence the anglo-american experience concentrates on 1974, 1980-82 and 1991. However, in 1974, apart from the UK and the USA, only 3 other OECD countries contracted (Denmark, Greece and Japan). In 1980-81, apart from the UK, only one national economy (Denmark) contracted in both years. In 1991 both Germany and Japan grew strongly (3% and 5% respectively) as did France, Italy, Spain and many others.

Chart 1: Scottish annual GDP growth rates, %, 1971-2011

Source: Scottish Government

Chart 2: OECD annual GDP growth rates, %, 1973-2011

Source: OECD database

Table 1: Annualised growth rates, in constant price terms, GDP per capita

Countries	Decades					1970-2010
	70s	80s	90s	00s	(00 to 07)	
Ireland*	3.3	3.3	6.0	0.7	3.0	3.3
Norway	4.1	2.1	3.1	0.6	1.6	2.5
Portugal*	3.6	3.1	2.7	0.2	0.6	2.4
Finland	3.4	2.6	1.7	1.4	2.9	2.3
Iceland	5.2	1.6	1.5	0.9	3.1	2.3
Austria	3.5	2.0	2.2	1.1	1.7	2.2
Japan	3.2	4.1	0.9	0.7	1.5	2.2
Spain*	2.6	2.6	2.5	0.7	1.8	2.1
United Kingdom ⁵	1.8	2.6	2.6	1.1	2.4	2.0
Belgium	3.1	1.9	1.9	0.8	1.4	1.9
Germany	2.8	2.2	1.6	1.0	1.4	1.9
OECD**	2.5	2.3	2.0	0.9	1.7	1.9
Canada	2.8	1.6	1.9	0.8	1.5	1.8
Greece*	3.6	0.2	1.8	1.8	3.7	1.8
Netherlands	2.3	1.7	2.5	0.9	1.6	1.8
USA	2.2	2.3	2.2	0.6	1.4	1.8
Scotland	1.5	2.1	2.2	1.2	2.4	1.8
Australia	1.3	1.5	2.4	1.5	2.1	1.7
France	3.1	1.8	1.5	0.5	1.1	1.7
Italy	3.3	2.4	1.6	-0.2	0.7	1.7
Sweden	1.6	1.9	1.7	1.5	2.6	1.7
Denmark	1.9	2.0	2.2	0.2	1.3	1.6
New Zealand	0.7	1.3	1.6	1.3	2.1	1.2
Switzerland	1.1	1.6	0.5	0.9	1.2	1.0

Sources: OECD, Scottish Government⁶

- EU 'cohesion' countries. ** OECD here incorporates an estimate over 34 countries.

The impact of this, less than pervasive, worldwide decline in previous downturns was twofold:

- there was little, or no, decline in overall OECD output;
- it allowed strugglers to return to growth by tapping into a number of, still growing, export markets.

This gives some clue as to why the current 'Great Recession' has proved so difficult to recover from, it is both deeper and more widespread than before. Only those countries with close trading links and/or control of sought after raw commodities (like Australia) have managed to avoid recession. Most 'advanced economies' lack such strong links with the faster growing BRICS and other 'emerging market economies'.

However, there is another aspect of 'advanced economies' growth that poses difficult questions with regards to whether we might reasonably expect a return to historical growth rates. This relates to the general slowing of economic growth over recent decades in the OECD.

PART 2 - CHANGES IN GROWTH PATTERNS

Table 1 shows the annualised growth rates for 23 'developed' OECD countries for the 70s, 80s, 90s and 00s.⁴

Data comparability issues

While the data is (with the exception of Scotland) taken from the OECD's database, there will inevitably be some comparability and consistency issues arising across so many countries and so many years.

Changing the start/finish points for calculating growth rates would affect the results growth rates over time (see later on the OECD study across decades for some reassurance on this point). However, the slowdown in growth seen in the 00s still stands out, even allowing for the possibility of some changes at the margin due to different methodologies and start/finish dates.

There are a number of interesting points that emerge from an analysis of this table.

First, taken across all four decades the average growth rates for the 23 'developed' countries ranges from 3.3% (Ireland) to 1% (Switzerland⁷). Removing the top and bottom outliers (Ireland, Norway and Portugal at the top and Denmark, New Zealand and Switzerland at the bottom) gives a much narrower, from 2.3% (Finland and Iceland) to 1.7% (Australia, France, Italy and Sweden) across the remaining 17 countries.

This range may seem quite narrow but over the full 40 year period it amounts to an accumulated difference of 148% (at 2.3%) growth versus 96% growth (at 1.7%), which illustrates how small differences in growth have a large effect when compounded over time.

The full 40 year annual growth rate figures also show that outstanding performances (whether high, as with Ireland in the 90s and Japan in the 80s, or low, as with New Zealand in the 70s or Switzerland in the 90s) over a single decade are not sustained over longer periods of time.

Second, decade by decade there appears to be a slowing of growth rates. This is seen for the OECD as a whole, but is even more pronounced in many EU economies, including: Belgium, Finland, France, Germany, Italy, Portugal and Spain.

In particular, the 00s has turned out to be a decade of relative underperformance in terms of the growth of living standards⁸.

Third, unlike in earlier decades there are no high growth economies in the 00s. The best performance comes, somewhat unexpectedly, from Greece, but at only 1.8% per annum. This is followed by Sweden and Australia (both 1.5% pa). Also, for the first time a country (Italy) exhibited a negative annual growth rate (-0.2% pa) over a decade.

Even before the downturn, ie up to 2007, the 00s had been a relatively slow growth decade. The 00s to 2007 exhibited the slowest annualised growth rate for the OECD as a whole, and for 12 of the 23 countries shown, in comparison to the previous 3 decades. This slowdown was particularly noticeable for the USA, declining from previous decade averages of around 2¼% to under 1½% a year.

Fourth, Scotland's growth rate was relatively poor in the 70s but had improved to around the OECD average in the 80s and 90s. In the 00s Scotland's performance was above the OECD average and in line with that for the UK. However, the 00s were still the slowest decade for growth for Scotland. Relative to the UK, Scotland underperformed in each decade up to the 00s⁹.

Fifth, in 2003, the OECD published a widely referenced paper¹⁰ that looked at GDP per capita growth performances across OECD countries over recent decades.

This study attempted to adjust for differences in cyclical positions across countries. Such adjustments made little difference to annualised growth rates in the majority of cases (seldom shifting annual growth rates per decade by more than +/- 0.3 of a percentage point). This suggests that the decade by decade results shown in Table 1 should be fairly accurate.

The study found that "For the OECD area as a whole, cyclically adjusted GDP growth was, on average, lower in the 1990s compared with previous decades, continuing the well-documented long-run slowdown in growth rates." This slowing down of growth would appear to have continued, indeed worsened, in the 00s.

A return to 'average' growth?

Most governments and forecasting bodies in OECD countries are expecting a return to more 'normal' (ie the long run, or historical, average) growth rates in the future.

For example, in the UK, the Office for Budget Responsibility (OBR) assumes a return in the medium to long term for UK productivity growth (GDP per hour) of 2% per annum. This is based on a simple average taken over the past 50 years¹¹. Such a growth rate would be almost twice that seen in the 00s in the UK.

But is the idea of such a 'standard' growth rate still relevant? The evidence from Table 1 suggests not. Rather, it suggests that economic growth in advanced economies has been slowing over the past four decades.

If such lower economic growth continues then it will clearly impact on the growth of future living standards, as well as on future employment prospects.

It will also impinge on the timing with regards to fiscal and debt rebalancing. Currently a return to past growth rates in GDP is expected to help deliver much of the adjustment in the fiscal position in the UK, and elsewhere. Without these historic growth rates returning, the government's fiscal rebalancing date(s) will need to be delayed or, alternatively, greater fiscal austerity will be required.

PART 3 – THE SOURCES OF ECONOMIC GROWTH AND HOW THEY MIGHT BE STRENGTHENED

Sources of growth

Growth in GDP per capita can be broken down into two main areas: productivity, usually measured as output per hour worked, and total hours worked. The latter is a combination of average hours per worker and the proportion of the population who are actually working.

Productivity

In terms of labour productivity it is important to differentiate between a rise in such productivity stemming from reduced

employment (as some countries have experienced during the Great Recession in many countries) and a rise due to an increase in an economy's technological dynamism.

The latter drives growth of both the economy and of employment. Such growth might arise through: capital deepening; an improvement in labour quality; or a factor known as total factor productivity (TFP), ie. the organic 'extra' output that is generated by the way that a particular set level of skills and capital are combined. TFP is sometimes calculated as the residual that remains after more readily measurable factors have been adjusted for eg. human capital (labour quality) and investment levels (capital deepening).

Unfortunately, existing analysis does not break down these elements in a way that can be compared with Table 1. Such analysis tends to: concentrate on the EU and the USA; does not do so decade by decade; does not go beyond 2007; and concentrates on the market economy only.

Table 2 does however give some flavour of how the different elements contributions are distributed.

Table 2: Decomposition of output growth, market economy, EU and USA, 1980-2005

	European Union (10)		United States	
	1980-95	95-2005	1980-95	95-2005
Market economy output	2.1	2.2	3.2	3.6
- Hours Worked	-0.5	0.7	1.3	0.7
- Labour Productivity	2.5	1.5	1.9	2.9
- Labour composition	0.3	0.2	0.2	0.3
- Capital per hour	1.2	1.0	1.0	1.3
- ICT	0.4	0.5	0.7	1.0
- non-ICT	0.8	0.4	0.3	0.3
- Total-factor productivity	1.7	1.1	1.6	2.6

Source: Table 2.1, 'Economic growth in Europe: a comparative industry perspective', Timmer et al, 2010

Best estimates suggest that for advanced economies **capital deepening** has often been the most important factor in labour productivity growth, although over time the emphasis has moved from non-IT sources to IT ones¹².

In terms of **labour skills**, this element has tended to contribute the least, across most advanced economic regions¹³. While low, its contribution tends to have been more consistent than for other factors.

The impact of **TFP** on growth has been different when looking at the EU⁽¹⁴⁾ vs the USA. Over the period 1980-

1995 TFP in market economy activities grew at a similar rate in both regions, whereas over the period 1995-2005 it grew much faster in the US (see table 2). In contrast, the relative growth rates in capital deepening over these two periods were quite similar.

Much TFP research work concentrates on the market economy sector, but when the public sector is considered, results can look very different. For example, the TFP contribution has been found to be negative in the public sector since 1979 for the UK and the US, and roughly neutral for the EU14. This is the opposite finding, for the EU vs the US since the mid-to-late 90s, to that seen in the market sector. In the public sector it is usually labour quality improvements that contribute most to rises in productivity, although such productivity gains are generally much lower than seen in the market sector, a finding seen across all countries.

Hours worked

At different periods over the last 40 years the total hours worked impact on the growth rate has been both negative and positive. Overall though, there has been a general move over time for hours to fall and for the participation rate to rise, with the two effects to some extent offsetting each other.

For example, at the EU⁽¹⁵⁾ level, analysis suggests that for the period 1995-2003 total hours worked rose on average¹⁵, (although the average hours worked fell¹⁶), whereas in the period 1973-1995 total hours worked also fell.

The impact such labour participation and average hours worked changes can have on relative growth measures is highlighted by the position of the EU(15) vs the US in the period from 1970 to 2000. Over this period the EU(15) improved its GDP per hour position from around 75% of the US performance to almost matching it. However, due to declining relative hours worked, relative GDP per capita between the two stood still, at just under 80%¹⁷.

Debt overhangs

Beyond the issue of re-invigorating economic growth, careful consideration also has to be given to how to deal with existing debt overhangs in many countries. These national debt ratios are, and are forecast to remain for some years to come, at historically high levels. Recent research has indicated the long run damage that this can have on economic growth rates¹⁸. This research finds that countries with a public debt overhang (defined as an episode where the gross public debt/GDP ratio exceeds levels 90% for 5 years or more) have lower growth rates that last for considerable periods of time, "implying a massive cumulative output loss". While it is difficult to be exact about countries gross public debt levels, known positions suggest that a number of countries currently fall in, or very near to, this category. As well as the 'usual suspects' (Belgium, Iceland, Greece, Japan, Italy, Ireland, Portugal), other

countries that may similarly suffer include the UK and the USA.

This finding provides further food for thought on just how quickly, and by how much, debt levels need to be reduced in the coming years. If this rebalancing is not done successfully then the next generation may be saddled with not only the debts of their parents, but also a slow growth future.

Potential growth sources – future prospects

Some longstanding economic problems need to be addressed more successfully than they have been in the past, in order to avoid a continuing slowing of the rise in our living standards¹⁹. With that in mind the following are key policy areas that most advanced economies, including the UK and Scotland, need to consider further.

Productivity

Capital deepening

On the downside, in times of continuing government austerity there is likely to be reduced scope for some time to come in terms of 'pure' public investment.

This means that such investment is more likely to involve the private sector, or joint public-private (P-P) sector ventures. This extended degree of P-P collaboration will be a test for the willingness and creativity of OECD governments in making such alliances work effectively and efficiently.

In particular, most countries will have growth improving opportunities in relation to the poor condition or inadequateness of some of their infrastructure, particularly in relation to transport (ie. congestion in terms of air travel, roads and rail).

More investment in R&D. In the case of the UK and Scotland, for example, this relates to the relatively low share of expenditure on R&D on their knowledge base and in terms of the share of the workforce who work in 'research'²⁰;

Expansion of capacity in export activities that are geared towards the rapidly expanding middle classes in 'emerging market economies' like China and South America. Again this will be challenging for the UK and Scotland as more and more OECD countries begin to target these high growth economies.

Labour Quality

On the downside, the improvement of schooling and expansion of higher education experienced over the past 40 years may not be realisable again, or at least to the same degree, in future years, depressing productivity gains.

Nevertheless research shows that opportunities exist in the UK and Scotland on the schooling side in terms of reducing

variation in standards (see OECD national PISA reports) and in terms of improving vocational/further education outcomes (eg, vs Germany).

Further opportunities will also arise in relation to:

Ongoing training and apprenticeships, within companies
Training in the future skills most needed eg, in the likely expansion of the social care sector

Higher Education, in terms of the extent to which UK students and staff become more involved in post graduate studies and in business related R&D.

TFP

On the downside, the biggest gains from IT may have already been taken up.

However, more and better use of IT in Europe, in particular catching up with the USA's use of IT in market activities, seems realisable.

Better use, or greater uptake, of IT in public services in order to reverse the nil, or negative, TFP that has been found in this sector over recent decades.

Other, non-IT related, areas of consideration, include: planning rules; competition and regulation (eg, in relation to the high cost of Health care in the USA); and the potential for a greater degree of international marketisation of 'public' services like healthcare and tertiary education.

Hours worked

Recent policy changes, such as raising the retirement age (eg. in the UK) in line with rises in (healthy) life expectancy, should improve growth. However, to some extent this increase in hours, through extending the working life, will be partially offset by the worsening demographics, whereby more of the population falls outside the statutory working age limit²¹.

Lower unemployment and reductions in other forms of non economic participation (eg. long term sickness) will be needed. This could involve a raft of potential policy areas, including some relating to labour quality mentioned above, as well as greater income related incentives.

Clearly these are issues that have been around for some time and in relation to which past policy responses may have been inadequate or unworkable. For this reason current policy makers need to better understand and address the growth challenges and not simply rely on variations of the old policy measures used.

Without such improved policy formulation, advanced economies risk further slowing in their economic growth rates. For example, in the case of the US, a recent paper by Robert Gordon²² estimated a 1.5% growth rate for GDP per capita over the next 20 years (2007 – 2027) This estimate is: well short of its historical achievement of 2.2% (1929 –

2007); around the same as was seen in the 00s up to 2007; and above the US experience in the 00s as a whole.

In looking at possible policies to encourage higher future growth rates it is also important to remember that there is no 'one size fits all' policy agenda. The right policies will depend on a good understanding of our own relative strengths and weaknesses.

PART 4 – SUMMARY

This article has looked at:

- how slow the current bounce-back in economic growth has been following the 'Great Recession', especially in comparison to previous recessions;
- to what extent this has been caused by a slowing in the growth rate of GDP per capita over recent decades;
- the economic and financial implications of any slowing of growth in the future;
- some of the key policy measures that might be introduced in order to help push up the future growth rate in the UK and Scotland in coming years. Discussion here points the way towards the variety of routes that might be followed in order to reinvigorate future economic growth.

At present the economic debate is dominated by the need for, and potential impact of, further fiscal stimulus in order to restart growth. This is an important issue that needs to continue to be looked at. However, an equally fundamental issue is what sort of growth are we seeking to restart. What has caused the slowdown over recent decades and can this slowdown be reversed or at least halted? This question has received much less attention of late but it is crucial in determining what we might expect from further stimulus programmes.

References

¹'The Global Economy in the 1990's, a long run perspective', Ed. Rhode & Toniolo, Chapter 2, Nicholas Crafts, Cambridge University Press, 2006.

²See 'The sources of economic growth in the OECD countries', OECD, 2003

³This is the term now commonly used by the IMF, NIESR and others, to describe the current situation.

⁴All Eastern European countries have been excluded (data was not available for these countries until the 90s), as have

UN defined 'developing' countries like Turkey, Mexico and Korea. Luxembourg has also been excluded due to the exceptional nature of its economy with regards to 'commuting' workers from neighbouring countries. EU classified 'cohesion' countries could also be argued to be at a different state of development over this period but are included here, though highlighted as such.

⁵The OECD data uses expenditure based GDP whereas Scottish data uses output GDP. UK growth rates are almost identical under both measures, except for the 90s when the output base growth rate is lower, at 2.4%.

⁶The original EU cohesion countries (Spain, Portugal, Ireland and Greece) were so designated due to their relatively low level of standard of living. EU funds were made available at a greater scale than elsewhere in the EU in order to allow for convergence with the average EU standard of living.

⁷While Switzerland's GDP per capita growth rate is poor, it tends to have a higher GNP than GDP, the reverse situation to countries like Ireland, which could improve its growth rate over time.

⁸The impact of growing inequality, in countries like the UK and the USA, over this period could further compound this decline in living standards for the median, or 'typical', household and especially for that of lower skilled/lower income households.

⁹Note, however, that this finding is inconsistent with the Scottish level of GDP per capita around 2000, which was only about 6 percentage points lower than for the UK. This reason for this inconsistency is unknown at present. Current price, Regional Accounts data suggests that the discrepancy does not appear to be due to the inclusion of North Sea activity in the UK figures (where output - in volume terms - peaked in 1999/2000).

¹⁰'The sources of economic growth in the OECD countries', OECD, 2003.

¹¹'Fiscal Sustainability Report', July 2011. The OBR also include productivity variants of 1.5% and 2.5%.

¹²See 'A retrospective look at the U.S. Productivity Growth Resurgence', Jorgenson et al, Journal of Economic Perspectives, Vol 22, Number 1, 2008 and 'UK Economic Performance Since 1997: Growth, Productivity and Jobs', Figure 3, Corry et al, LSE Centre for Economic Performance, November 2011.

¹³References as previous footnote.

¹⁴'UK Economic Performance Since 1997: Growth, Productivity and Jobs', Figure 3, Corry et al, LSE Centre for Economic Performance, November 2011.

¹⁵'The Global Economy in the 1990's, a long run perspective', Ed. Rhode & Toniolo, Chapter 2, Nicholas Crafts, Cambridge University Press, 2006, Table 2.11.

¹⁶Mourre, G. (2009) 'What explains the differences in income and labour utilisation and drives labour and economic growth in Europe? A GDP accounting perspective'.

¹⁷'Economic growth in Europe: a comparative industry perspective', Timmer et al, Chapter 2, 2010, Cambridge University Press, Figure 2.1.

¹⁸See 'Debt Overhangs: Past and Present', Reinhart, Reinhart & Rogoff, NBER Working Paper 18015, 2012.

¹⁹A further important issue, not covered here, concerns the impact of the distribution of wealth, from whatever growth occurs, on median households living standards.

²⁰ See OECD comparable statistics for each of these categories. This data shows the UK to be well below the OECD average and much lower than countries like the USA, Sweden and Finland.

²¹Even 'emerging market economies' may have a problem with falling total hours worked in the future. China, for example, is expected to experience one of the most rapid increases in the 65 and older population, with the UN predicting 28% of the population to be over 65 by 2040.

²²Robert Gordon, 'Revisiting U.S. Productivity Growth over the Past Century with a View of the Future', NBER Working Paper No. 15834, March 2010. A similar growth rate is implied in recent work by Jorgenson et al (2008) and Maddison (2009).

“Measuring wellbeing in Scotland – the Oxfam Humankind Index”

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Introduction

This paper describes recent work by the Fraser of Allander Institute (FAI) which constructs an index of wellbeing in Scotland. The issue of wellbeing has been extensively discussed in the economics literature on happiness, and wellbeing indices have been assembled for other countries. However, this is the first attempt to measure wellbeing in Scotland. The overall aim of the research is to identify in detail what people in Scotland believe affects their wellbeing and to construct an overall measure.

The Scottish results are clearly interesting in that they identify the priorities that people in Scotland have in terms of wellbeing or happiness. A key finding is the relatively limited role that economic variables appear to contribute to wellbeing. Having secure work and suitable work and having enough money to pay the bills both ranked as joint fifth in the list of elements affecting wellbeing, reinforcing arguments made in the 2009 Sarkozy report¹, the broad thrust of which was that government policy should focus less on creating economic growth and more on those areas which people identify as increasing wellbeing.

A wellbeing index itself is clearly also a useful policy tool – for example, it allows us to assess how the government is performing in successfully addressing issues which people in Scotland have identified as increasing wellbeing. A good example of this is when we compare health and safety. The index shows that while both being in good health and feeling safe in the local community contribute significantly to wellbeing, the performance on health far exceeds the performance on safety.

Research on happiness

While the FAI study is the first attempt to examine wellbeing in Scotland, it was informed by previous work on wellbeing. Wellbeing (also called happiness) research dates from Easterlin's seminal (1974) work², and we briefly review this below.

Economic variables

The first, and still contentious, finding in this area is the so-called “Easterlin paradox”, which is that the average

reported level of happiness does not appear to increase with increases in national income (typically measured by GDP per person). This finding carries the implication that becoming wealthier does not apparently make people feel better off. Hence, it is interesting to note that the FAI study does appear to provide some evidence that becoming wealthier is not the top priority for many people in Scotland (see below).

Easterlin's original explanation for this result (that happiness did not increase as people became better off) related to inequality - he argued that an income increase for an individual may not raise his or her wellbeing if a relevant comparison group also sees its income increase at the same time. This suggests that inequality, in the sense of having things that others have, should affect wellbeing. Interestingly, the results provided showed little evidence of this in Scotland. Inequality did not rank as one of the elements affecting wellbeing detailed in Table 2 below, because it did not figure as a major response in the underlying data. For example, the extensive data gathering exercise to which over 1,200 people responded assessed the importance of inequality by asking whether wellbeing was affected by being able to keep up with the latest trends. Over 70% felt that this had no effect whatsoever and very few of the remainder felt that this was important. “Keeping up with the Jones's” is not a major preoccupation for people in Scotland.

One key measure identified in the happiness literature is unemployment and the evidence on this shows that becoming unemployed reduces individual wellbeing more than any other factor. This did emerge as an important factor in Scotland, although having satisfying work was ranked as only the third most important element, behind housing, health and the quality of the local area.

Health and education

Studies consistently show a strong relationship between wellbeing and both health and education. The FAI study clearly illustrates the importance of health, which people assessed as the second most important influence on wellbeing. However, education ranks lower than one might have expected, given previous findings. For example, Frey and Stutzer review several studies that demonstrate that “people with higher education indicate significantly higher wellbeing”, and Blanchflower and Oswald also show that the number of years of education positively affects a person's level of happiness. Despite this, people in Scotland ranked the variable measuring education as only sixth, well behind other variables such as housing, safety, having a clean and healthy environment and having satisfying work.

Other factors

Wellbeing has also been shown to be affected by personal circumstances and by the type of community in which people live. For example, living in an unsafe or deprived environment reduces wellbeing, and this does come out strongly in the Scottish results – feeling safe was ranked as

the fourth most important influence on wellbeing. Other studies have shown that the amount of time spent socialising with family and friends positively affects how happy we feel and it is therefore interesting to note that this did also appear to be significant in Scotland, ranking as the third most important influence on wellbeing.

The Oxfam Humankind Index

This research guided our study for Scotland, sponsored by Oxfam Scotland and undertaken jointly by the FAI and the New Economics Foundation (NEF). The research aimed to

construct an index of wellbeing for Scotland (termed by Oxfam Scotland the “Humankind Index”). The NEF’s role was to identify which factors people in Scotland felt affected their wellbeing and to create weights for these, while the FAI then used this information to create the Scottish index. The NEF collected information on the factors affecting wellbeing through an extensive consultation process with people in Scotland. Information on what affected wellbeing was gathered from a total of 1,500 people through various means, including focus groups, community workshops and questionnaires. Table 1 shows both the factors themselves

Table 1: Wellbeing factors and weightings

Sub-domain	Weighting	Order
Affordable, decent and safe home	11	=1
Physical and mental health	11	=1
Living in a neighbourhood where you can enjoy going outside and having a clean and healthy environment	9	2
Having satisfying work to do (whether paid or unpaid)	7	=3
Having good relationships with family and friends	7	=3
Feeling that you and those you care about are safe	6	=4
Access to green and wild spaces; community spaces and play areas	6	=4
Secure work and suitable work	5	=5
Having enough money to pay the bills and buy what you need	5	=5
Having a secure source of money	5	=5
Access to arts, hobbies and leisure activities	5	=5
Having the facilities you need locally	4	=6
Getting enough skills and education to live a good life	4	=6
Being part of a community	4	=6
Having good transport to get to where you need to go	4	=6
Being able to access high-quality services	3	=7
Human rights, freedom from discrimination, acceptance and respect	2	=8
Feeling good	2	=8

and the weighting for each. This is in many ways the principal result of the research— it details, for the first time in Scotland, a set of variables which those who took part indicated made them happy. It indicates, for example, that housing and health are the most important factors and that both are valued more than other elements such as having satisfying work. As discussed, the results also indicate that monetary factors are not people’s top priority, but that having a sufficient and secure income is more important than having a large income. Most people in Scotland appear to value ‘ordinary’ things, such as good housing, good health, having good relationships with family and friends, a pleasant (and safe) environment and good local services. As discussed above, relative income (i.e., keeping up with others) did not rank as a significant factor.

We next outline several variants of the Happiness Index, all of which were constructed by matching the variables shown in Table 1 to measures of these variables for Scotland³. We firstly detail the most recent index (for 2009-10) and then examine recent change in the index between 2007-08 and 2009-10). We finally (for 2009-10) compare the index for

Scotland as a whole with an index for deprived communities in Scotland, and identify areas where deprived communities are in deficit when compared with the whole of Scotland.

The Index of Happiness for Scotland - 2009-10

Table 2⁴ below shows the Index in 2009-10. The overall score (5,492) is not significant in itself - we could easily rescale it to 5.492 or 100 or any other number. Its principal use, whatever number is employed, is to examine how different variables create wellbeing, both over time and between different communities. For example, Table 3 below shows the relative contribution of each variable to overall happiness. The relative weight of each results both from its weight as reported by the NEF and the level of that variable for Scotland. For example, a variable like health which has both a high weight (11) and a high score (93%) will make a significant contribution to overall wellbeing, and health is calculated to contribute 18% to overall wellbeing.

One important finding in Table 3 is the relatively low contribution of economic variables (Work, Work Satisfaction, Having Enough Money and Financial Security). This

Table 2: 2009-10 Happiness Index for Scotland

Sub domain (by order of contribution)	Weight	Measure	Score
Housing	11	54.1	578
Health	11	93.0	993
Neighbourhood/Environment	9	59.0	516
Work Satisfaction	7	70.8	496
Good relationships	7	13.2	90
Safety	6	20.0	117
Green Spaces	6	43.5	253
Secure/Suitable Work	6	91.6	534
Having enough money	6	49.0	285
Financial Security	5	-10.2	-50
Culture/Hobbies	5	61.0	296
Local Facilities	4	45.0	175
Skills and Education	4	26.0	101
Community Spirit	4	72.0	280
Good Transport	4	75.0	291
Good services	3	64.9	189
Tolerance	3	66.0	192
Feeling Good	2	81.0	157
Total			5,492

Table 3: 2009-10 Happiness Index for Scotland (% contribution by variable)

Sub domain	% Contribution
Health	18
Housing	11
Secure/Suitable Work	10
Neighbourhood/Environment	9
Work Satisfaction	9
Green Spaces	5
Having enough money	5
Culture/Hobbies	5
Community Spirit	5
Good Transport	5
Local facilities	3
Good Services	3
Tolerance	3
Feeling Good	3
Good relationships	2
Safety	2
Skills and Education	2
Financial Security	-1
Total	100

primarily reflects the overall weight given to these by the NEF, which in turn reflects the importance attributed to them by individuals who provided information on wellbeing - these three variables contribute about 22% of the total weight value and 23% of the total Index score. As noted earlier, this does seem to present some support for the Sarkozy report arguments on the relative importance of economic factors to overall wellbeing.

One important finding in Table 3 is the relatively low contribution of economic variables (Work, Work Satisfaction, Having Enough Money and Financial Security). This primarily reflects the overall weight given to these by the NEF, which in turn reflects the importance attributed to them by individuals who provided information on wellbeing - these three variables contribute about 22% of the total weight value and 23% of the total Index score. As noted earlier,

this does seem to present some support for the Sarkozy report arguments on the relative importance of economic factors to overall wellbeing.

Another key point is the importance of “local” measures, particularly those relating to people’s immediate neighbourhood. The majority of the variables that respondents believed contributed to wellbeing relate to local issues⁵. These local issues contributed 35% of the total weights generated by the NEF and 33% of the total Index score. However, while there are high scores for several neighbourhood variables (such as living in a neighbourhood where you can enjoy going outside/clean environment, where 59% of people appeared satisfied) other local variables score much lower. For example, only 45% of respondents felt that their area had good amenities and there were low scores on access to the natural environment and, particularly, on safety. Feeling safe ranks as accounted for 6% of the NEF weights, but for only 2.1% of the overall Index score⁶.

Changes from 2007-08

Table 4 details the Index in 2007-08⁷.

The first point to note is that happiness increased between 2007-08 and 2009-10, albeit by a relatively minor 1.2%. In the broad terms which we are considering the issue here, where wellbeing is measured across the whole range of areas that people value, Scotland does appear to have become marginally happier. As we shall see, positive changes mainly resulted from change in non-economic variables, while those measuring economic change deteriorated.

Table 4 details the index in 2007-08. In total, the index increased by 64 points between 2007-08 and 2009-10. However, this overall change includes both positive increases (which increased wellbeing) and negative changes (which reduced it). Positive change (which increased the Index by 136 points) obviously exceeded negative change (which caused the Index to fall by 72 points).

We look firstly at those variables which fell over the period and which therefore decreased happiness. Table 5 above shows, for variables which fell between 2007-08 and 2009-10, the proportionate contribution of each to the total reduction (72 points). There was a very small deterioration in Housing –data taken from Scottish Housing Statistics shows that satisfaction with housing fell from 54.132% to 54.126%, so there was effectively no change in this measure. Otherwise, what emerges very clearly from Table 5 is that almost all (93%) of the reduction in happiness arose from deteriorations in economic variables. This result plainly reflects changes in economic situation in Scotland over the period, and the fact that the Index picks this up so clearly strengthens the argument that it reflects actual changes in issues that affect what people feel influence their happiness⁸.

The actual change in both the number in work and the number finding it more difficult to manage financially, reflected in Table 5, almost certainly reflect an actual deterioration in the economy. However, the largest negative effect comes from a reduction in financial security, which contributed 43% of the total. This is measured as the

Table 4: 2007-08 Happiness Index for Scotland

Sub domain	Weight	Measure	Score
Housing	11	54.1	578
Health	11	88.0	940
Neighbourhood/Environment	9	58.0	507
Work Satisfaction	7	70.8	496
Good relationships	7	13.2	90
Safety	6	19.0	111
Green Spaces	6	41.5	242
Secure/Suitable Work	6	94.8	552
Having enough money	6	52.0	303
Financial Security	5	-3.9	-19
Culture/Hobbies	5	62.0	301
Local Facilities	4	43.0	167
Skills and Education	4	24.0	93
Community Spirit	4	66.0	256
Good Transport	4	72.8	283
Good services	3	61.8	180
Tolerance	3	66.0	192
Feeling Good	2	81.0	157
Total			5,428

Table 5: Happiness for Scotland

Negative Changes (2007-08 - 2009-10)	% Contribution
Housing	0.1
Health	
Neighbourhood/Environment	
Work Satisfaction	
Good relationships	
Safety	
Green Spaces	
Secure/Suitable Work	26
Having enough money	24
Financial Security	43
Culture/Hobbies	7
Local Facilities	
Skills and Education	
Community Spirit	
Good Transport	
Good services	
Tolerance	
Feeling Good	
Total	100

Table 6: Happiness Index for Scotland

Positive Changes (2007-08 - 2009-10)	% Contribution
Housing	
Health	39
Neighbourhood/Environment	6
Work Satisfaction	
Good relationships	
Safety	4
Green Spaces	9
Secure/Suitable Work	
Having enough money	
Financial Security	
Culture/Hobbies	
Local Facilities	6
Skills and Education	6
Community Spirit	17
Good Transport	6
Good services	7
Tolerance	
Feeling Good	
Total	100

increase in the probability of becoming unemployed. Our reading of why this contributes so much to all negative change is that it is likely to reflect headline news about rising unemployment which has contributed to an increased fear of unemployment, even among those who remain in work.

Table 6 shows positive changes between 2007-08 and 2009-10 – these variables increased over the period and so increased wellbeing. The most important change is clearly

due to better health, which contributed almost 40% (39.3%) of all positive changes - this results from the high weight on health in the NEF scaling, and the increase in those reporting "Very Good/Good" Health between the two periods. The other major change is in "Community Spirit", which contributed 17% of the total increase, due to an increase in the proportion of respondents who felt that their neighbourhood possessed a "Sense of community/friendly

Table 7 –Happiness Index for Deprived Communities (2009-10)

Element	Weights	Measure	Score
Housing	11	50.2	537
Health	11	87.0	929
Neighbourhood/Environment	9	45.0	393
Work Satisfaction	7	70.8	496
Good relationships	7	13.2	90
Safety	6	9.0	52
Green Spaces	6	32.5	189
Secure/Suitable Work	6	89.9	524
Having enough money	6	32.0	186
Financial Security	5	-5.8	-28
Culture/Hobbies	5	50.5	245
Local Facilities	4	41.0	159
Skills and Education	4	18.5	72
Community Spirit	4	58.0	225
Good Transport	4	80.4	312
Good services	3	67.5	197
Tolerance	3	66.0	192
Feeling Good	2	78.5	152
Total			4,923

Table 8: Happiness Index for Scotland (2009-10)

All Scotland v Deprived communities (Scotland above Deprived)	% Contribution
Housing	7
Health	10
Neighbourhood/Environment	20
Work Satisfaction	
Good relationships	
Safety	10
Green Spaces	10
Secure/Suitable Work	2
Having enough money	16
Financial Security	
Culture/Hobbies	8
Local Facilities	3
Skills and Education	5
Community Spirit	9
Good Transport	
Good services	
Tolerance	
Feeling Good	1
Total	100

people” people between 2007-08 and 2009-10⁹. We have no explanation why this occurred, and the increase over such a short period does seem large.

Otherwise, most of the increases appear to be due to a better provision of public services - if we include health, then we estimate that over 70% of increased happiness is attributable to improved public services (Health/Safety/Green Spaces/Skills/Education/

Transport/Services). There was a small improvement in the score for safety, due to a 1% increase in those reporting feeling safe between 2007-08 and 2009-10.

Comparisons with deprived communities

Table 7 above shows the wellbeing index for deprived communities, as defined by the Scottish Index of Multiple Deprivation. Note that it is assumed that all variables are

given the same weight in both deprived communities variables and in Scotland as a whole - the difference in wellbeing is due only to differences in the size of the measures between deprived communities and the national picture.

The first point to note is that deprived communities score significantly below the score for Scotland – on the figures in Table 7, Scotland as a whole is 12% more prosperous than deprived areas. We now examine in more detail the reasons behind this disparity.

Table 8 shows areas where deprived areas are in deficit compared to Scotland. What is immediately clear is that deprived communities score lower across a wide range of measures – there appears to be no single reason, or even set of reasons, that contribute to their overall lower level of wellbeing. Deprived communities come off worse on twelve of the fifteen variables where we were able to measure differences between the two communities.

As discussed above, the major influences on happiness across all communities, as identified by the NEF, relate to more immediate local issues such as being able to enjoy going outside, living in a healthy environment, the availability of green spaces and local amenities. Together, these contributed more than one-third of the total weight, and it is therefore no great surprise that the main differences between deprived communities and Scotland as a whole occur with respect to neighbourhood variables. The major disparities are in terms of whether people are able to enjoy going outside/having a clean and healthy environment, access to green spaces/play areas and safety, which together account for just over 40% of the difference between deprived communities and all Scotland. People living in deprived communities are also less likely to feel they are part of a community, and overall the majority of the deficit thus arises from differences in the quality of life in the local area. As noted above, the indices also pick up on differences in health, which accounts for 10% of the difference in scores. The other key difference is that deprived communities are more likely to struggle financially, which accounted for 16% of the total deficit compared to Scotland.

Deprived communities do outscore Scotland on a relatively limited number of measures, and Table 9 details the areas where deprived communities appear to do better. However, the results in Table 9 require some interpretation.

The most important measure is better financial security. Table 9 shows that wellbeing in deprived communities increased due to better financial security, which accounted for more than 40% of their higher position relative to all of Scotland. However, this arises because Scotland as a whole suffered more than deprived communities from increased unemployment in 2009-10 and, given an already high level of unemployment in deprived areas, this simply means that Scotland came closer to the position that these areas

already occupied. While deprived communities do therefore come off better, this is only because the situation has improved relatively – as detailed above, Scotland as a whole has seen a very substantial fall in financial security in the last few years

Table 9: Happiness Index for Scotland (2009-10)

Positive Changes (2007-08 - 2009-10)	% Contribution
Housing	
Health	
Neighbourhood/Environment	
Work Satisfaction	
Good relationships	
Safety	
Green Spaces	
Secure/Suitable Work	
Having enough money	
Financial Security	43
Culture/Hobbies	
Local Facilities	
Skills and Education	
Community Spirit	
Good Transport	42
Good services	15
Tolerance	
Feeling Good	
Total	100

The other key difference (Transport) also requires interpretation. The measure used here was satisfaction with Public Transport –given that access to cars is almost certainly higher across Scotland as a whole, higher satisfaction with public transport may just reflect greater use, and those living in deprived areas may simply be more likely to express an opinion.

Summary and conclusions

Wellbeing indices, such as the Oxfam Humankind Index, measure prosperity in general terms. They attempt to go beyond measuring wealth by the amount of goods and services that people are able to privately consume and assess this instead in terms of a wider range of measures which combine to determine people's overall wellbeing. If we accept that policy should focus on wellbeing, we clearly need some means by which we can track how well this is being achieved, and the work undertaken for Oxfam Scotland represents the first attempt to do so for Scotland. One interesting result of the exercise is that overall measured wellbeing in Scotland increased despite the onset of recession in 2008. This does seem to help support the case that we should focus less on increasing economic growth as a means increasing wellbeing and concentrate instead on a wider set of objectives.

The results shown here also have implications for the conduct of policy, particularly economic policy in Scotland. Firstly, the weights themselves given in Table 1 help to identify policy priorities. They provide a “roadmap” which allows government to identify policy areas which people in Scotland have identified as contributing to their overall welfare. The weights also implicitly identify trade-offs between different areas of policy. This is clearly useful when resources are constrained and choices have to be made between areas.

By measuring the extent to which priorities are being satisfied, the results can also be used to assess performance. The best example of this is again seen when we compare health with safety. Both of these have high weights, ranking 1st and 4th respectively in the expressed wellbeing of the Scottish people. But while most people appear satisfied with health – 93% of people reported that their health was good or very good - satisfaction with safety is much lower, with only around 20% of people reporting that they felt safe in their local area. Furthermore, the index also allows us to track how well priorities are being satisfied over time. For example, in comparing the index for the two time periods, we found a significant increase in those reporting good health but only a small increase in the number reporting that they felt safe in their local area, suggesting that more resources should be devoted to improving safety.

In terms of social justice, the index for deprived communities allows us to assess the size of the deficit in these communities and to assess which policy areas need to be addressed if we are to close the gap between them and Scotland as a whole. Unfortunately, the results show that they lag behind the rest of Scotland across a wide range of factors, and the results here may do no more than simply indicate the size of the task.

In summary, the index shows that we can both measure wellbeing and the extent to which we are making progress towards doing those things that improve people’s wellbeing. Finally, the index also provides interesting evidence on what matters to people in Scotland. There was little evidence that keeping up with others was a major concern and the results show instead that people in Scotland tended to value ‘ordinary’ things, such as good housing, good health, having close relationships and living in a nice area. From a policy perspective, it is notable that many of things that people value are (in the UK at least) public goods, including health, education, safety, transport and access to culture.

Nations and Households in Economic Growth: Essays in Honour of Moses Abramowitz, Academic Press, New York and London (1974).

³The overall approach and a detailed discussion of the measures used to construct the index, is available in “Oxfam Humankind Index. The new Measure of Scotland’s prosperity”, published by Oxfam Scotland and available at <http://policy-practice.oxfam.org.uk/our-work/poverty-in-the-uk/humankind-index>. This also discusses the extent to which it was possible, on the basis of published statistics, to obtain valid measures that corresponded to the elements identified as creating wellbeing.

⁴Note that we have renamed the variables in order to make the tables more legible.

⁵Neighbourhood/environment, /feeling safe/ green spaces, wild spaces /social /play areas/local facilities/ community spirit/good transport/good services.

⁶Only 20% of respondents across Scotland as a whole reported felt that they lived in a safe environment. (See Scottish Household Statistics, 2009-10, Table 3.4)

⁷Note that some measures (Work Satisfaction, Good Relationships, Tolerance, and Feeling Good) have not changed over the two periods since these were only available for 2009-10.

⁸The only other change was a small decrease in the number participating in sports and hobbies.

⁹Both measures are reported in Scottish Household Statistics.

Endnotes

¹ ‘Report by the Commission on the Measurement of Economic Performance and Social Progress’, Paris, 2009.

² ‘Does Economic Growth Improve the Human Lot? Some Empirical Evidence’ by R.A. Easterlin in P.A. David and M.W. Reder (eds.),

Ageing industries

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Abstract: This paper uses micro-data from four years of the Labour Force Survey (1995, 2000, 2005 and 2010) to examine the relationship between employment share and age structure across Scottish industries. Over the three decades, there has been a considerable shift in employment away from manufacturing industries to services industries. It is less well known that there are large differences in the age structure of employment between industries. There is some evidence from other countries that growing industries attract younger workers while declining industries keep older workers. If this is true, then the processes of labour force ageing and employment decline reinforce each other resulting in large and likely problematic age structure differences in certain industries. The analysis presented in this preliminary paper generates some evidence consistent with this view. The analysis also brings into some doubt the longer-term sustainability of the agriculture and fishing industry given the very top heavy nature of its age structure of employment.

1. Introduction

It is well known that the Scottish population will age considerably over the coming decades (see for example, Lisiankova, Mosca and Wright, 2008; National Records of Scotland, 2011, Wright 2004). Population ageing is the shift in age structure away from the younger to the older age groups. It results in an increasing share of total population being concentrated in the older age groups and a decreasing share being concentrated in the younger age groups. It is worth stressing that population ageing is not new - the Scottish population has been ageing for some time. This is illustrated in Figure 1, which shows the average age of the population for the period 1950 to 2010. In 1950 the average age was 33.3 years. By 2010, this had risen to 39.3 years. The most recent set of "official" population projections suggest that the average age of the population will reach 44.3 years by 2035 (National Records of Scotland, 2011).

What is not so well recognised is that as a population ages so does its labour force. Over 95 per cent of those who are employed (both full-time and part-time) are in the age range 20-64 years. With labour force ageing, the potential supply of "older workers" (e.g. older than 35 years) will

increase and the potential supply of "younger workers (e.g. younger than 35 years) will decrease. As Figure 1 shows, the average age of this population aged 20-64 years in 1950 was 40.5 years. By 2010, this had risen to 42.3 years. The official population projections suggest that the size of age 20-64 group will change little over the next three decades but it will continue to get older on average. In addition, its share of the total population will progressively get smaller.

Are slow rates of labour force growth and labour force ageing problematic? It seems to be widely agreed that a growing high-skilled labour force is critical for long-run economic growth. A shrinking labour force puts upwards pressure on wage rates which leads to decreased competitiveness. If workers of different ages are not perfect substitutes, then labour force ageing can lead to lower average productivity. It is therefore not difficult to conclude that demographic change of this type impacts on the labour force in a non-growth enhancing way.

It is important to point over the past decades there has been a considerable shift in the industry structure of Scottish employment. As is documented below, there has been a shift away from manufacturing jobs to service sector jobs. In addition, the age structure of employment differs considerably by industry. Recent research by Autor and Dorn (2009), Feyrer (2007) and Han and Suen (2011) have demonstrated that industry-specific human capital increases the incentives for younger workers to join growing industries and decreases the incentives for older workers to leave declining industries. This suggests that growing industries attract younger workers while declining industries keep older workers. Empirically this suggests a negative relationship between the employment share and average age of employment across industries. With slow or no labour force growth, there is considerable competition for workers. If these authors are correct, then declining industries will lose out in the competition for workers resulting in age structures of employment in some industries that are not sustainable.

We know of no research that has examined the relationship between employment share and age structure across Scottish industries. This is surprising since there has been considerable interest in the economic impacts of demographic change, particularly the challenges it is generating for the government to provide welfare services and pensions. With this in mind, this paper uses micro-data from four years of the Labour Force Survey (1995, 2000, 2005 and 2010) to examine this relationship in Scotland. In order to provide a comparator, estimates are also presented for the Rest-of-the-UK (RUK). Some support is found consistent with the view that employment decline and labour force ageing go hand in hand but the relationship in both Scotland the RUK is not clear cut as others have found.

2. Changes in the age structure of employment

In this paper, the age structure of employment is measured in three ways. The first is the average age of the employed

Figure 1: Average age of total population and working age population in Scotland 1950 - 2010



population. The second is the share of employment population aged 55 and older. The third is the ratio of “older workers” to “younger workers”, where age 35 years is used as the cut-off to define the two groups of workers. Tables 1-3 present these three measures for Scotland and the RUK for 1995, 2000, 2005 and 2010.

Turning first to the average age of the employed population (Table 1), the estimates confirm that the average age of those in employment has risen both in Scotland and the RUK between 1995 and 2010. However, there is little difference between Scotland and the RUK in any of the years. For example, in 1995, the average age was 38.4 years in Scotland and 39.0 years in the RUK. Likewise, in 2010, the average age was 41.9 years in Scotland and 41.8 years in the RUK. In both cases, the average age has increased by around three years in this period.

Table 1: Average age of employed population, Scotland and RUK, 1995-2010

Year	Scotland	RUK
1995	38.4	39.0
2000	38.5	39.2
2005	40.5	40.3
2010	41.9	41.8

Source: Authors' calculations, *Labour Force Survey*

There are also no major differences between Scotland and the RUK when the share of the employed population aged 55 and older is considered (Table 2). In 1995, this share was 11.8% in Scotland and 12.6% in the RUK. In 2010, the share had increased to 19.1% in Scotland and to 19.5% in the RUK. In relative terms, the share of workers in this age group increased by 62% in Scotland and by 55% in the RUK in this fifteen year period.

Table 2: Share of employed population aged 55 and older (%), Scotland and UK, 1995-2010

Year	Scotland	RUK
1995	11.8%	12.6%
2000	11.1%	13.5%
2005	16.9%	16.8%
2010	19.1%	19.5%

Source: Authors' calculations, *Labour Force Survey*

Finally, there are also no major differences when the ratio of older workers to younger workers is considered (Table 3). In 1995, this ratio was 1.4 in Scotland and 1.5 in the RUK. This suggests that in 1975 there were three “older workers” for every two “younger workers”. In 2010, the ratio had risen to 2.3 in both Scotland and the RUK. This ratio implies that in 2010 there were 4½ “older workers” for every two “younger workers”.

Table 3: Ratio of Older Workers to Younger Workers, Scotland and RUK, 1995-2010

Year	Scotland	RUK
1995	1.4	1.5
2000	1.6	1.7
2005	2.1	2.0
2010	2.3	2.3

Source: Authors' calculations, Labour Force Survey

3. Changes in the industry structure of employment

Table 4 reports the employment shares across nine industry groupings for 1995 and 2010 for both Scotland and the RUK. The table also show the percentage change (growth or decline) in employment between the two points in time. Industry is defined using the 2-digit "Standard Industrial Classification (SIC)". This classification is particularly useful for our purposes since it is comparable over time and not subject to major definitional changes in the period that is our focus.

Table 4 confirms that in this fifteen year period that has been a large decrease in the share of employment in "Manufacturing" in both Scotland the RUK. In Scotland, this share declined from 16.0% to 8.3%. In the RUK, the share declined from 18.9% to 10.9%. In both cases, this change in

percentage terms is over 40%. In the same period, there were sizeable increases in the share of employment in certain service sectors industries such as "Banking, Finance, Real Estate and Insurance Services" and "Public Administration and Education". In both Scotland and the RUK, there have been declines in the employment shares in "Agriculture and Fishing", "Distribution, Hotels and Restaurants" and "Transport and Communication". It is interesting to note (but not surprising) that the employment share in "Energy and Water Supply" has increased in Scotland but declined in the RUK in this period.

It is clear that for both Scotland and the RUK manufacturing is no longer a major employer with the 2010 employment share being 8.3% in Scotland and 10.9% in the RUK. In both Scotland and UK, almost 1 in 3 workers are employed in "Public Administration and Education" jobs. Likewise, around 2/3rds of all workers are employed in "Distribution, Hotels and Restaurants", "Banking, Finance, Real Estate and Insurance Services" and "Public Administration and Education".

For our purposes the estimates in Table 4 confirm that in period 1995 to 2010 there has been considerable redistribution of employment between industries. It is clear that there has been big employment growth in certain industries and big employment declines in other industries. However, these estimates which are based only on an industry breakdown make it difficult to conclude that

Table 4: Employment Share (%) by Industry, Scotland and RUK, 1995 and 2010

Industry:	Scotland			RUK		
	1995	2010	%Δ	1995	2010	%Δ
Agriculture & Fishing	2.8%	2.7%	-2.9	2.0%	1.6%	-21.4%
Energy & Water Supply	2.5%	3.2%	+27.2	1.2%	1.0%	-18.2%
Manufacturing	16.0%	8.3%	-48.2	18.9%	10.9%	-42.2%
Construction	7.4%	7.4%	+0.2	6.9%	7.3%	+5.0%
Distribution, Hotels & Restaurant	20.1%	19.4%	-3.5	20.4%	18.4%	-9.8%
Transport & Communication	6.0%	5.9%	-2.6	6.3%	6.3%	-0.2%
Banking, Finance, Real Estate and Insurance Services	11.7%	15.0%	+27.5	13.8%	16.9%	+22.0%
Public Administration & Education	27.0%	32.1%	+18.7	24.5%	31.5%	+28.6%
Other Services	6.4%	6.1%	-5.2	5.9%	6.2%	+4.9%
All Industries	100%	100%	--	100%	100%	--

Source: Authors' calculations, Labour Force Survey

Table 5: Average Age of Employed Population by Industry, Scotland and RUK, 1995 and 2010

Industry:	Scotland			RUK		
	1995	2010	%Δ	1995	2010	%Δ
Agriculture & Fishing	44.9	47.4	+5.6%	43.8	47.9	+9.4%
Energy & Water Supply	38.3	40.9	+6.8%	40.1	43.9	+9.5%
Manufacturing	37.9	43.3	+14.2%	38.9	43.6	+12.1%
Construction	38.6	42.3	+9.6%	39.6	42.5	+7.3%
Distribution, Hotels & Restaurant	35.8	37.8	+5.6%	36.8	38.1	+3.5%
Transport & Communication	39.9	44.5	+11.5%	39.4	44.1	+11.9%
Banking, Finance, Real Estate and Insurance Services	37.3	41.9	+11.1%	38.2	42.1	+10.2%
Public Administration & Education	40.1	43.8	+9.2%	40.6	43.5	+7.1%
Other Services	40.0	42.2	+5.5%	39.7	41.0	+3.3%
All Industries	38.5	42.1	+9.4%	39.0	42.2	+7.9%

Source: Authors' calculations, Labour Force Survey

distribution of employment across these industries is drastically different between Scotland and the RUK at least at this level of industry disaggregation.

4. Changes in the industry and age structure of employment

Tables 5-7 present the three measures of the age structure of employment separately for each industry. That is, the estimates in these tables are analogous to those in Tables 1-3 but are broken down by industry. Before considering each table in turn, there are three general observations worth making. The first relates to the direction of change in these measures between 1995 and 2010. In all but one case, (i.e. RUK, ratio of older to younger workers, "Distribution, Hotels and Restaurants") the changes are positive suggesting that almost all industries "got older" in

this period. The second is there is considerable variation across industries in the size of this change. This is the case for both Scotland and the RUK. The third is that there is considerable variation within specific industries in the size of this change between Scotland and the RUK.

Table 5 illustrates the average age of the employed population by sector. The "oldest" industry based on this measure is "Agriculture and Fishing" in both Scotland and the RUK. In Scotland in 2010, the average age was 47.4 years. In the RUK in 2010, the average age was 47.9 years. It is also important to note that in 1995, "Agriculture and Fishing" in Scotland and the RUK was also the oldest industry, with the average age of those employed being 44.9 and 43.8 years, respectively. The "youngest industry" in both Scotland and the RUK is "Distribution, Hotels and

Table 6: Share of employed population aged 55 and older by industry, Scotland and RUK, 1995 and 2010

Industry:	Scotland			RUK		
	1995	2010	%Δ	1995	2010	%Δ
Agriculture & Fishing	46.6%	52.0%	+11.6%	35.9%	48.5%	+35.4%
Energy & Water Supply	4.1%	13.2%	+221.8%	10.3%	24.5%	+138.9%
Manufacturing	11.9%	25.2%	+111.1%	14.4%	27.2%	+89.0%
Construction	14.4%	18.5%	+27.9%	15.6%	25.9%	+65.9%
Distribution, Hotels & Restaurant	12.1%	18.6%	+53.4%	13.8%	20.4%	+48.2%
Transport & Communication	14.3%	27.6%	+93.5%	12.9%	27.5%	+112.7%
Banking, Finance, Real Estate and Insurance Services	11.4%	23.1%	+102.7%	12.1%	21.9%	+80.8%
Public Administration & Education	11.9%	26.6%	+123.6%	13.8%	24.6%	+78.7%
Other Services	22.3%	24.2%	+8.6%	20.1%	27.2%	+35.4%
All Industries	13.4%	23.70%	+77.4%	14.4%	24.4%	+69.1%

Source: Authors' calculations, Labour Force Survey

Restaurants". In this industry in 2010, the average age in Scotland was 37.8 years and 38.1 years in the RUK. IN 1995, this sector also had the lowest average age in both Scotland (35.8 years) and the RUK (36.8 years). The largest increase in the average age of employment between 1975 and 2010 was in "Manufacturing". This increase was 14.2%

in Scotland and 12.1% in the RUK. Increases of over 10% occurred in "Transport and Communications" and "Banking, Finance, Real Estate and Insurance Services". In both Scotland and the RUK, the smallest increase was in "Other services" followed by "Distribution, Hotels and Restaurants".

Table 7: Ratio of older workers to younger workers by industry, Scotland and RUK, 1995 and 2010

Industry:	Scotland			RUK		
	1995	2010	%Δ	1995	2010	%Δ
Agriculture & Fishing	2.3	4.3	+85.1%	2.2	4.4	+137.8%
Energy & Water Supply	1.6	2.1	+30.4%	2.0	3.1	+138.4%
Manufacturing	1.4	3.0	+117.5%	1.4	3.0	+36.2%
Construction	1.4	2.6	+79.5%	1.6	2.4	+34.7%
Distribution, Hotels & Restaurant	1.0	1.3	+29.5%	1.1	1.3	-2.0%
Transport & Communication	1.9	3.2	+74.5%	1.6	3.2	+85.2%
Banking, Finance, Real Estate and Insurance Services	1.2	2.3	+88.9%	1.3	2.2	+17.9%
Public Administration & Education	1.9	3.1	+63.5%	2.1	3.0	+84.2%
Other Services	1.5	2.2	+42.2%	1.5	1.8	+24.6%
All Industries	1.4	2.3	+62.9%	1.5	2.3	+41.1%

Source: Authors' calculations, *Labour Force Survey*

Table 6 shows the estimates for the share of the employed population aged 55 and older by industry. This measure confirms that in both Scotland and the RUK, "Agriculture and Fishing" is the "oldest industry" both in 1995 and 2010. However, there is a major difference between Scotland and the RUK with respect to the "youngest industry". In 1995, it was "Energy and Water" in both Scotland (4.1%) and the RUK (10.3%). In 2010 in Scotland, "Energy and Water" remained the youngest industry (13.2%). However, this is not the case for the RUK. The youngest industry in 2010 is "Distribution, Hotels and Restaurants" (20.4%). These estimates almost certainly reflect the importance of the energy sector in Scotland, which is heavily based on oil. In terms of change, the biggest increase between 1995 and 2010 was in "Energy and Water Supply", In Scotland; the increase was 222% while in the increase for the RUK was 139%. The smallest changes were for "Agriculture and Fishing", and "Other services".

Table 7 shows the estimates of the ratio of older workers to younger workers by industry. Based on this measure, "Agriculture and Fishing" was the oldest industry in both Scotland and the RUK in 1995 and 2010. In 2010, the ratio was 4.3 in Scotland and 4.4 in the RUK. In 2010 in Scotland the second highest ratio was in "Transport and Communication" (3.2) followed by "Public Administration and Education" (3.1) and "Manufacturing" (3.0). In 2010, the second highest ratio is also in "Transportation and Communication" (3.2) followed by "Energy and Water Supply" (3.1) (which is one of the youngest industries in Scotland). Based on this measure, the youngest industry in

2010 in both Scotland and the UK is "Distributions, Hotel and Restaurant" (a ratio of 1.3 for both). In terms of change between 1995 and 2010, the industries in Scotland experiencing the largest increase in this measure were "Manufacturing" (117.5%), "Banking, Finance, Real Estate and Insurance Services" (88.9%) and "Construction" (79.5%). In the RUK, the largest increases were in "Energy and Water Supply" (138.4%), Agriculture and Fishing (137.8%) and "Transportation and Communication" (85.2%). The smallest change in Scotland was for "Distribution, Hotels and Restaurants" (29.5%). Likewise, the smallest change for the RUK was also in this industry, with the data suggesting a small decline the older to younger workers ratio.

5. Concluding comments

This exploratory paper has attempted to evaluate whether there is a link between ageing industries and declining industries in Scotland. It is well known that there has been a shift in employment away from manufacturing industries to services industries. It is less well known that there are large differences in the age structure of employment between industries. It has been suggested that the processes of labour force ageing and employment decline reinforce each other resulting in large age structure differences across industries. The descriptive analysis presented in this paper generates some evidence consistent with this view. However, if this process is viewed as a being problematic, the analysis does not suggest that it is a "more serious" problem in Scotland compared to the Rest of the UK.

In terms of the nine sectors that we considered, the manufacturing sector has aged “most rapidly” in the period 1995 to 2010. The three measures of ageing that we calculate all consistently point to this. However, it is not the case the service sector as whole is ageing least rapidly. In a regression analysis of the data presented in Tables 4-7 (but not reported here), no support was found for a strong statistically relationship between changes in employment shares and rates of labour force ageing (as was found by for example, Han and Suen, 2011).

Of the nine industries considered in this paper, agriculture and fishing has a much older age structure than the other eight industries by a considerable margin. In Scotland, the ratio of older to younger workers is nearly double the value for all industries. The share of workers over 55 years of age and older is also over double the value for all industries. The average age of workers is more than four years higher than for all industries. This average age is almost 10 years higher than the average for workers in distribution, hotel and restaurant industries. It is clear that a large share of those employed in this industry is above “pensionable age”. It is also clear fewer younger workers are entering the industry, although we recognise the barriers to entry to farming (see for example, the Macaulay Institute et al (2008) *Barriers to New Entrants to Scottish Farming*). In our view, this heightens concerns as to the longer-term sustainability of this industry.

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Demographic change and housing markets (Conference report)

Professor Robert E Wright, University of Strathclyde

There is considerable interest in the impact of demographic changes on social and economic outcomes. In high-income countries, the demographic change that generates the most current interest in government, amongst the media and in academic research is population ageing. Population ageing is the shift in the age distribution of a population away from younger age groups (e.g. < 15 years) to older age groups (e.g. 65+ years). The main "cause" of population ageing is a long-run fertility below the so-called replacement-level. Most high-income countries have experienced below replacement-level fertility for past three to four decades. Therefore, population ageing has considerably momentum and is not something that can "fixed" easily through policy.

There has been considerable research in the area of population economics aimed at trying to understand how population ageing affects the demand for/supply of both public and private goods and services. It is agreed that population ageing leads to an increased demand for health and medical services and for state-supplied pensions and other age-related benefits. This raised questions about the ability to pay for such services for an increasing number of people.

There is less agreement on the impact of population ageing on the demand for housing and residential services. This is somewhat surprising given that there is a clear age gradient in the demand for housing. In addition, housing costs are usually a large (if not the largest) item of household expenditure. Furthermore, the purchase of a house is usually the biggest single financial transaction an individual (or couple) makes in their lifetime. It would be a considerable exaggeration to assume that there is a dearth of research that links demographic change to housing markets. However, in terms of volume (and perhaps in quality as well) it lags well behind the topics mentioned above.

In an attempt to highlight these and related issues, Professor Robert E Wright of the Department of Economics, University of Strathclyde organised a one-day workshop titled: "Demographic Change and Housing Markets", held in Glasgow on February 15, 2012. The workshop consisted of six presentations and was attended by over 40 participants from academia, government, charities and business. The

workshop was funded by the Scottish Institute of Research in Economics (SIRE) and the Scottish Economic Society (SES).

The workshop brought together individuals carrying out current and leading research into the major links between demographic change and housing markets. The six presentations on the day were:

1. *Demographic Change and the Housing Market: Does the Effect Go Both Ways?*, by Bo Malmberg (University of Stockholm)
2. *The Adjustment of Housing Markets to Migration Change: Evidence for the Long and Short Run*, by Geoffrey Meen (University of Reading)
3. *Impact of Population Ageing on House Prices: A Micro-simulation Approach*, by Yu Chen (University of Glasgow), Kenneth Gibb (University of Glasgow), Chris Leishman (University of Glasgow) and Robert Wright (University of Strathclyde)
4. *Housing Equity and Residential Mobility*, by John Ermisch (University of Oxford) and Liz Washbrook (University of Bristol)
5. *Unpaid Care, Housing Decisions and the Resilience of the Care System*, by David Bell (University of Stirling) and Alasdair Rutherford (University of Stirling)
6. *Key Research Issues in the Relationship between Demographic Change and Housing Markets*, by David Miles (Monetary Policy Committee)

The titles of these presentations give an excellent indication of the diversity of issues relevant to understanding how demography and housing interacts.

The presenters were invited to prepare manuscripts of their presentations to be considered for publication. There was considerable feedback, led by the workshop rapporteur, Stuart McIntyre (University of Strathclyde) from the participants that presenters were encouraged to incorporate. The manuscripts were then subject to blind peer review and all six will appear in a special issue of the *Scottish Journal of Political Economy* published at the end of this year (volume 59, number 5), edited by Tim Barmby (University of Aberdeen) and Robert Wright. For those who do not subscribe to this journal, a copy of the special issue can be purchased via the Wiley-Blackwell website: <http://www.blackwellpublishing.com>.

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