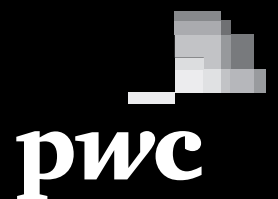


# Fraser of Allander Institute **Economic Commentary**

Vol 39 No. 2

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# Fraser of Allander Institute Economic Commentary

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# The Scottish economy

# 1 Outlook and appraisal

Brian Ashcroft, Economics Editor, Fraser of Allander Institute

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## Overview

Growth in both the Scottish and UK economies is slowing and in the second quarter a gap opened up between Scotland and the UK. The chained volume measure of GDP rose by 0.1% in Scotland in the quarter, while UK GDP rose by 0.7%. The latest Scottish data contain considerable revisions from the previously published data, and one worry is whether the growth gap is genuine or will be revised away in subsequent quarters. However, despite what some prominent commentators have said about the latest GDP data providing a different picture from other Scottish data, we think that the data do tend to show an absolute and relative – to the UK – slowdown in the growth of the Scottish economy. Growth in the UK economy is slowing too. The preliminary estimate for UK GDP in the third quarter was 0.5%, with growth weakening from the 0.7% attained in the second quarter. Growth in the world economy is also forecast by the IMF to be weaker this year than last but is expected to pick up again next year.

The latest data also show that the recovery in the labour market is slowing in both Scotland and the UK, while the recovery remains stronger in the UK. In the quarter to August 2015, employment in Scotland fell by -6,000 (-0.6%) to 2,610,000 while unemployment rose again by 18,000 (0.6%) to 170,000 with the rate rising to 6.1%. In both the jobs market and in output the recovery has been stronger in the UK than in Scotland. On jobs, employment was 2.2% *above* the pre-recession peak in Scotland at the end of the second quarter, while UK jobs were 4.4% higher than the peak. On output, by the second quarter, Scottish GDP was 3% above the pre-recession peak while UK GDP (ex oil & gas) was more than double (6.9%) above its peak. And in terms of GDP per head, which in many ways is a better measure of the prosperity of people, in the second quarter UK GDP per head stood at +0.6% above its pre-recession peak - after nearly 6 years – while the position in Scotland is that it is worse with GDP per head in 2015q2 -0.3% *below* pre-recession peak.

What seems to be happening is that domestic demand is still driving growth in Scotland and UK. But in Scotland it is the construction sector that is providing the main impetus with public spending on infrastructure underpinning growth. In the UK in contrast, the service sector is the main driver with construction weakening. In Scotland, weakness in the service sector has been affected by the onshore implications of the fall in the price of oil hitting business services in particular as well as mining and quarrying. Manufacturing growth is weak in both Scotland and the UK and seems to be a reflection of weakening external demand for UK exports reinforced by the strength of sterling, the current crisis in the UK steel industry being a sad case in point.

*Domestic demand* in Scotland and the UK continues to be *boosted* by: low inflation; net immigration into the UK; low interest rates; and some pick up in wages and earnings. To be set against these positive influences are actual and potential *threats* to the growth of domestic demand: further planned austerity by the UK Conservative Government exemplified by the planned cuts to tax credits; and the continuing

high levels of household debt, which for some households paying a variable interest rate will become an increasing burden if rates rise in the near future.

*External demand* for Scottish and UK goods and services are being *boosted* by: the continued resilience of the US economy; a gradual pick up in growth in the Eurozone as the risks of deflation appear to recede while the problems of Greece are, for the short term at least, resolved; and the world economy is forecast by the IMF to grow by 3.1% this year and by 3.6 % in 2016. To be set against these positive influences are a number of actual and potential *threats* to the growth of external demand: the high sterling exchange rate against the Euro, which appears to have been boosted by the short-term market expectation of an imminent increase in UK interest rates; the IMF's forecast for global growth in 2015 and 2016 represents a markdown from the 3.4% achieved in 2014; China's transformation from dependency on high domestic investment, forced saving and a disproportionate reliance on external demand to a greater reliance on household consumption and associated structural reforms will lead to slower growth; the effect of what the IMF calls 'policy normalisation' of monetary policy in the United States as interest rates begin to rise is expected to have global repercussions, which will serve to slow growth especially in emerging markets.

It is against this background that we have prepared our latest forecasts.

Our GDP forecast for 2015 is 1.9%, which is a significant revision down from our forecast of 2.5% in June of this year due to the evidence of a slower than expected rate of growth in the second and third quarters of the year. For 2016, we have also revised down our forecast to 2.2% from 2.3% in June, in recognition that the slow down in the rate of recovery will continue into 2016 as exporting continues to be difficult due to the high pound sterling and because of the lingering effects on Scottish onshore activity of the low price of oil. On our central forecast, we are forecasting a pick up in the rate of growth in 2017 as the economy rides out the challenges of 2016. We have therefore raised our forecast for 2017 to 2.5% from 2.3% in our June forecast.

The number of total employee jobs is forecast to continue to increase in each year, and at a faster rate than that seen during 2014 (although not as strongly as in 2013). Our forecast for the number of jobs added in 2015 has been revised down since June's forecast, from 51,250 to 49,400. The number of jobs at the end of 2015 is now forecast to be 2,433,400, an increase of 2.1% on 2014 (the same percentage growth forecast as in June's Commentary). Our current central forecast is that the Scottish economy will add 45,000 jobs in 2016, down by 4,600 from our June forecast, while we forecast the addition of 54,650 jobs in 2017, an increase of nearly 3,000 on our June forecast.

On unemployment, the most recent figures show that unemployment rose again by 18,000 (0.6%) to 170,000 with the rate rising to 6.1%. Unemployment in Scotland rose by 19,000 over the year, or 0.7%. Given the small revisions to the growth in employee jobs over the next two years in our latest forecasts, there are only small revisions to the levels and rates from our earlier forecasts. Despite the recent increases, the improvement in the labour market is forecast to continue with unemployment rates and numbers falling to end 2017. Our projection for unemployment on the ILO measure at the end of 2015 is 6.2%, falling further to 5.7% by the end of 2016, and 4.6% by end 2017.

In this Outlook & Appraisal we also continue our consideration of the medium to long-term challenges facing the Scottish economy. Specifically, we ask first, how are we doing over the long-term in terms of growth performance against the UK? Secondly, we ask if Scotland is to raise its long-term growth performance how well equipped is the economy to do that? And that is a question about Scotland's economic competitiveness.

On *long-term growth performance*, the main conclusions are: Scottish 'trend' GDP growth over last 50 years is identical to UK growth rate at 2.3% p.a. and Scottish 'trend' GDP per head growth over last 50 years is 2.2% p.a. *faster* than UK's 2% p.a. – due to falling or lower population growth in Scotland. So, while in comparison with the UK and indeed many other small and large countries, Scotland's economic performance is 'not too bad', we note that there has been a relative weakening of the Scottish economy since 2010. It follows, that if Scotland is to prevent a further deterioration in performance compared to the UK and secure a sustained increase in its overall growth rate the Scottish economy will have to raise its level of competitiveness.

On *raising competitiveness*, we show that Scottish labour productivity while growing, is weaker than in the UK. We cite recent research evidence from Durham University's Professor Richard Harris and Dr. John Moffat that Total Factor Productivity (TFP) - the productivity of all factors: labour, capital and land – is also lower in Scotland than UK. They find that on average Scotland has had significantly lower productivity compared to the rest of the UK since the end of the 1990s. Overall, the 'gap' was around 11% across all sectors in 2012 (and 22% below the leading UK region i.e. London and the South East). There is an academic and policy consensus that we get stronger productivity growth through improvements in: innovation/R&D; exporting (especially in small open economies); skills; investment, and enterprise. Scotland is shown to be weak to varying degrees on all of these determinants of competitiveness. We look particularly at export performance and find that there has been a long-term decline – since the early 2000's - in manufacturing exports abroad. This has affected the performance of Scotland's overall exports to the rest of the world. In addition, there is clear evidence of the growing importance to the Scottish economy of exports to the rest of the UK, which peaked at 68% of total value of Scottish exports prior to the recession. Exports to rest of UK are heavily dominated by service sector exports and financial services in particular. Their importance dipped during and immediately after the Great Recession to 2012 with the contraction of financial services activity but it has since picked up again. Another pointer is that exports to the rest of UK track GDP much better than do exports to the rest of the world. This in part reflects the scale of rest of the UK exports to both GDP and total Scottish exports.

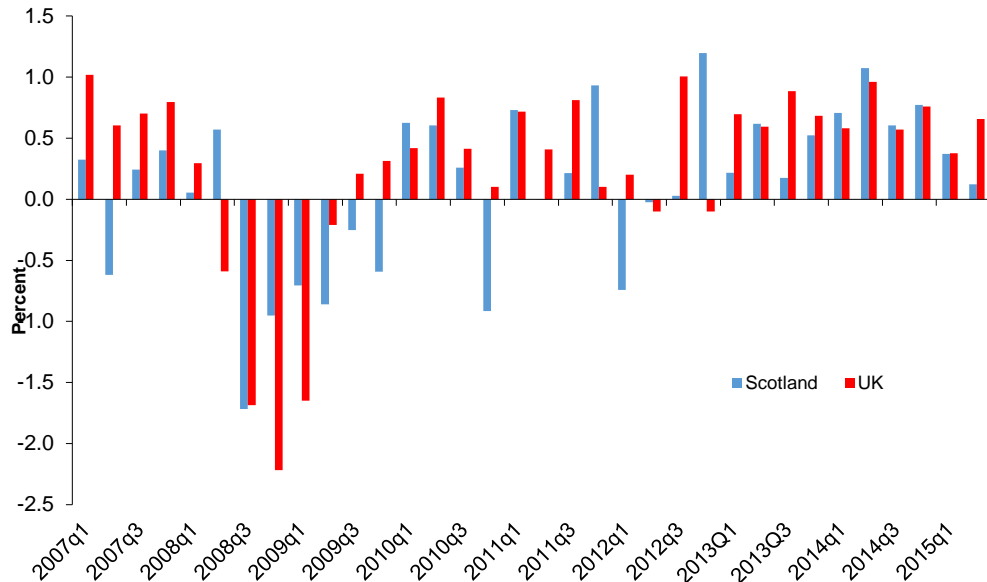
In the next Commentary we shall consider some of the policy issues that arise from this analysis. The issues that need to be considered include: how to raise overall exports to help drive GDP growth; how to build on the importance of the rest of UK market by selling more manufacturing products there as well as to the rest of the world; and how to raise service sector exports to the rest of the world.

#### *Recent GDP performance*

The latest Scottish GDP data are for the second quarter of this year (2015q2). The chained volume measure of GDP rose by 0.1% in Scotland in the quarter, while UK GDP rose by 0.7%. Over the year –

four quarters on four quarters – Scottish and UK growth was identical at 2.7%. The Scottish and UK quarterly growth rates back to 2007q1 are presented in Figure 1.

**Figure 1: Scottish and UK quarterly GDP growth, 2007q1 - 2015q2**



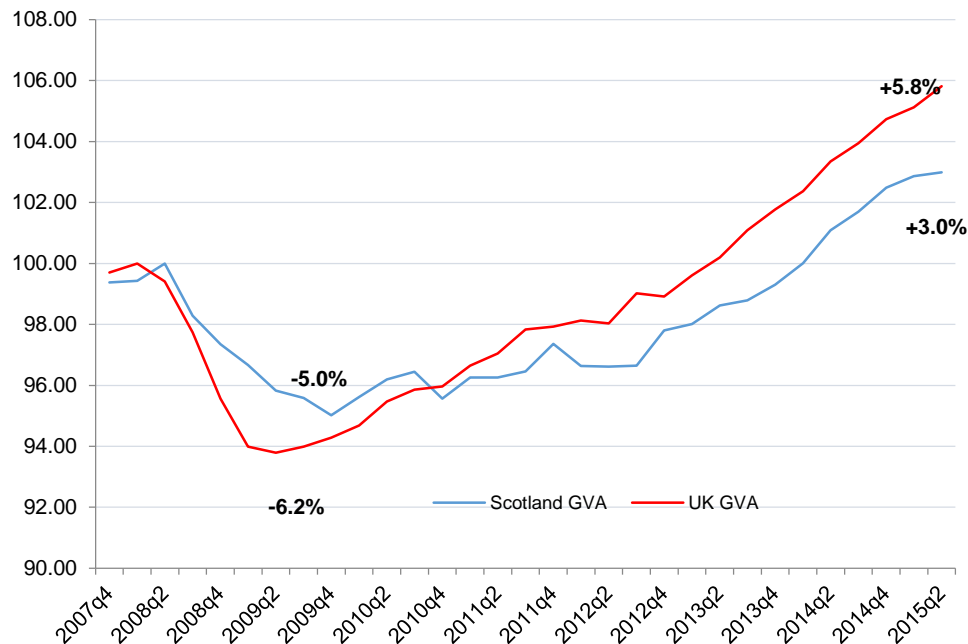
Source: Scottish Government Gross Domestic Product 2nd Quarter 2015, and Fraser of Allander Institute (FAI) calculations

The latest data contain considerable revisions from the previously published data, with overall growth lowered by -0.1% points in 2015q1 and raised by 0.1% in 2014q4. And across sectors, production output in 2015q1 is revised down by -0.3% points, which appears to be mainly due to mining and quarrying, while construction output is revised up by 0.1% and is subject to detailed, sizable revisions going back to the fourth quarter of 2012, and agriculture, forestry and fishing is revised up by 0.1%. Output in the service sector is unrevised on 2015q1 but is subject to upward revisions for the final three quarters of 2014 and downward revision in 2014q1. We are concerned about these revisions but are assured by Scottish Government statisticians that they do not reflect 'errors' but reflect updated survey returns from companies and changes in the seasonal adjustment factors after re-estimation to accommodate the latest data. The worry is whether the gap that has opened up between Scottish and UK performance in the second quarter of this year is real or will be revised away in subsequent quarters. However, despite what some prominent commentators have said about the latest GDP data providing a different picture from other Scottish data, we think that the data do tend to show an absolute and relative – to the UK – slowdown in the growth of the Scottish economy.

On the revised data, the Scottish economy has now enjoyed positive growth for the last 12 quarters (since 2012q2) while in the UK the sustained recovery period has been slightly shorter at 10 quarters from 2013q1. However, the UK recovery from the Great Recession has overall been stronger than in Scotland as is shown in Figure 2a.



**Figure 2a: GVA Scotland and UK in recession and recovery to 2015q2 (relative to pre-recession peak)**



Source: Scottish Government Gross Domestic Product 2nd Quarter 2015, and FAI calculations

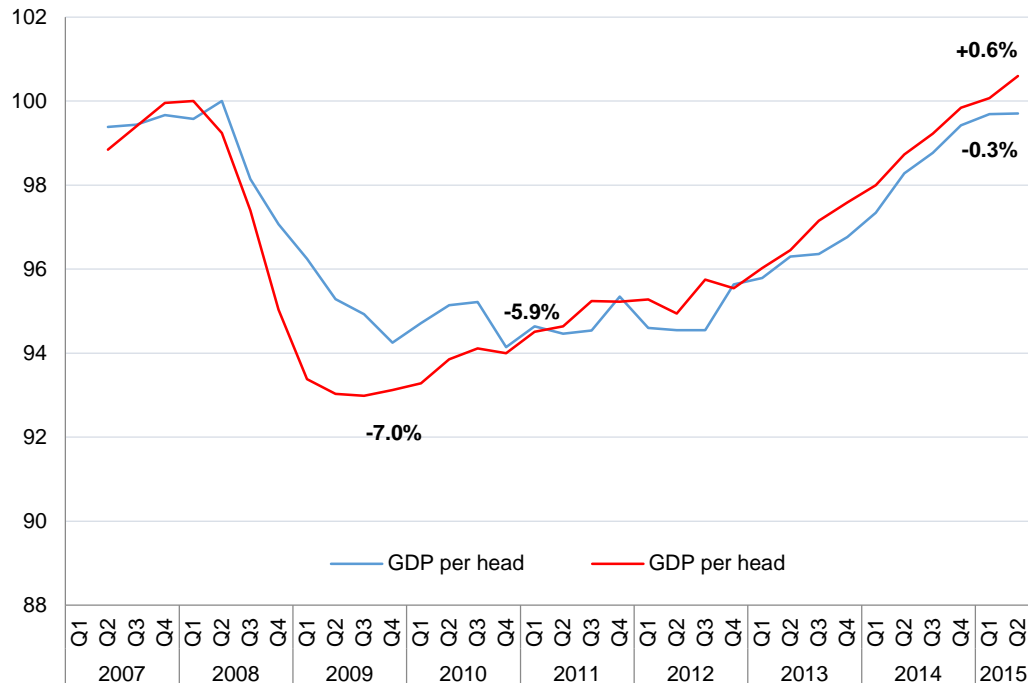
By the second quarter, Scottish GDP was 3% above the pre-recession peak while UK GDP was 5.8% above its peak. So, in view of the greater depth of recession in the UK, with GDP falling by -6.2% compared to a drop of -5% in Scotland, it seems clear that the UK has enjoyed a significantly (much?) stronger recovery than Scotland even though the recovery has been weaker than from any previous recession over the previous 80 years. And the data reveal that growth from the trough of the recession to the second quarter of this year amounts to 8.4% in Scotland and - 12.8% in the UK.

The Scottish Government statisticians are now producing GDP per head data, which in many ways is a better measure of the prosperity of people in Scotland. In addition, recent years have seen high inward migration into the UK and Scotland, so in assessing the performance of the economy of over time we really need to control for changing population. Data for recession and recovery in GDP per head in Scotland and the UK are presented in Figure 2b.

Figure 2b really puts the 'recovery' into perspective. In the second quarter UK GDP per head stood at +0.6% above its pre-recession peak – and that after nearly 6 years! The position is worse for Scotland with GDP per head in 2015q2 -0.3% *below* pre-recession peak. As Oxford University's Professor Simon Wren Lewis notes in discussing the UK recovery "... average growth in GDP per head between 1955 and 2008 was about 2.25%. Any recovery from such a deep recession should have seen growth rates well in excess of this. Instead the revised data give us 1.1% growth in 2011, 0.5% in 2012, 1.5% in 2013.

Only by 2014 had we got near the long-term average growth rate. This is still an absolutely terrible performance for a recovery.”<sup>1</sup>

**Figure 2b: GDP per head Scotland and UK in recession and recovery to 2015q2**

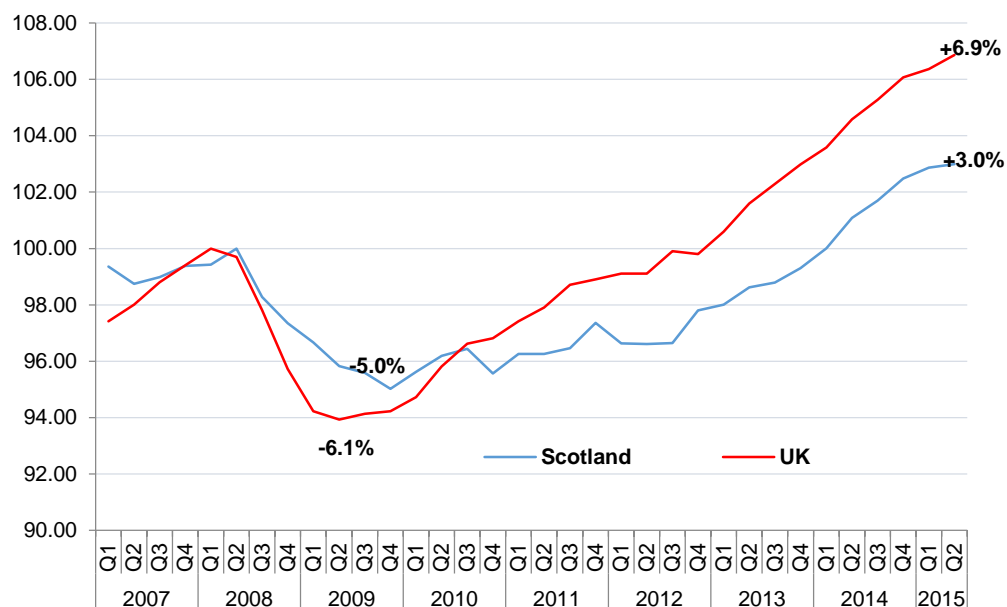


Source: Scottish Government Gross Domestic Product 2nd Quarter 2015, and FAI calculations

Returning to the overall GDP data we need in comparing Scotland and the UK, as noted in previous *Commentaries*, to allow for the complicating factor of oil and gas production, which for offshore production is included in the UK GDP data but not in the Scottish data. Removing oil and gas production from UK GDP data gives us Figure 3

When oil and gas production is removed, we find that the gap in the strength of the recovery continues to be wider in the UK's favour. UK GDP (ex oil & gas) stands 6.9% above the pre-recession peak compared to 3.0% in Scotland. The long period of weak UKCS oil and gas production has slowed the recovery of UK GDP from recession. So, UK GDP - ex oil & gas - has had an even stronger recovery from recession than Scottish GDP. Scottish GDP has recovered by 8.4% since the trough of recession while UK GDP - ex oil & gas - has recovered by 13.8% from its trough by 2015q2, compared to 12.8% when oil and gas output is included. In the latest quarter, UK GDP ex oil and gas rose by 0.5% - less than the 0.7% when oil & gas is included, suggesting a pickup in offshore activity - and by 2.7% over the year - four quarters on four quarters.

<sup>1</sup> <http://mainlymacro.blogspot.co.uk/2015/10/following-publication-of-revised-gdp.html>

**Figure 3: GDP (ex oil & gas) Scotland and UK in recession and recovery to 2015q2**

Source: Scottish Government Gross Domestic Product 2nd Quarter 2015 and FAI calculations

### Sectoral Components of GVA growth

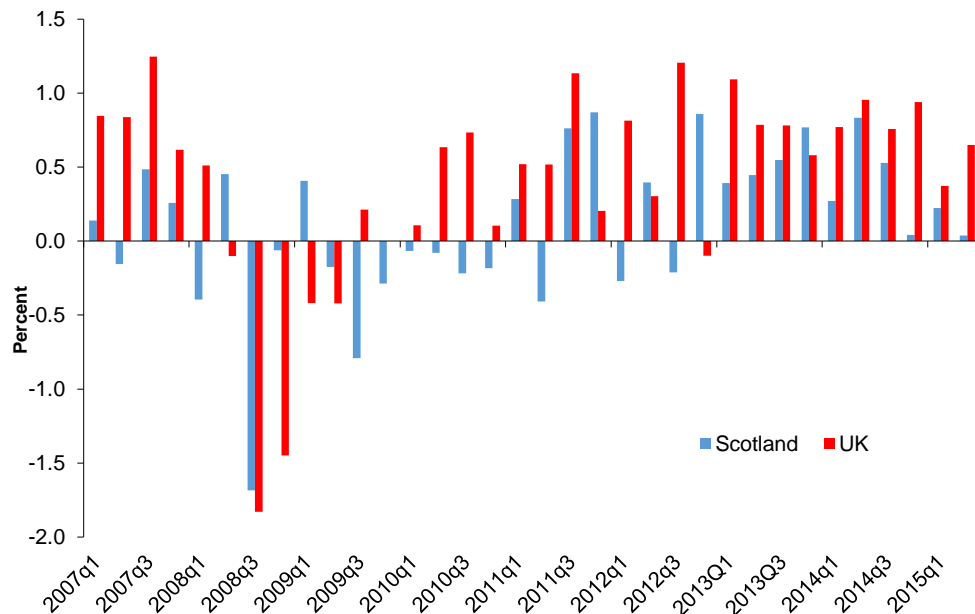
Turning now to individual sectors of the economy, we see that again the pattern of growth between Scotland and the UK differed considerably in the second quarter but with some subtle differences from earlier quarters. In the UK, the service sector was again by far the main driver of the overall growth rate of 0.7% by contributing growth of +0.5% points. In Scotland the service sector made no contribution to growth at all. In contrast, the principal driver of the overall growth rate in Scotland of 0.1% was again the construction sector contributing +0.2% points while the sector in the UK contributed 0.1% points to the much larger overall growth. In addition, and unusually, the production sector contributed negatively to growth in Scotland by -0.1% while making a positive contribution to growth in the UK of +0.1%. Within production, manufacturing in the UK made no contribution to growth, while making a negative contribution -0.1% points in Scotland, again something of a reversal of the earlier pattern. In Scotland mining & quarrying also made a negative contribution to growth of -0.1% points, with electricity & gas the only production sub-sector providing a positive contribution to growth of +0.1%. The production sub-sectors in the UK other than mining & quarrying all made a zero contribution to growth.

### Service sector

The Scottish service sector, which - on 2012 weights - accounts for 75% of GDP in Scotland and 78% in the UK, exhibited zero growth in Scotland in the second quarter and produced 1.6% growth over the

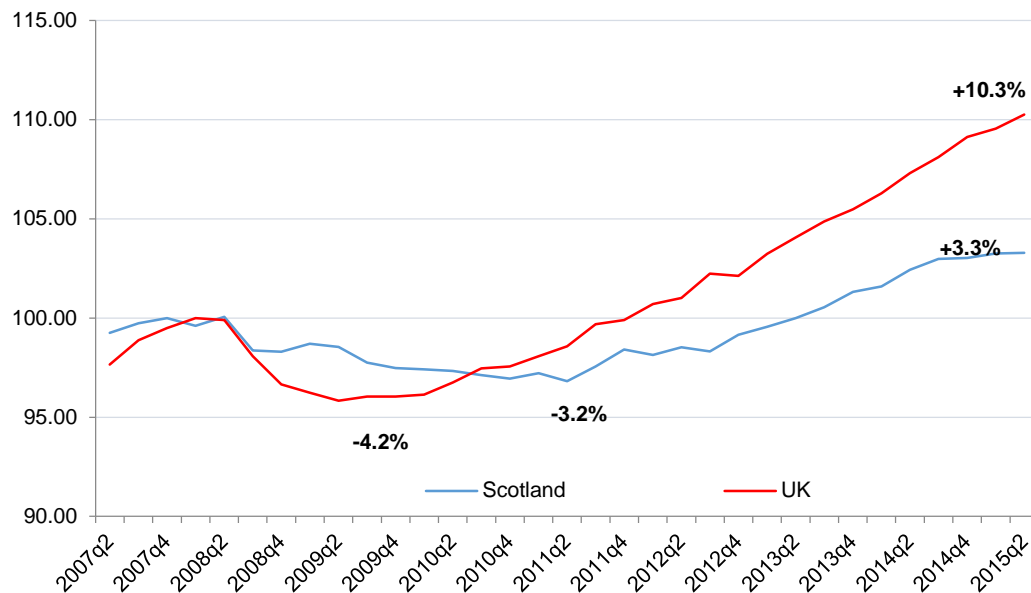
year. UK services output registered positive growth of 0.6% in the quarter - see Figure 4 – and 3.1% over the year.

**Figure 4: Scottish and UK services GVA growth 2007q1 to 2015q2**



Source: Scottish Government Gross Domestic Product 2nd Quarter 2015, and FAI calculations

**Figure 5: Services GVA Scotland and UK in recession and recovery to 2015q2**



Source: Scottish Government Gross Domestic Product 2nd Quarter 2015 and FAI calculations

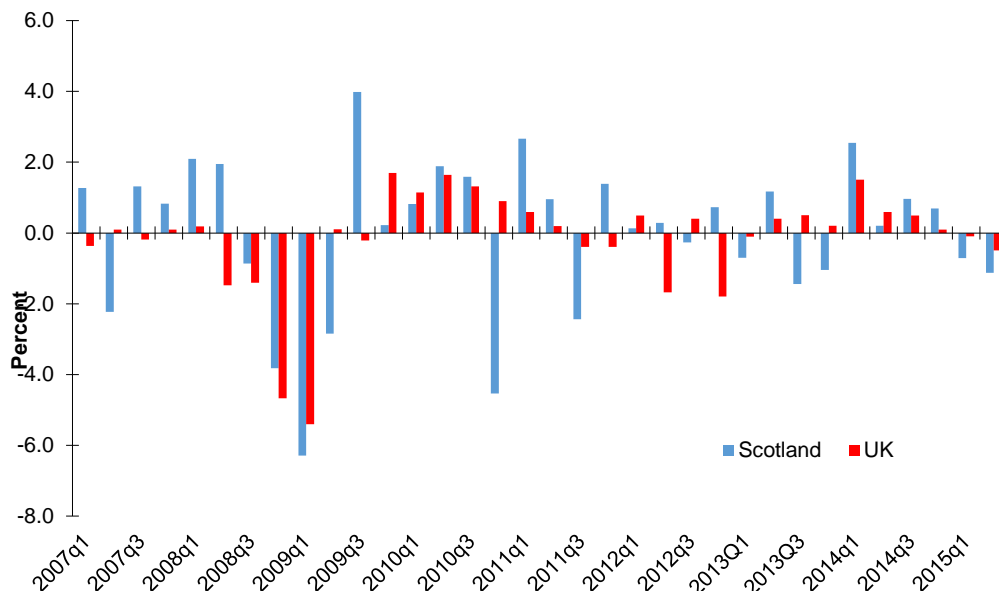
The state of the recovery in Scottish and UK services is presented in Figure 5. After experiencing a shallower but more drawn out recession in Scotland of -3.2% compared to -4.2% in the UK, output the

sector stood at 3.3% above its pre-recession peak by the second quarter of this year significantly less than the 10.3% above peak achieved in the UK.

Flat service sector growth in the second quarter in Scotland meant that the gap between the size of the recovery widened in favour of the UK to +7% points. As noted below, the effect of the slowdown in the oil & gas industry due to the low price of oil is also affecting the service sector in Scotland much more than the UK, for obvious reasons. And that is one contributory factor to Scotland's weaker service sector performance recorded here.

#### *Production / Manufacturing sector*

**Figure 6: Scottish and UK manufacturing GVA growth at constant basic prices 2007q1 to 2015q2**



Source: Scottish Government Gross Domestic Product 2nd Quarter 2015, and FAI calculations

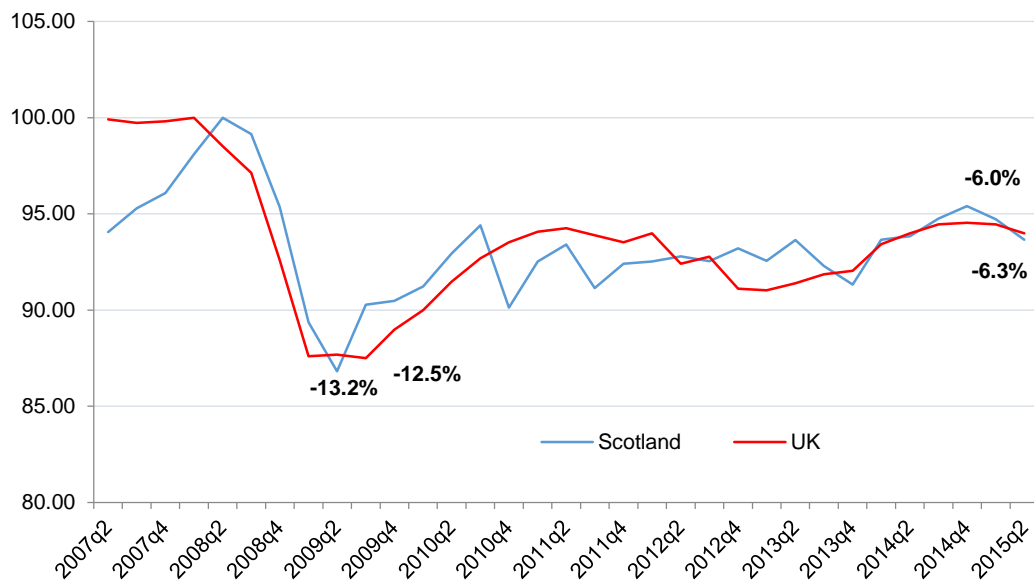
The production sector in Scotland failed to boost Scottish growth in the second quarter contracting by -0.1% in the quarter but growing by 1.9% over the year. Yet, overall the sector has been a key driver of Scotland's recovery growing by 10.8% since the trough of the recession compared to 8.4% for the economy as a whole. This contrasts with the growth of 6% in the Scottish service sector since the trough of the recession. In the UK, despite the stronger performance in the second quarter, the sector remains a drag on the recovery with growth of 2.2% to 2015q2 since the trough of the recession compared to the 12.8% growth of overall GDP. Scottish production output fell in the second quarter by -0.8% while UK production output grew by 0.6%. Over the year - four quarters on four quarters – Scottish production GVA rose by 1.9%, twice that of the UK where production output rose by 1%.

Within production, Mining & quarrying GVA contracted by -3.3% in the second quarter and rose by 4.3% over the year (UK mining & quarrying rose by 7.5% and -0.5%, respectively). Electricity & gas supply

GVA rose by 2.4% in the second quarter but fell by -2.9% over the year (UK electricity & gas supply -3% and 0.2%, respectively). In the second quarter, GVA in Scottish manufacturing fell by -1.1% but rose by 2% over the year, while UK manufacturing output contracted by -0.5% in the quarter rising by 1.6% over the year. Figure 6 charts the quarterly percentage changes in GVA in Scottish and UK manufacturing.

Figure 7 shows the impact of the latest data on the manufacturing sector's recovery from recession.

**Figure 7: Manufacturing GVA in Scotland and UK in recession and recovery to 2015q2**



Source: Scottish Government Gross Domestic Product 2nd Quarter 2015, and FAI calculations

We noted in the June *Commentary* (Vol. 39, No.1) that under the new ESA2010 data system the recovery in manufacturing was now weaker in Scotland than in the UK compared to the situation under the ESA 1995 data system. The latest data revisions in both the UK and Scotland have served to narrow the gap in favour of Scotland. However, manufacturing weakened in both Scotland and the UK after the fourth quarter last year and the slowdown was greater in Scottish manufacturing. By the second quarter of this year Scottish manufacturing GVA was -6.3% below its pre-recession peak, compared to -6.0% for manufacturing in the UK. The sustained recovery enjoyed by UK manufacturing since the first quarter of 2013 and in Scottish manufacturing since the fourth quarter of 2013 has clearly come to an end. It is deeply worrying that the level of manufacturing output in both Scotland and the UK as a whole is now *below* the level it was in the third quarter of 2010!

Within manufacturing, only three of the seven principal sectors experienced growth in the fourth quarter: clothing & leather products (accounting for 4% of manufacturing GVA) which grew 7.1% in the quarter but contracted by -5.8% over the year; refined petroleum, chemical & pharmaceutical products (accounting for 13% of manufacturing GVA) which grew by 0.5% in the quarter and by 5.1% over the year; and transport equipment (accounting for 6% of manufacturing GVA) which grew by 1.2% in the

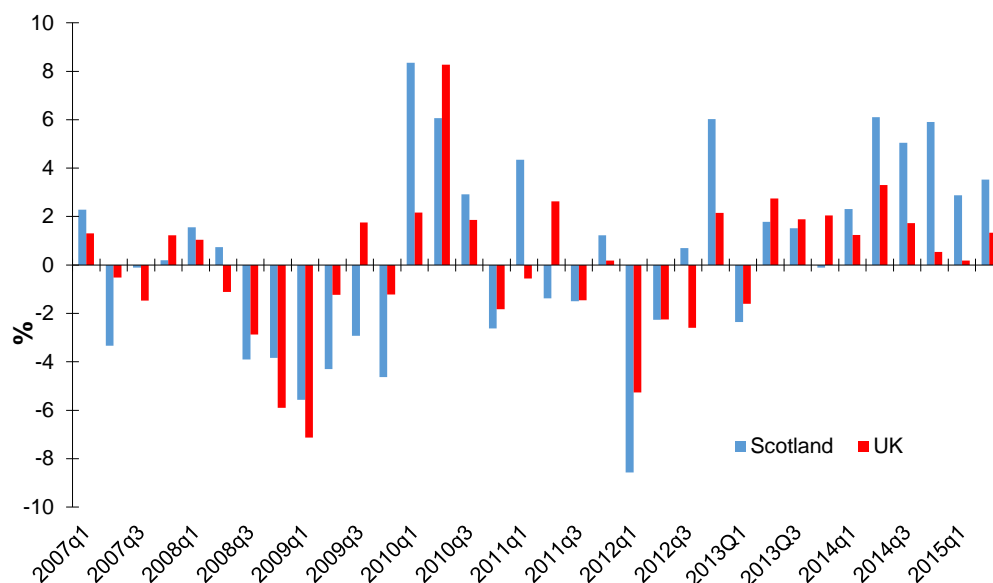
quarter and by 0.1% over the year; and computer, electrical and optical products (electronics) (accounting for 10% of manufacturing GVA), grew by 3.7% in the quarter and by 6.5% over the year.

However, that growth performance was offset by the four manufacturing sub-sectors that contracted in the quarter: food & drink (accounting for 27% of manufacturing GVA) grew by -0.0% in the quarter but grew by 3.6% over the year; metals, metal products & machinery n.e.c. (accounting for 17% of manufacturing GVA) contracted by -5.4% in the quarter and by -3.5% over the year; transport equipment (accounting for 7% of manufacturing GVA) contracted by -6.7% in the quarter but grew by 3.8% over the year; and other manufacturing industries, repair & installation (accounting for 24% of manufacturing GVA) which contracted by -1.9% in the quarter but grew by 1.9% over the year.

### Construction sector

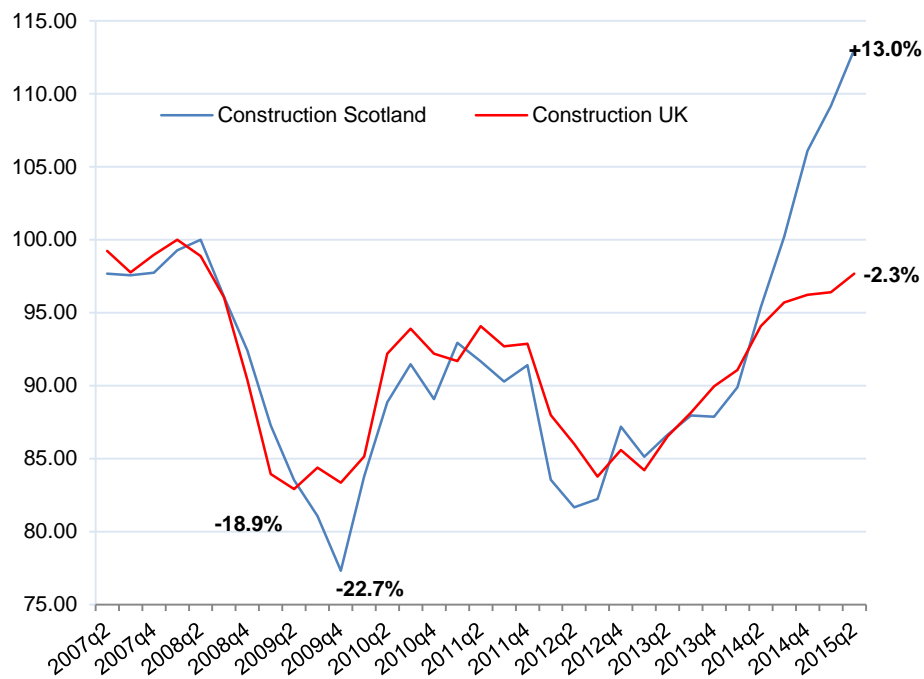
Turning now to construction, the latest data are presented in Figure 8.

**Figure 8: Scottish & UK construction GVA volume growth, 2007q1 - 2015q2**

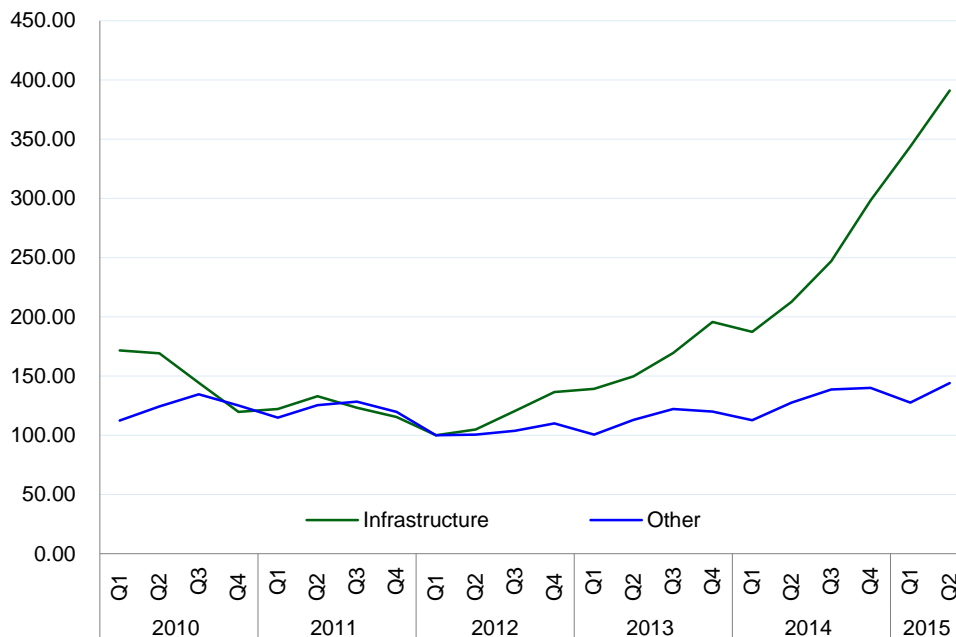


Source: Scottish Government Gross Domestic Product 2nd Quarter 2015, and FAI calculations

Scottish construction GVA grew quite strongly in 2015q2 by 3.5% following growth of 2.8% in the first quarter. The sector has exhibited strong growth for the past six quarters. Over the year the sector grew by a staggering 18.7%. As noted above it was again the principal driver of growth in Scotland. The UK construction sector grew by 1.3% in the second quarter and by 6.3% over the year. Figure 9 shows the recession and recovery performance of both the Scottish and UK construction sectors.

**Figure 9a: Construction Scotland and UK in recession and recovery to 2015q2**

Source: Scottish Government Gross Domestic Product 2nd Quarter 2015, and FAI calculations

**Figure 9b: Infrastructure and other new construction output in Scotland 2012q1 =100**

Source: ONS: Output in the Construction Industry August 2015 and FAI calculations



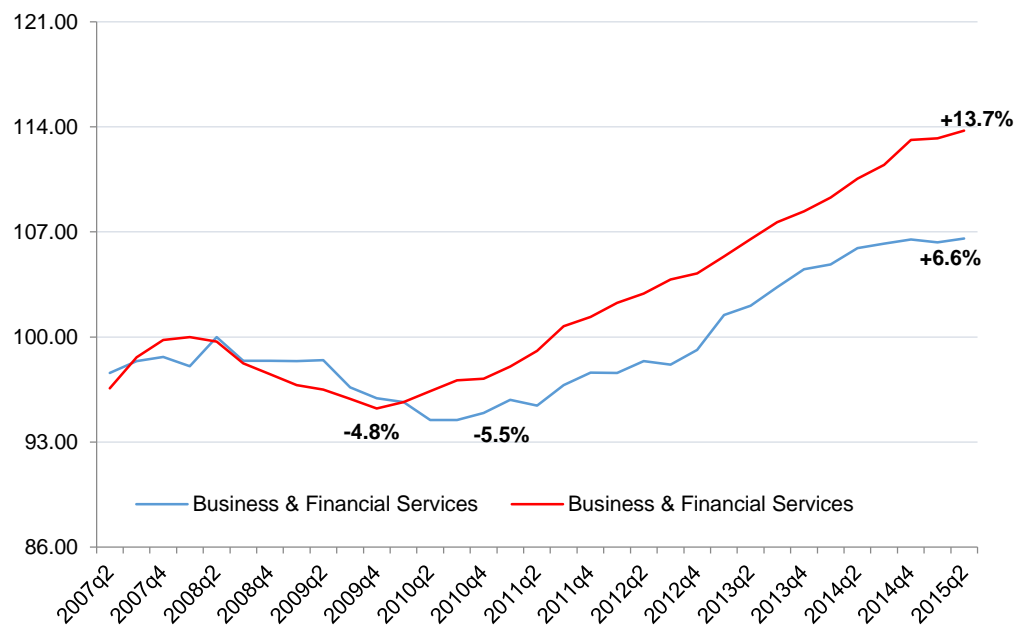
Figure 9a highlights how Scottish construction activity has surged since the final quarter of 2013. The chart shows that by the 2015q2 Scottish construction had moved to 13% *above* its pre-recession peak compared to UK construction, which was -2.3% below its pre-recession level. There has clearly been a major positive change in the performance of the Scottish construction industry compared to its UK counterpart since the first quarter of 2014. Figure 9b reveals why.

What Figure 9b reveals is that the surge in Scottish construction output is almost wholly explained by a surge in spending on infrastructure, which almost quadrupled between 2012q1 and 2015q2. Other construction activity, however, rose by less than half over the same period. The data are in current prices and not seasonally adjusted but the surge in infrastructure spend cannot be explained away by inflation and/or seasonal factors. The surge is real and appears to be driven by increased public spending on infrastructure by the Scottish government, with spending on the new Forth road bridge crossing (and Borders Rail link etc.) likely to be a major element in this.

#### *Components of private services sector growth*

Within services, two of the three principal sub-sectors in the private sector displayed positive growth in the fourth quarter: business and financial services and distribution, hotels and catering. Business and financial services grew by 0.2% in the quarter and grew by 1.7% over the year, compared respectively, to growth of 0.5% and 3.6% in the UK. Figure 10 shows the growth of the sector in Scotland and UK during the recession and recovery.

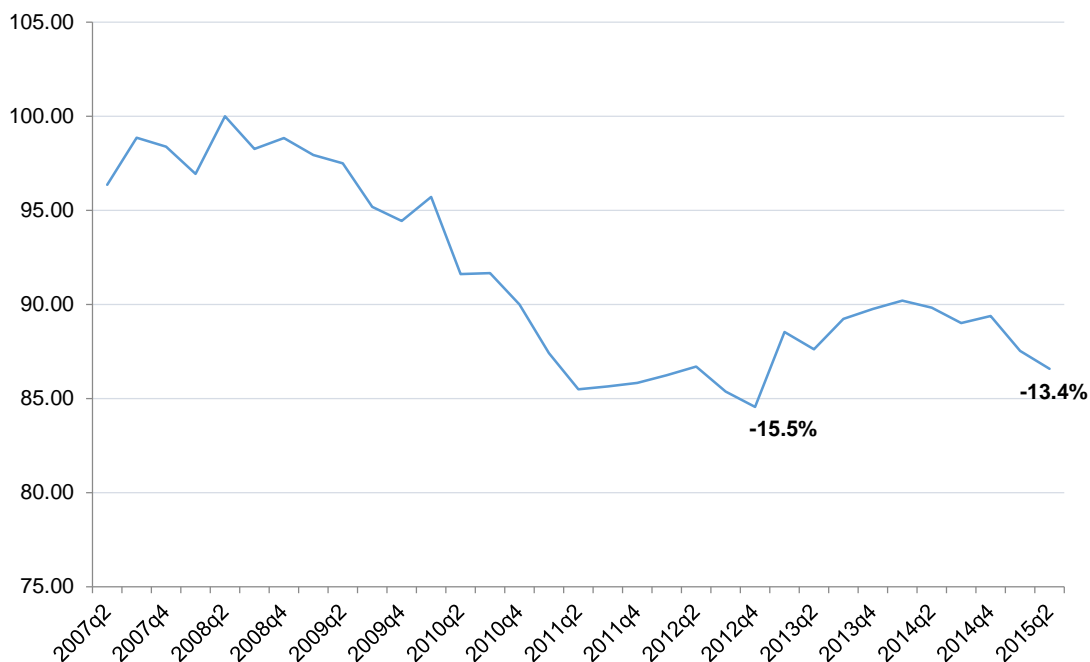
**Figure 10: Business & financial services Scotland and UK in recession and recovery to 2015q2**



Source: Scottish Government\_Gross Domestic Product 2nd Quarter 2015, and FAI calculations

By the second quarter, output or GVA in the sector had moved to +6.6% above its pre-recession peak in Scotland compared to +13.7% in the UK and the recovery in the sector in Scotland clearly appears to have stagnated in the last three quarters. One key contributory factor to this stagnation may well be the effect of the low oil price on activity in oil and gas support firms, which are classified to business services. And another factor, as noted in previous Commentaries, is that the aggregate GVA data for business and financial services in Scotland have recently masked significant differences between the performances of financial services on the one hand and business services on the other. Figure 11 shows what has been happening to financial services since peak output in the second quarter of 2007.

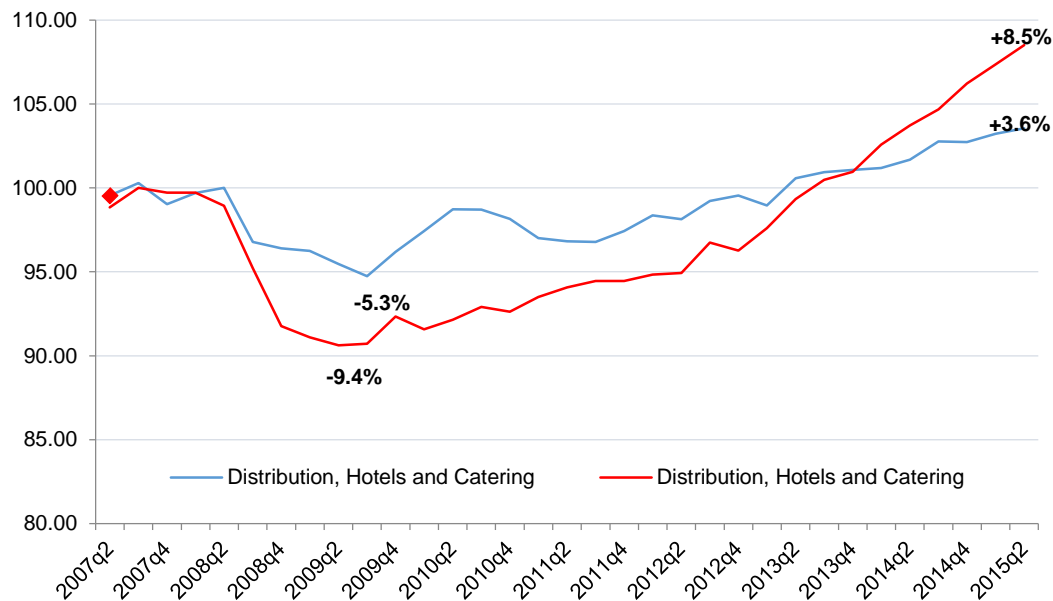
**Figure 11: Financial services in Scotland in recession and recovery 2007q2 to 2015q2**



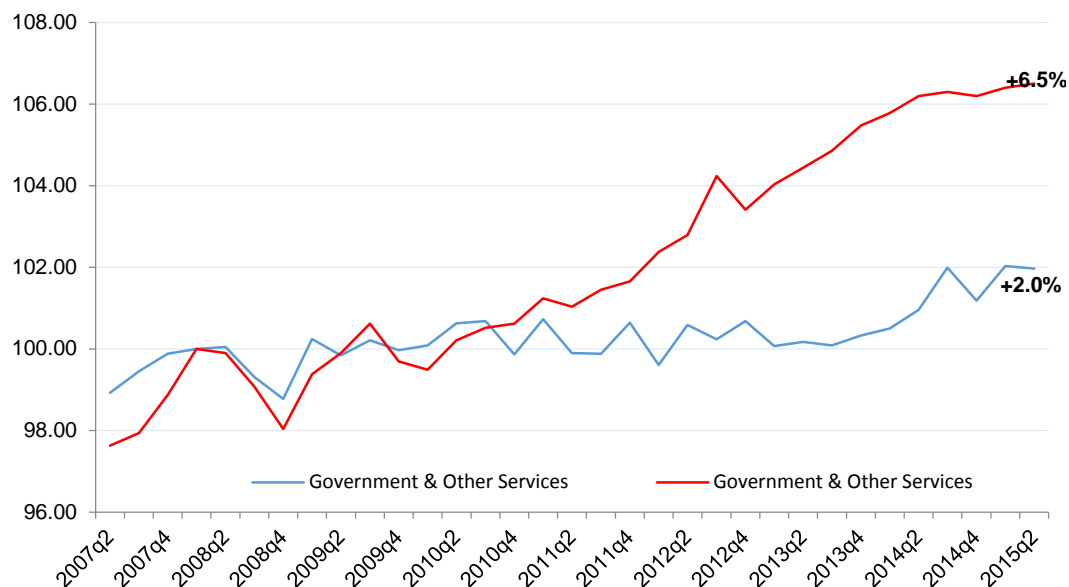
Source: Scottish Government Gross Domestic Product 2nd Quarter 2015, and FAI calculations

By the second quarter of this year GVA in the sector was -13.4% below the pre-recession peak compared to the trough of -15.5% in 2012q4. It is quite clear from these data that the belated recovery in the sector, which did not really start until late 2012 has largely petered out. There must now be a strong presupposition that the scale of the financial services sector in Scotland might never return to the levels seen before the Great Recession.

The second of the two principal sub-sectors in private services displaying positive growth in the second quarter was distribution, hotels and catering (accounting for 18% of services sector output in Scotland), where output rose by 0.3% in the quarter and by 1.8% over the year. In the UK, the sector grew by 1.1% in the quarter and by 4.7% over the year. Figure 12 shows the performance of the sector during recession and recovery.

**Figure 12: Distribution, hotels & catering in recession and recovery to 2015q2**

Source: Scottish Government Gross Domestic Product 2nd Quarter 2015, and FAI calculations

**Figure 13: Government & other services in recession and recovery to 2015q2**

Source: Scottish Government Gross Domestic Product 2nd Quarter 2015, and FAI calculations

Figure 12 reveals that by the second quarter the sector in the UK was +8.5% above its peak, while the sector in Scotland continued to do much worse at only +3.6% above peak. The scale of the recession in

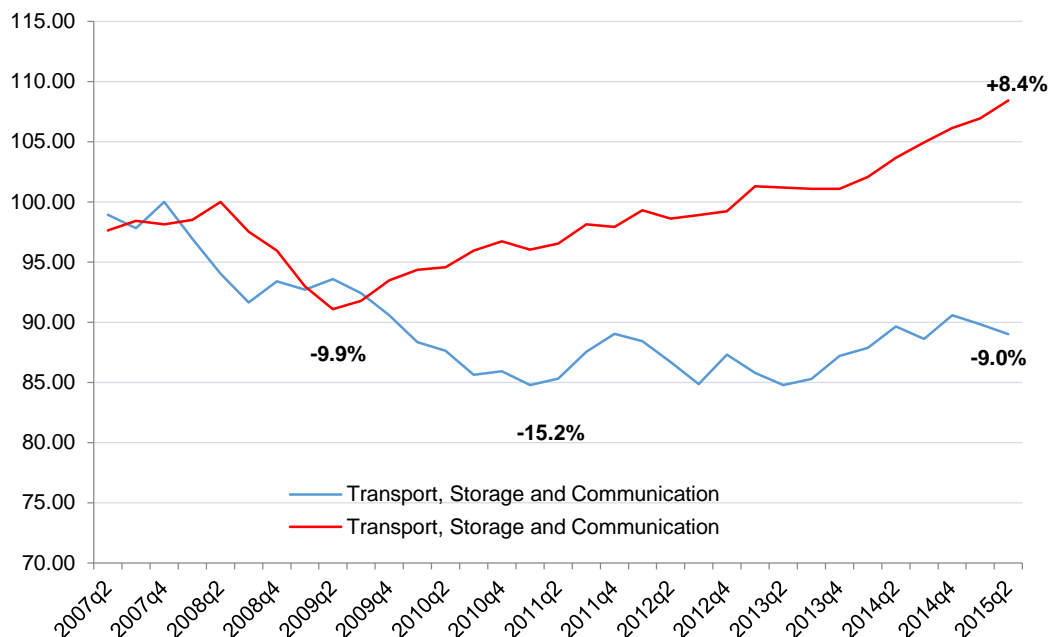
the sector in Scotland was at -5.3% much less than the loss of output in the sector in the UK, which amounted to -9.4%. The track of the recovery in the sector picked up in the UK from 2012q4 but continued at much the same slow pace in Scotland, with the level of GVA in the sector in the UK relative to the pre-recession peak overtaking Scotland in the final three months of 2013.

Output in Government & Other Services in Scotland in the second quarter fell slightly by -0.1% compared to a slight rise of 0.1% the UK. Over the year, output in the public sector grew by 1.3% in Scotland and by 0.7% in the UK. Figure 13 shows the performance of GVA in the sector in recession and recovery.

By the second quarter GVA in the sector in the UK was 6.5% above the pre-recession peak, which as we have noted in many earlier *Commentaries* is difficult to understand at a time of fiscal consolidation, whereas output in the sector in Scotland was 2% above its pre-recession peak.

Finally, Figure 14 highlights the performance of transport, storage & communication in Scotland and UK in recession and recovery. The sector accounts for nearly 8% of total GVA and about 10% of service sector output.

**Figure 14: Transport, storage & communication in recession & recovery to 2015q2**



Source: Scottish Government Gross Domestic Product 2nd Quarter 2015, and FAI calculations

The sector contracted by -0.9% in Scotland in 2015q2 but grew by 1.4% in the UK. Over the year, growth was 2.3% in Scotland and 4.5% in the UK. Figure 14 makes clear that the recession was stronger and much more drawn out in the Scottish sector with output falling by -15.2% compared -9.9% in the UK. Thereafter, the Scottish sector has largely stagnated but that has not been the case in the UK.

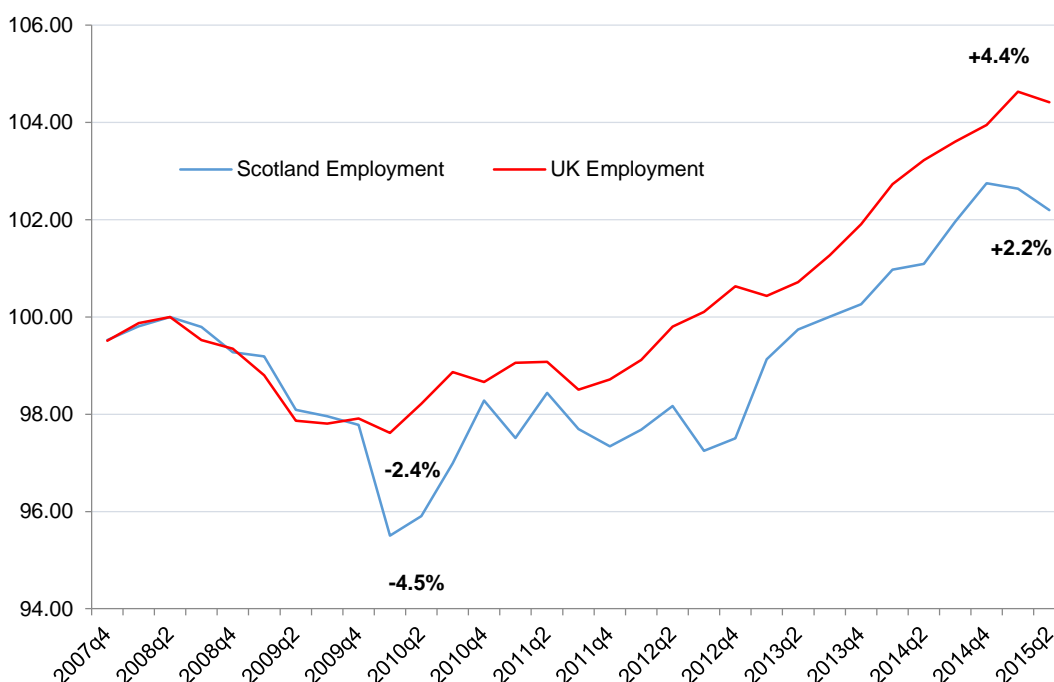
By the end of the second quarter GVA in the Scottish sector was -9.0% below its pre-recession peak compared to +8.9% above in the UK, a dramatic difference in the performance of the sector between Scotland and the UK.

### The Labour Market

The latest labour market data for June – August 2015 (see *Scottish Labour Market* section below) provides further evidence that the recovery is faltering. In the quarter to August 2105 employment fell by -6,000 (-0.6%) to 2,610,000 while unemployment rose again by 18,000 (0.6%) to 170,000 with the rate rising to 6.1%. In the UK, employment rose, with 140,000 jobs created or an increase of 0.2%, while unemployment again fell by -79,000 (-0.3%) to a rate of 5.4%. Over the year, Scottish jobs fell by -1,000, a fall of -0.2%, while UK jobs rose 359,000, or 0.6%. Unemployment in Scotland rose by 19,000 over the year, or 0.7%, while in the UK unemployment also continued to fall by -198,000, or -0.6%. The numbers inactive rose in Scotland in the quarter by 2,000 or 0.1%, compared to a fall in the UK of -4,000. Over the year, inactive numbers fell by -10,000 (-0.3%) in Scotland and by -13,000, or -0.1% in the UK.

Figure 15 shows the performance of employment in Scotland and the UK during recession and recovery to 2015q2.

**Figure 15: Total employment: Scotland and UK pre-recession peak to 2015q2**



Source, ONS Regional Labour Statistics and FAI calculations

By the end of the second quarter, Scottish jobs as reported in the LFS household surveys were 2.2% above the pre-recession peak, while UK jobs were 4.4% above peak. So, the latest data show the

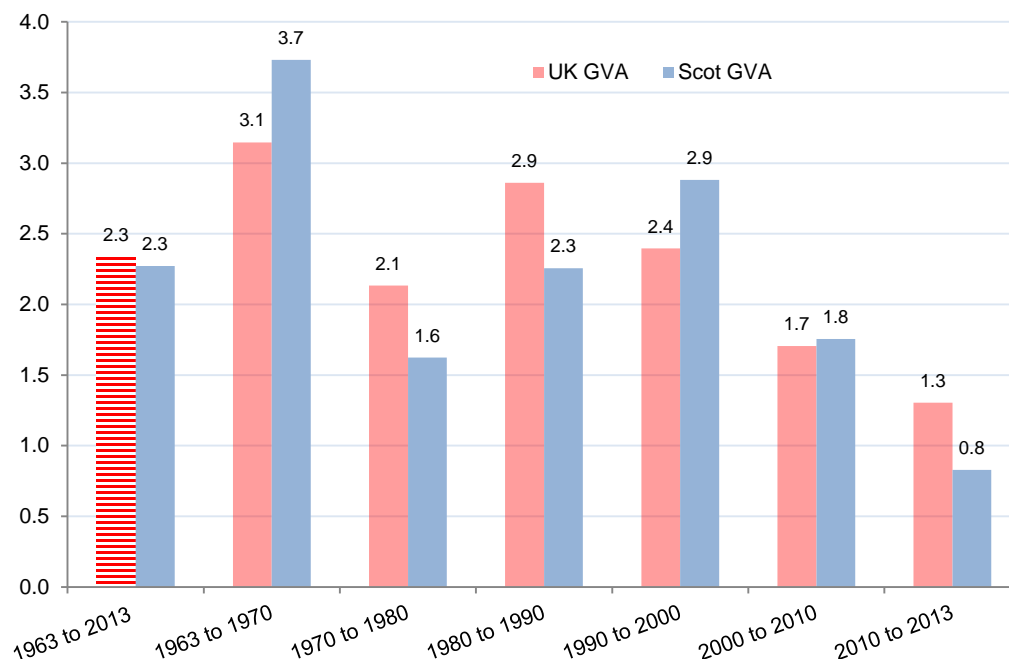
recovery in the labour market is slowing in both Scotland and the UK, while the recovery remains stronger in the UK.

### Challenges facing the Scottish economy

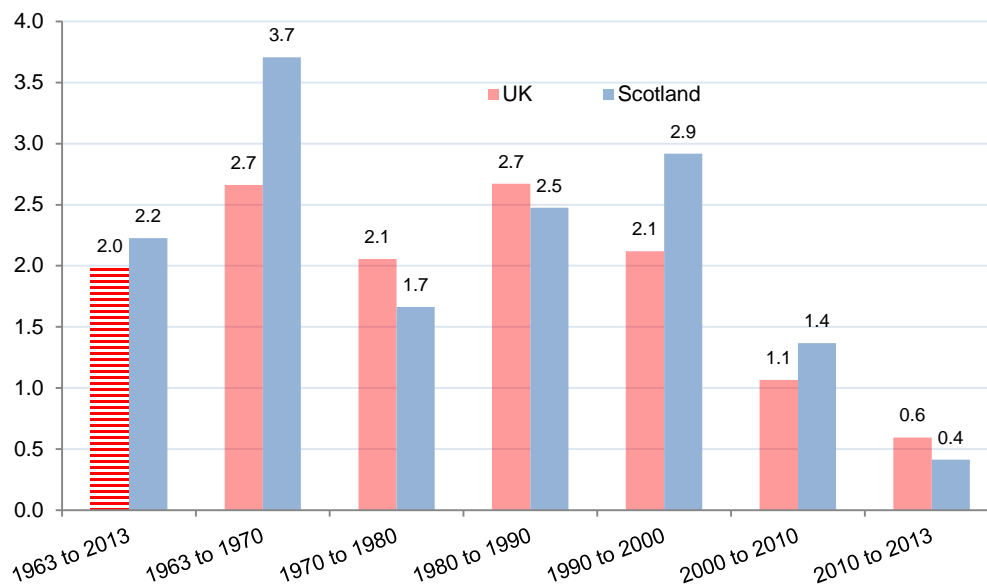
In the previous Commentary (Vol 39, No. 1) we began to consider the challenges facing the Scottish economy. We suggested that one way of to organise thoughts about challenges is to separate them into shorter-term and longer-term issues, that is distinguishing between capacity *utilisation* and capacity *growth*. In the former, the focus is on the issue of current or short-term demand deficiency, while the capacity growth question is essentially about longer-term supply and its impact on competitiveness. The July *Commentary* focused on the short-term capacity utilisation issue. In the present *Commentary* and subsequent *Commentaries* we focus on the more long-term capacity growth question. Specifically, in this *Commentary* we ask first, how are we doing over the long-term in terms of growth performance against the UK? Then secondly, we ask if Scotland is to raise its long-term growth performance how well equipped is the economy to do that? And that is a question about Scotland's economic competitiveness. *How are we doing?*

The short answer is not too badly as Figures 16 and 17 reveal.

**Figure 16: UK and Scottish GVA growth 1963- 2013 and various periods (percent p.a.)**



Source: For Scotland - Scottish Government GVA series; for the UK series is ONS  
<http://www.ons.gov.uk/ons/datasets-and-tables/data-selector.html?cid=YBFR&dataset=pn2&table-id=L>

**Figure 17: UK and Scottish GVA growth per head 1963-2013 and various periods (percent p.a.)**

Source: For Scotland - Scottish Government GVA series; for the UK series is ONS

<http://www.ons.gov.uk/ons/datasets-and-tables/data-selector.html?cid=YBFR&dataset=pn2&table-id=L>

Figure 16 charts the absolute growth of Scottish and UK GDP – GVA at basic prices – for several periods between 1963 and 2013, while Figure 17 allows for population movements such as net births and deaths and migration and charts GDP per head for the same periods. The main conclusions are:

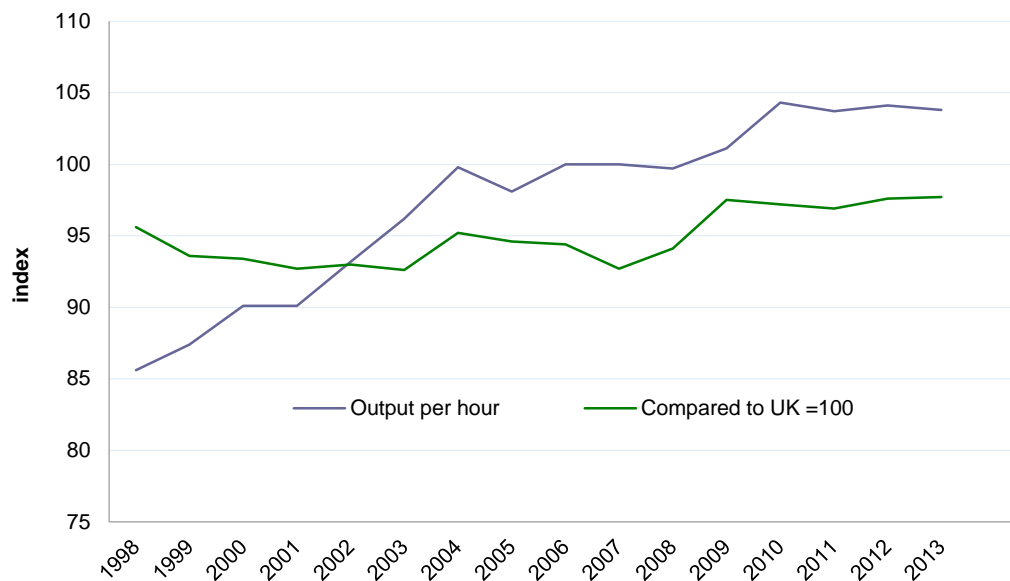
- Scotland's 'trend' GDP growth rate over last 50 years is *identical* to UK growth at 2.3% p.a.
- Scotland's 'trend' GDP per head growth rate over last 50 years is 2.2% p.a. *faster* than UK's 2% p.a. – due to falling or slower population growth in Scotland
- It is interesting to see stronger Scottish growth in the 1990's and 2000's –in the 2000's in part due to Scotland's weaker recession.
- It is a little worrying that the recovery since 2010 is weaker in Scotland on both measures – GDP and GDP per head; plus a
- *Data health warning:* data is as compiled under ESA 1995: the outturn may be different under the new ESA 2010 data.

So, while in comparison with the UK and indeed many other small and large countries, Scotland's economic performance can be rated as 'not too bad', we note the relative weakening of the Scottish economy since 2010. If Scotland is to prevent a further deterioration in its performance compared to the UK and secure a sustained increase in the growth rate overall the economy it will have to raise its competitiveness.

### How competitive is the Scottish economy?

For countries and regions the key to competitiveness is productivity. Increases in productivity, allow higher wages, while lowering / reducing the growth of unit costs and product prices. Clearly, competitiveness is about more than costs and prices; the quality of a product/ service and its innovativeness also need to be taken into account. Data from the Scottish Government published at the end of June provide information on whole economy output per hour worked in Scotland and UK. This is outlined in Figure 18.

**Figure 18: Whole economy output per hour: Scotland and Scotland compared to UK 1998-2013**



Source: ONS Labour Productivity 2014 Q3 and Scottish Government Labour Productivity June 2015.

The key conclusions to be drawn from Figure 18 are:

- Labour productivity has risen absolutely in Scotland by 21% between 1998 and 2013
- Despite this growth it fell behind the UK, which had faster growth to 2007 before the Great Recession.
- Scotland's relativity improved during and after the recession, with the UK experiencing a greater deterioration in productivity - hence the post-recession productivity puzzle is much more of a UK than Scottish phenomenon. (The signed piece *Scotland's productivity performance: latest data and insights* by Kenny Richmond and Jennifer Turnbull, published in this edition of the *Commentary*, offers some explanation for the weakening in Scotland's productivity performance post-recession).



So, Scottish labour productivity, while growing, is weaker than in the UK. Moreover, there is research evidence<sup>2</sup> from Durham University's Professor Richard Harris and Dr. John Moffat that Total Factor Productivity (TFP) - where one estimates the productivity of all factors: labour, capital and land – is also lower in Scotland than in the UK. Specifically, by estimating econometrically the productivity for each plant operating in manufacturing and services in Great Britain between 1997-2012, they find that “on average Scotland has had significantly lower productivity compared to the ‘ .... rest of the UK’ since the end of the 1990s. Overall, the ‘gap’ was around 11% across all sectors in 2012 (and 22% below the leading UK region).” Furthermore, they find that “...the ‘gap’ was particularly noticeable in the service sector; indeed there is some evidence Scotland performs slightly better than the ‘rest of the UK’ in manufacturing. But given the relative size of the manufacturing and services sector, the overall outcome was a lower level of TFP in Scottish plants.”

Why should this be?

There is an academic and policy consensus that we get stronger productivity growth through improvements in: innovation/R&D; exporting (especially in small open economies); skills; investment; and in enterprise. Harris and Moffat find, drawing from evidence in the UK Government's 2011 *Community Innovation Survey* that out of the 12 UK regions,

- For innovation, Scotland had the third lowest percentage of manufacturing establishments innovating (either product or process innovation), and second lowest for services.
- For undertaking R&D, Scotland was second lowest of the 12 for manufacturing but third highest for services.
- For exporting, Scotland had the lowest percentage of establishments involved during 2008-10 in both manufacturing and services.
- For R&D intensity, spending on R&D per unit-of-sales was less than half of that of the ‘rest of the UK’

Further to this we can add evidence on entrepreneurship, which is found to be weak in Scotland. In the Global Entrepreneurship Monitor (GEM) Scotland's rate of total early stage entrepreneurial activity, was among lowest of 20 developed countries. Further, new firm VAT registration data show that the rate has been consistently below Scotland's population share of *circa* 8.3% over the last thirty years. The latest data indicate a slight upward trend since the trough of the recession in 2009 and a trend rise in the Scottish share of UK VAT registrations since 2004, which peaked in 2010 at 6.60% but has fallen since to 6.45% in 2012.

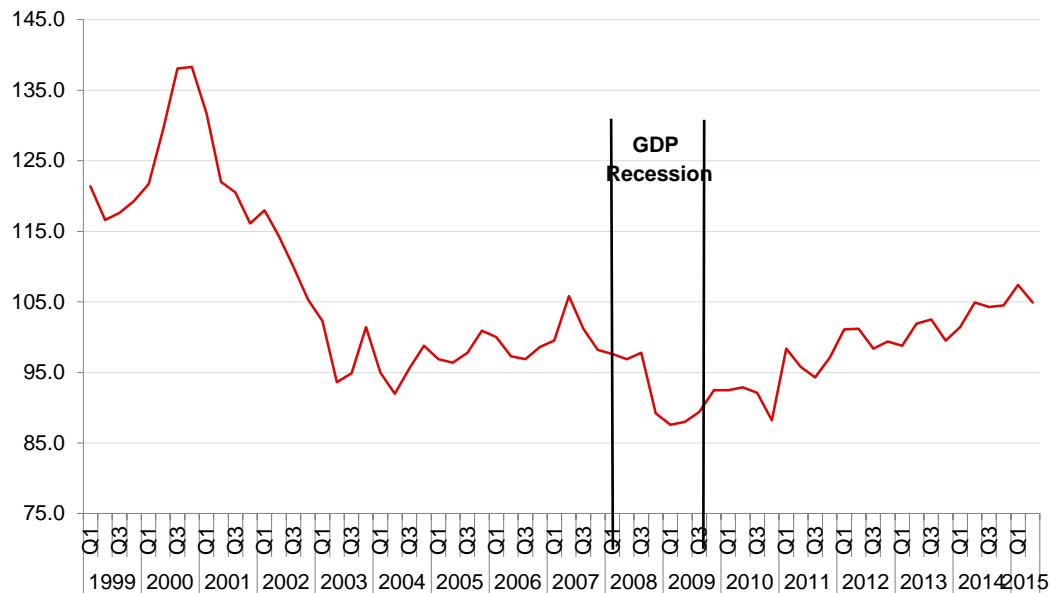
On exporting, it is difficult to obtain a proper appreciation of long-run trends because the main data source the annual *Global Connections Survey* presents the data in nominal terms. There are no volume

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<sup>2</sup> (2014) **Scottish Productivity: implications post-2016**, by Richard Harris and John Moffat  
<http://www.broadgatemainland.com/client-news/scottish-productivity-lags-11-behind-uk-research-durham-university-business-school>

estimates for total exports nor for the important service sector. We have volume data for international manufacturing exports – sales outside the UK. These data show a long-term decline in activity after the peak exports generated by the electronics industry in the late 1990s as Figure 19 indicates.

**Figure 19: Scottish manufacturing export volumes 1999q1 to 2015q2 seasonally adjusted - 2006q1 = 100**

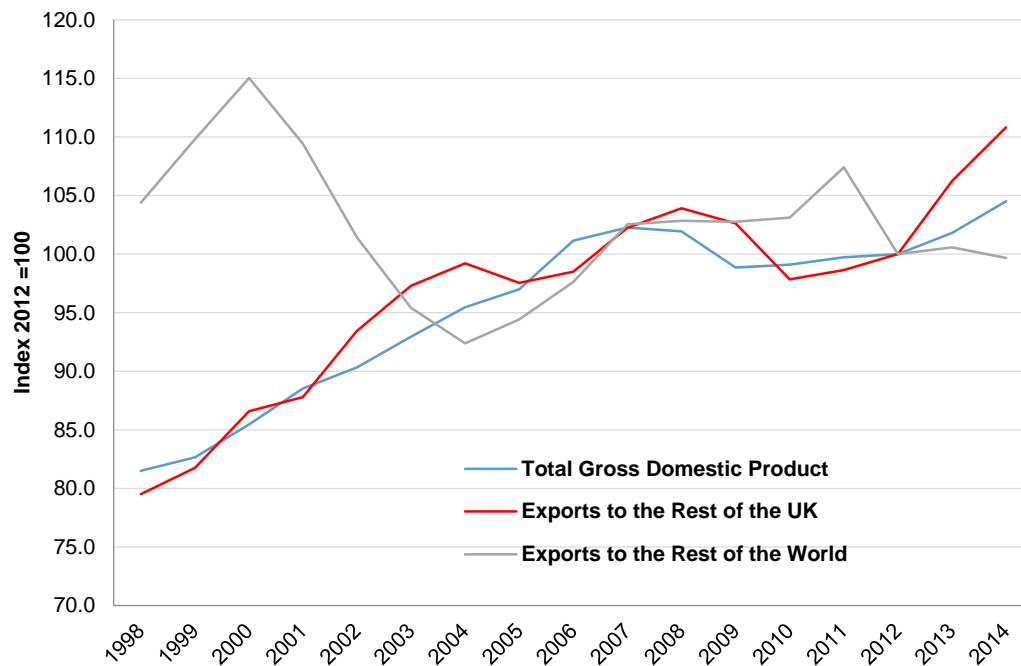


Source: Scottish Government Index of manufacturing exports 2015q2

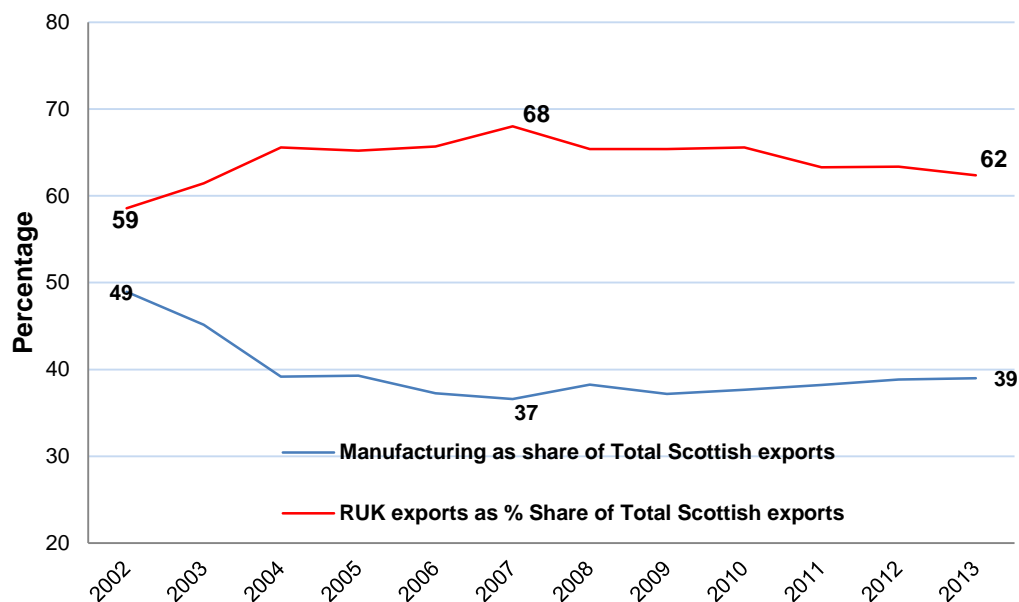
Figure 20 shows the track of real exports – based on FAI calculations – to the rest of the UK and the rest of the world compared to real GDP.

Figure 20 makes clear that the decline in manufacturing exports abroad as shown in Figure 19 is reflected in the performance of overall exports to the rest of the world. In addition, it also highlights the growing importance of exports to the rest of the UK (rUK) over the same period, 1998 and 2014. Though the importance of rUK dipped during and immediately after the Great Recession to 2012, it has since picked up. Another pointer is that exports to the rest of UK track GDP much better than do exports to the rest of the world. This in part reflects the scale of rest of the UK exports to both GDP and total Scottish exports.

Figure 21 uses *Global Connections Survey* data to illustrate this.

**Figure 20: Scottish GDP and exports, by volume 1998 – 2014 (2012 =100)**

Source: Scottish Government GDP index 2015q1, Quarterly National Accounts Scotland 2015 Quarter 1 and FAI calculations

**Figure 21: Manufacturing and Rest of UK exports as share of total Scottish exports, 2002 - 2013**

Source: Scottish Global Connections Survey 2013 (published January 2015)

The rest of the UK is by far the most important “export” market to Scotland accounting for around two-thirds of exports. Moreover, while there are some differences between the GlobalConnections data and the Scottish Government’s quarterly accounts data, that share has risen since the late 1990s and, except during the recession and its aftermath, appears to be continuing to increase after 2013.

This analysis raises several issues for policy:

- How can Scottish economy raise its overall exports to help drive GDP growth?
- How to build on the importance of the rest of UK market by selling more manufacturing products there as well as to the rest of the world?
- How to raise service sector exports to the rest of the world.

In the next Commentary we shall consider some of the policy issues that need to be addressed in raising productivity in general and exports in particular.

## Forecasts

### *Background*

The latest data confirm our judgement in June 2015 that while the recovery was delivering strong and above trend growth in Scotland and the UK there were some indications that growth was starting to slow down. Later data appear to confirm that judgement. The preliminary estimate for UK GDP in the third quarter of this year, that is up to end-September 2015, indicate growth of 0.5% over 2015q2. Growth therefore weakened from the 0.7% attained in the second quarter but was a little stronger than growth of 0.4% recorded for the first quarter of this year. The preliminary estimate covers less than half of the economy using the output method, so there is a strong chance that it could be revised although revisions do tend to be small between the preliminary and third estimates of GDP. In the preliminary estimate for the third quarter in the UK, the service sector grew reasonably strongly in the quarter at 0.7%, manufacturing output contracted by -0.3% and construction activity fell by -2.2%.

We do not yet have outturn data for the third quarter in Scotland but extrapolating from the second quarter what seems to be happening is that domestic demand is still driving growth in Scotland and UK. But in Scotland it is the construction sector that is providing the main impetus with public spending on infrastructure underpinning growth. In the UK in contrast, the service sector is the main driver with construction weakening. In Scotland, weakness in the service sector has been affected by the onshore implications of the fall in the price of oil hitting business services in particular as well as mining and quarrying. Manufacturing growth is weak in both Scotland and the UK and seems to be a reflection of weakening external demand for UK exports reinforced by the strength of sterling, the current crisis in the UK steel industry being a sad case in point.

Domestic demand in Scotland and the UK continues to be *boosted* by

- low inflation, helped by the fall in the price of oil and some other commodity prices, with the fall in the oil price being key, further boosted by the low price of imports due to the strength of sterling,
- net immigration into the UK
- low interest rates, and
- some pick up in earnings.

However, actual and potential *negative* influences on the growth of domestic demand include

- further planned austerity by the UK Conservative Government, currently exemplified by the planned cuts to tax credits, and
- the continuing high levels of household debt, which for some households paying a variable interest rate will become an increasing burden if rates rise in the near future, There is a strong chance that the US Federal Reserve will raise interest rates in December and the Bank of England could follow suit early in 2016, although it is to be hoped that with the fragility of the UK recovery becoming more evident the Bank will hold its fire.

External demand for Scottish and UK goods and services are being *boosted* by

- the continued resilience of the US economy, although latest data show that growth slowed to an annual rate of 1.5% in the third quarter, down from 3.9% in the second quarter, but this in turn was strongly influenced by a slowdown in inventory production, which masked a 3% growth in domestic demand
- a gradual pickup in growth in the Eurozone as the risks of deflation appear to recede while the problems of Greece seem to have been, for the short term at least, resolved,
- and the world economy is forecast by the IMF to grow by 3.1% this year and by 3.6 % in 2016.

Actual and potential *negative influences* on the growth of external demand include

- the high sterling exchange rate against the Euro, which appears to have been boosted by the short-term market expectation of an imminent increase in UK interest rates when, given continuing current account deficits of 5% and more, the long-run expectation would be for the equilibrium rate of sterling against the Euro to be much lower
- the IMF's forecast for global growth in 2015 and 2016 despite remaining fairly high represents a markdown from the 3.4% achieved in 2014,
- the IMF in its latest *World Economic Outlook* published in October 2015 notes that there are three major challenges confronting the global economy and its medium term growth:

- China's transformation from dependency on high domestic investment, forced saving and a disproportionate reliance on external demand to a greater reliance on household consumption and associated structural reforms will lead to slower growth: the IMF predicts that growth in China is expected to decline to 6.8% this year and 6.3% in 2016
- the fall in commodity prices and in the prices of basic products such as steel are in part the consequence of the slowdown in Chinese growth, either directly or through policy responses inducing possible dumping
- the effect of what the IMF calls 'policy normalisation' of monetary policy in the United States as interest rates begin to rise is expected to have global repercussions, which will serve to slow growth especially in emerging markets

Turning now to the most recent data on Scotland. The latest Scottish Chambers Business Survey suggests that growth slowed in the third quarter despite positive seasonal influences from tourism and construction activity, with both output and investment, remaining strong. However, in construction there was a hint of a slowing in public investment suggesting the boost given by public infrastructure investment projects to construction output and overall growth may be beginning to weaken. Slower growth was experienced among the Manufacturing, Retail & Wholesales and Financial & Business Service sectors, with investment activity also declining. The Survey also reveals the impact that the low global market price for Brent crude oil is continuing to have on the Scottish economy, with the performance of oil and gas service businesses dampening results in the Financial and Business Services sector.

Finally, as the *Forecasts of the Scottish Economy* section of this Commentary notes from ongoing Fraser of Allander Institute research, "Nowcasts" of the Scottish economy reveal a slight slowing in Scottish growth continuing during the first three quarters of 2015. As well as suggesting the slowing of growth through 2015 for Scotland the Nowcasts are consistent with a slower rate of growth in Scotland compared to the UK as a whole.

It is against this background that we have prepared our latest forecasts of the Scottish economy.

#### *GVA Forecasts*

For our latest GVA forecasts we continue the presentational procedure adopted in previous Commentaries. We present only a central forecast but use estimated forecast errors to establish the likely range within which the true first estimate of the growth of Scottish GVA will lie.

Table 1 presents our forecasts for Scottish GVA - GDP at basic prices - for 2015 to 2017. The forecasts are presented in more detail in the *Forecasts of the Scottish Economy* section of this Commentary.

Table 1 shows that our GDP forecast for 2015 is 1.9%, which is a significant revision down from our forecast of 2.5% in June 2015. The downward revision is largely due to the evidence of a slower than expected rate of growth in the second quarter and the most recent evidence of a further slowing of the

recovery in the third quarter. For 2016, we have also revised down our forecast to 2.2% from 2.3% in June, in recognition that the slowdown in the rate of recovery will continue into 2016 as exporting continues to be difficult due to the high pound sterling and because of the lingering effects on Scottish onshore activity of the low price of oil. On our central forecast, we are forecasting a pick up in the rate of growth in 2017 as the economy rides out the challenges of 2016. We have therefore raised our forecast for 2017 to 2.5% from 2.3% in our June forecast.

**Table 1: Fraser of Allander Institute forecasts of Scottish GVA growth, 2015-2017**

GVA Growth (% per annum)	2015	2016	2017
<b>Central forecast</b>	<b>1.9</b>	<b>2.2</b>	<b>2.5</b>
<b>UK mean independent</b>	2.5	2.3	
new forecasts (October	2.5	2.3	2.3
Mean Absolute Error % points	+/-0.28	+/-0.8	+/-1.37

Source: Fraser of Allander Institute forecasts, November 2015 ©

Table 1, also compares our GVA forecasts with the median of latest independent forecasts for the UK as published by the UK Treasury in October 2015. These show that we expect Scottish growth to be weaker than in the UK in both 2015 and 2016; that despite the boost to growth provided by public infrastructure investment plus the weakness in services - especially business services - and in manufacturing. So, we are now forecasting growth of 1.9% in 2015, 2.2% in 2016 and 2.5% in 2017. Given our previous forecast errors the lower and upper bounds for growth in 2015 are expected to be 1.6 % and 2.2%; for 2016, 1.4% to 3.0%, and for 2017, 1.1% to 3.9%.

The construction sector continues to be the major sector forecasting the fastest growth in 2015 (6.0%) and in 2016 (3.2%) – though it wanes in 2017 (1.4%). Growth of production is forecast to be 0.7% in 2015, 2.2% in 2016 and rises to 2.7% in 2017. Service sector growth is projected to be 1.6% in 2015, 2.0% in 2016, and 2.4% in 2017.

### *Employment Forecasts*

Table 2 presents our forecasts for net employee jobs for the years 2015 to 2017 in terms of a central and upper and lower forecast. Note that in forecasting employee jobs we are not forecasting self-employment, which has been an important component of the recent jobs recovery (refer Scottish Labour Market section of this Commentary). Moreover, employee jobs can differ from the self-reported employment in the monthly Labour Force Survey.

The number of total employee jobs is forecast to continue to increase in each year, and at a faster rate than that seen during 2014 (although not as strongly as in 2013). Our forecast for the number of jobs added in 2015 has been revised down since June's forecast, from 51,250 to 49,400. The number of jobs

at the end of 2015 is now forecast to be 2,433,400, an increase of 2.1% on 2014 (the same percentage growth forecast in June's Commentary). Our current central forecast is that the Scottish economy will add 45,000 jobs in 2016, down by 4,600 from our June forecast, while we forecast the addition of 54,650 jobs in 2017, an increase of nearly 3,000 on our June forecast. This year, we expect 28,200 service sector jobs to be created, with around 5,600 added in production, and growth of 500 in agriculture. Construction jobs are now forecast to rise this year by 15,052, reflecting the surge in activity in the sector. In 2016, the bulk of the jobs created are again expected to be in the service sector with an additional 37,100 jobs forecast, while 5,200 are added in production, 800 in agriculture and 1,873 in construction. In 2017, job creation in the service sector is projected to be even stronger at 45,650 jobs, with production adding 5,800, agriculture 850, and construction 2,365.

**Table 2: Fraser of Allander Institute forecast Scottish net jobs growth in three scenarios, 2015-2017**

	2015	2016	2017
Upper	54,950	65,500	88,800
<i>June forecast</i>	<i>62,100</i>	<i>72,650</i>	<i>80,600.</i>
<b>Central</b>	<b>49,400</b>	<b>45,000</b>	<b>54,650</b>
<b>June forecast</b>	<i>51,250</i>	<i>49,600</i>	<i>51,700.</i>
Lower	43,800	24,450	20,500
<i>June forecast</i>	<i>40,400</i>	<i>26,550</i>	<i>22,800</i>

Source: Fraser of Allander Institute forecasts, November 2015 ©

### Unemployment Forecasts

The key unemployment forecasts are summarised in Table 3 below.

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. The most recent figures (published on 14th October 2015) show that unemployment rose again by 18,000 (0.6%) to 170,000 with the rate rising to 6.1%. Unemployment in Scotland rose by 19,000 over the year, or 0.7%. Given the small revisions to the growth in employee jobs over the next two years in our latest forecasts, there are only small revisions to the levels and rates from our earlier forecasts. Yet, the improvement in the labour market is forecast to continue with unemployment rates and numbers falling to end 2017 – though our new projections for the ILO unemployment rate are higher for each year to 2017 than as we forecast in June 2015. Our projection for unemployment on the ILO measure at the end of 2015 is 6.2%, falling further to 5.7% by the end of 2016, and 4.6% by end 2017.



**Table 3: Fraser of Allander Institute forecasts ILO unemployment, 2015-2017**

	2015	2016	2017
<i>ILO unemployment</i>			
Rate (ILO un/TEA 16+)	<b>6.2%</b>	<b>5.7%</b>	<b>4.6%</b>
June forecast	5.1%	4.5%	3.9%
Number	169,150	155,450	118,400

Source: Fraser of Allander Institute forecasts, November 2015 ©

Brian Ashcroft  
1 November 2015

## 2 Forecasts of the Scottish economy

Grant Allan, Fraser of Allander Institute

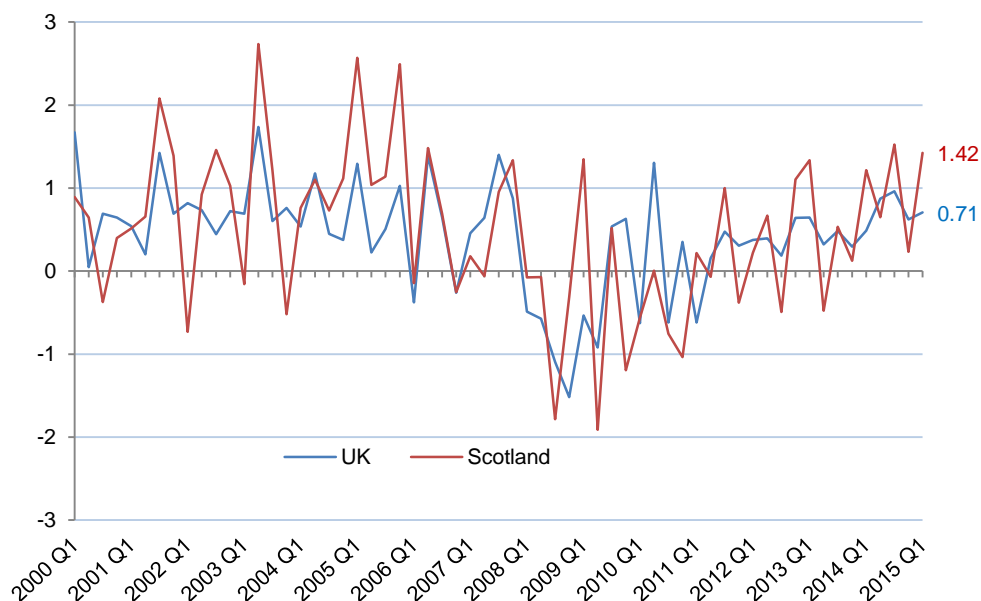
### Abstract

In the second quarter of 2015, the Scottish economy recorded its lowest rate of growth since the third quarter of 2012. There was higher than expected growth in the Construction sector (3.5%) in this most recent quarter, however the much larger Service sector recorded flat output and the Production sector contracted by -0.8%. Going into the second half of 2015, we find many indicators continuing to suggest growth continuing, however these are at or below historical standards. Survey evidence suggests that those factors which assisted growth in the first two quarters of 2015 – such as infrastructure investment – look less strong in the second half of the year. With new evidence about the weakness in Scottish growth in the second quarter of 2015, we have thus revised down our forecast for growth in 2015. The outlook for 2016 remains muted, with global economic growth anticipated to ease as a result of policy actions – e.g. a likely gradual increase in US interest rates - and uncertainty about the strength of growth across major emerging economies. These developments are likely to impact upon Scottish exports over the coming years. The labour market continues to create jobs, and we forecast a continued reduction in the unemployment rate over the next two years, albeit at a slower rate than we forecast earlier in 2015.

### Survey context and recent trends

#### Households

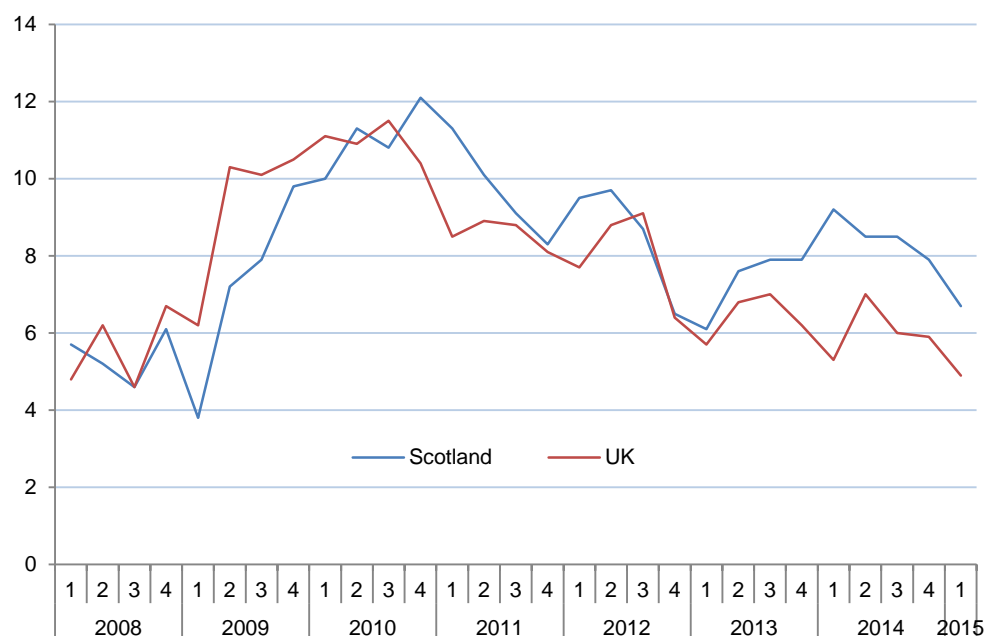
**Figure 1:** Household real consumption spending growth, Scotland and UK, Q1 2000 to Q1 2015, % q-on-q



**Sources:** Scottish National Accounts Project (SNAP) data (Scottish Government) and UK Quarterly National Accounts (National Statistics) and FAI calculations.

As we have noted in previous commentaries, the importance of consumption spending for Scottish growth in the last few years has been critical. Between 2013 and 2014, for instance, we estimated that consumption growth contribution roughly 50% more to nominal growth than did investment expenditure. The data however suggests that investment activity is increasingly contributing to growth – as we shall explore in the following section. At the time of writing we do not have estimates available for Q2 2015 as these will be published on the 4<sup>th</sup> of November 2015. In the absence of these data, we examine in Figure 1 and Figure 2 changes in Scottish and UK consumption spending growth and savings rate behaviours to the first quarter of 2015 (we note that the estimate of growth in the first quarter, and previous quarters, has subsequently been revised by the latest data).

**Figure 2: Household saving ratio, Scotland and UK, Q1 2008 to Q1 2015, %**

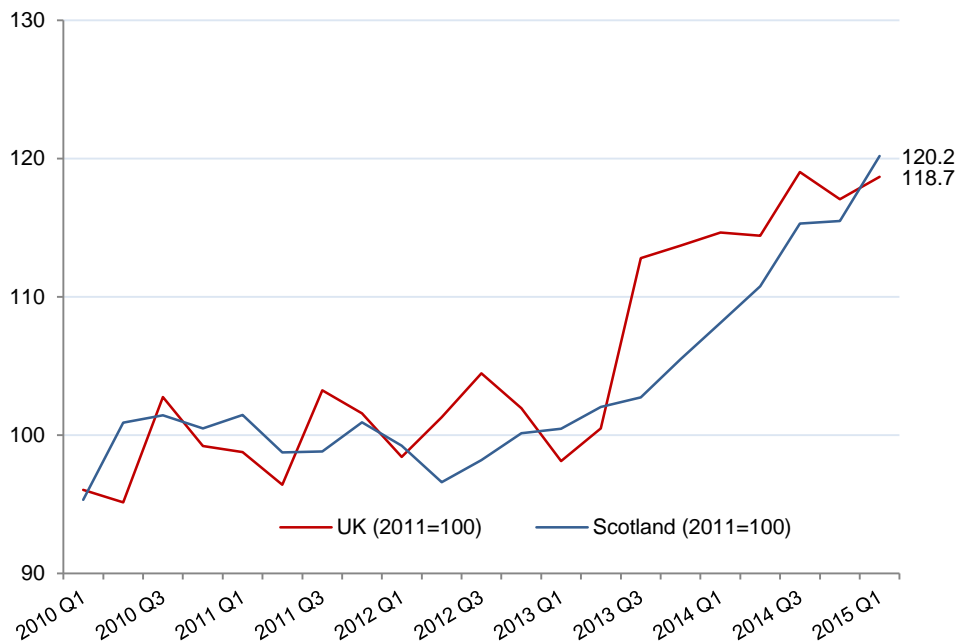


**Sources:** *Scottish National Accounts Project (SNAP) data (Scottish Government) and UK Quarterly National Accounts (National Statistics) and FAI calculations.*

The most recent data we have on a consistent basis however suggests that the scale of households' contribution to growth is reducing. This would be welcomed by some, given fears over the sustainability of a private debt funded and consumption driven model of growth. "Rebalancing" suggest an increased focus on both external demands – as we will discuss in a further section shortly – and towards investment-driven economic activity. Currently, we do not have data on the components of growth in the Scottish economy in the second quarter of 2015 – this is published on the 4<sup>th</sup> of November 2015 – and so we only have information on the first quarter. Using these data – which have subsequently been revised - we estimate that Scottish growth in household spending in real terms (1.4%) was higher than in the UK as a whole (0.7%) in the first quarter of 2015. Figure 2 suggests that the household saving ratio has fallen throughout 2014 and into the first quarter of 2015, consistent with increasing consumer-driven growth. We await new figures for growth to the second quarter of 2015.

Recent data on house price changes in Scotland continue to be affected by the introduction of Land and Buildings Transaction Tax in April 2015, and the change in behaviour around this point. Recent data from the Scottish Housing Market Review suggests that house sale transactions are up on the levels seen over much of the previous five years, and lending to both first time buyers and home movers are also up over this period, though house prices in Scotland continue to lag behind the UK (and the UK, excluding London). New statistics suggest that the rate of change in rental prices in Scotland lags the UK, have risen by 2.1% in June 2015 in Scotland compared to 2.5% in Great Britain as a whole. The rate of change in rental prices in Scotland appears to have been broadly stable since the last quarter of 2014, which appears to reflect region-specific effects of an easing in Aberdeen and strong growth in rental prices in Edinburgh.

**Figure 3: Real gross fixed capital formation, Scotland and the UK, Q1 2010 to Q1 2015**



**Sources:** *Scottish National Accounts Project (SNAP) data (Scottish Government) and UK Quarterly National Accounts (National Statistics) and FAI calculations.*

### Investment

Figure 3 shows comparable series for investment spending in Scotland and the UK to the first quarter of 2015. We should, again, note that these will be revised following the publication of Quarterly National Accounts for Scotland shortly. These suggest a sharp rise in investment spending in Scotland, which has grown faster than in the UK as a whole over the last two quarters for which comparable data is available. More recent data, such as the (current price) series on the Output of the Construction sector publication suggests that Scottish activity is stronger than that in other UK regions, and in particular due to the presence of major government-funded infrastructure projects. Continued growth in activity in such projects are a sensible explanation of the higher rate of growth seen in the Construction sector in Scotland than in the rest of the UK in recent quarters. However, we should also recall that there is increasing survey evidence that firms are anticipating a slowing in the rate of growth in investment and

that infrastructure activity is focused in a small number of very large projects (e.g. the new Forth crossing).

## Trade

As a small open economy, Scotland is impacted by the growth outside its borders. The rest of the UK is the single largest market for Scottish products, and there has been a broadly static forecast for the UK in the last few months, since our June 2015 forecast. However, we find greater growth concerns in Scotland's major external markets, and a general downgrade of global growth prospects since the summer months. As noted earlier, the IMF World Economic Outlook's latest forecasts suggest an easing of growth prospects in 2015 and 2016, and down from the rates experienced in 2014. The IMF revised down their estimates of global growth in 2015 and 2016 by 0.4 and 0.2 percentage points respectively since their forecasts in April 2015, while the OECD's September "Interim Economic Outlook" revised down their global growth forecasts for 2015 and 2016 by 0.1 and 0.2 percentage points respectively. These were impacted jointly by a growing expectation that the US Federal Reserve may begin to gradually raise interest rates, while they noted that while this increase is now likely, the pace of the "normalisation" of interest rates will be critical for global growth dynamics. The IMF's forecast for the growth prospects of the US in this year, for instance, has been reduced by 0.5 percentage points since its April forecast, while that of the UK has been reduced by 0.2 over the same period.

**Table 1: Economic growth forecasts for 2015 and 2016 for Scotland's major export markets, plus UK, China, Japan and the Euro area, % p.a.**

	Share of total (i.e. international and rest of the UK) exports, % 2013	2015		2016	
		OECD (September 2015)	Revision since June 2015	OECD (September 2015)	Revision since June 2015
USA	5.3	2.4	+0.4	2.6	-0.2
Netherlands	2.8	-	-	-	-
Germany	2.6	1.6	0.0	2.0	-0.4
France	2.5	1.0	-0.1	1.4	-0.3
Denmark	1.9	-	-	-	-
Norway	1.5	-	-	-	-
UK	62.4	2.4	0.0	2.3	0.0
China	0.8	6.7	-0.1	6.5	-0.2
Japan	0.4	0.6	-0.1	1.2	-0.2
Euro area	-	1.6	+0.1	1.9	-0.2

**Sources:** OECD Interim Economic Outlook (OECD, September 2015). Notes: "-" indicates a country forecast is not produced, "n/a" indicates that the share of exports from Scotland to Euro area countries is not available from official sources.

Additionally, the OECD noted the growing “puzzles and uncertainties” to economic data and developments in China and Japan, and the mismatch between indicators suggesting that the recovery may be losing ground. For example, the OECD note an “implausibly large” discrepancy between recent recorded growth and demand for imports – usually a good proxy for growth. There appears to be increasing evidence that growths risks continue to be heavily weighted to the downside in these global forecasts.

Prospects for the Eurozone area have improved slightly during 2015, although indicators suggest that it continues to underperform relative to the “favourable” combination of low interest rates, low oil prices and a weaker euro aiding the competitiveness of its exports. The latest PMI index for the Eurozone, for instance, suggests positive increases in growth in October compared to the previous month – and accelerations of growth in Germany and France – but there is a weakening anticipated in the final months of the year.

Table 1 shows the forecasts for growth in Scottish key export markets through 2015 and 2016. The average of recent 2015 forecasts for UK growth in June 2015 was 2.5% and this continues to be the median forecast for the UK economy in this year. The OBR will issue revised forecasts for 2015 and 2016 in the Autumn statement later this year.

#### **Forecasts for the Scottish economy: in detail**

We now have official statistics on the first two quarters of economic growth for Scotland in 2015. October's release of growth in the second quarter recorded growth of 0.1%, and suggests that growth has eased in two successive quarters following final quarter of 2014. Growth in the first quarter of 2015 has been revised down from 0.6% to 0.4%. The second quarter of 2015 saw the weakest growth since the second quarter of 2012, and is examined in more detail in the *Outlook* section of this Commentary.

The significant fall in sectors and activities associated with the (onshore) elements of activities in North Sea oil and gas may partly explain this reduction. While the low oil price is having a particular impact upon Mining and Quarrying activities generally, its effect is not limited to those sectors. Manufacturing and (in particular) service firms – such as business service firms providing support to offshore activities - have seen to contractions in their output in the second quarter. There is positive news from the Construction sector, which appears to be significantly bucking the downward trend seen across the Scottish economy as a whole between the first and second quarters of 2015. It recorded growth of 3.5% in the second quarter, and has now recorded six consecutive quarters of growth above 2 per cent. This appears to be primarily driven from new infrastructure projects currently being undertaken across the Scottish economy and while repair and maintenance work as well as private construction indicators are generally positive, they are up by a far smaller amount.

In an ongoing piece of research, Fraser of Allander Institute “Nowcasts” of the Scottish economy (published at [www.nowcastingscotland.com](http://www.nowcastingscotland.com)) reveal a slight slowing in Scottish growth continuing during the first three quarters of 2015. As well as suggesting the slowing of growth through 2015 for Scotland – as has now been observed between the first two quarters (and the only quarters to which we currently have official growth statistics for Scotland) – these nowcasts are consistent with a slower rate of growth in Scotland than the UK as a whole. Interestingly, the preliminary estimate of UK GDP in the third

quarter of 2015 is for growth of 0.5%. This suggests a slight reduction in the UK rate of growth (although this is still positive) between the second and third quarters for the UK. The third quarter estimate of growth in UK GDP *excluding oil and gas* – which is the most relevant comparison for Scotland – was unchanged between the second and third quarters at 0.5%.

Our latest nowcast for growth in Scotland in the third quarter, anticipates growth of 0.3% in the third quarter – a small improvement on Q2 – with stronger growth in Q4 (0.43%). This suggest that the final two quarters of 2015 will see growth of below trend performance for Scotland.

Looking to the short term, the most significant shift since our June 2015 forecast is the upward surge in investment and construction activity that the data suggest. This is line with earlier survey results for the second quarter. Current survey expectations however suggest that the growth in investment activity has eased in the second half of 2015. Household spending is anticipated to continue to underpin much of the (albeit) weak growth seen in activity in Scotland through the first half of 2015, and the upward trend of wages and incomes suggests some signs for optimism, despite this continuing to demonstrate the lack of success in “rebalancing” the economy away from a consumption-driven model. We continue to expect the growth in real wages to be sluggish through the next two years, with low inflation being matched by modest increases in aggregate income measures.

Growth forecasts in Scotland's export markets have been reduced since our forecasts in June 2015, particularly with growing fears about the growth in the China economy. Closer to home, there are continued signs of modest expansions in growth in the Eurozone, however deflation and the weakness in output indices – as well as slow growth in employment – appear to be increasing the prospect of monetary interventions in the coming months. Manufactured exports to international (i.e. non-UK) markets – an important element of total Scottish exports – fell by 2.3% in real terms during the second quarter, with falls seen in the Drink, Mechanical Engineering and Transport Equipment sectors particularly affected (and with these three activities covering over 40% of Scottish international manufactured exports).

The outlook for total UK government spending (and, through the Barnett formula, the spending available to the Scottish Government) will be confirmed in the Spending Review of the 25<sup>th</sup> of November 2015. It was noted that the Scottish Government's Draft Budget for 2016-17 will follow in the forthcoming months. With the additional devolved responsibilities around setting taxes under the Scotland Act 2012, as well as the continued operation of the Barnett element, this will have consequences for the level of public spending in Scotland.

## Results

In this section, we forecast year-on-year growth in Scotland's key economic and labour market variables. In this issue, we forecast all variables for 2015, 2016 and 2017. Our forecasts cover Scotland's Gross Value Added (GVA), employee jobs and unemployment. The model used is multi-sectoral, and where useful, results are reported to broad sectoral categories.

We begin with the forecasts for (real) GVA growth in the Scottish economy. The growth performance of Scotland between 2010 and 2014 and our forecasts for the period 2015 to 2017 are shown in Figure 4.

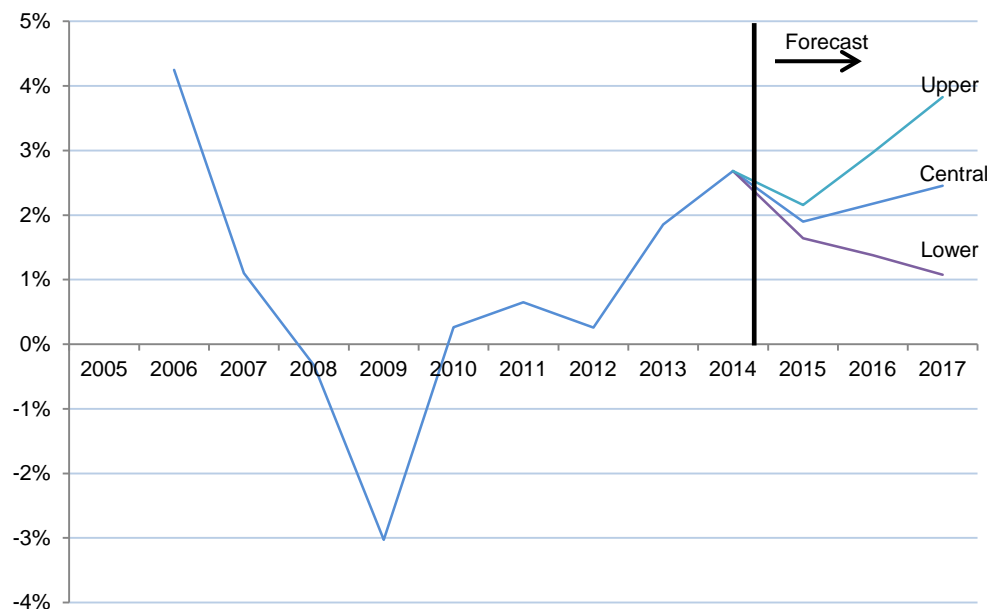
This also includes our upper and lower forecasts of growth. As previously, the range around the central forecast is based on our past forecast accuracy of the first release of growth data for the year.

Based on FAI forecasts since 2000, the mean absolute error of forecasts (i.e. the difference between forecast and “outturn” annual growth) made in the autumn for growth in that same year is 0.26 percentage points, while for the following year the average absolute forecast error is 0.80 percentage points. This gives the range for the upper and lower bands in 2015 and 2016. Our past forecast errors for the longest forecast horizon is 1.37 percentage points, so this is used to give the range around our central forecast for 2017.

Relative to our June 2015 forecasts we have now revised down our central forecast for GVA growth in 2015 from 2.5% to 1.9% (i.e. a downward revision of 0.6 percentage points since our June 2015 Commentary), which is largely driven by the lower than expected growth seen during the second quarter of 2015. Our June forecast for 2016 was 2.3% and we have revised this down by 0.1 percentage points, to 2.2% annual growth. On our central forecast therefore we forecast a slight increase in the rate of growth in 2017 from 2.3% to 2.5%.

For comparison purposes, the latest Office for Budgetary Responsibility (OBR) forecast for growth in the UK as a whole in 2015 (made in July 2015) and the median of new independent growth forecasts for the UK in 2015 are 2.4% and 2.3% respectively, while for 2016 the respective figures are of 2.3% and 2.4%.

**Figure 4: Actual and forecasts of annual real GVA (%) growth for Scotland, 2015 to 2017**



**Sources:** Fraser of Allander Institute forecasts, November 2015 ©



In addition to the aggregate growth forecasts in our central scenario, Table 2 presents our forecasts for GVA growth in 2015, 2016 and 2017 for three broad sectoral groupings: the “production”, “construction” and “services” sectors of the Scottish economy.

**Table 2: Forecast Scottish GVA growth (%) by sector, 2015 to 2017**

	2015	2016	2017
GVA	1.9	2.2	2.5
Production	0.7	2.2	2.7
Construction	6.0	3.2	1.4
Services	1.6	2.0	2.4

**Source:** Fraser of Allander Institute forecasts, November 2015 ©

### Employment and unemployment

Detailed commentary on recent developments in the Scottish labour markets can be found in the *Overview of the Scottish Labour Market* section of this Commentary. Here we present our forecasts for the number of employee jobs in the Scottish economy. We forecast the number, sectoral breakdown and percentage changes in employee jobs at the end of 2015, 2016 and 2017 respectively, as well as the ILO measure of unemployment over the same period.

The most up to date employee jobs series for Scotland shows that there were 2,389,000 employee jobs in Scotland in the final quarter of 2014, an increase of 32,000 jobs from the end of 2013 (and following a 2013 when 78,000 jobs were added in Scotland). The official statistics on the number of employee jobs estimated to be in Scotland in December 2014 has been revised down slightly since our forecasts in June 2015.

Our new forecasts for employee jobs are shown in Table 3, alongside a sectoral breakdown of employee job numbers. The number of total employee jobs is forecast to continue to increase in each year, and at a faster rate than that seen during 2014 (although not as strongly as in 2013). Our forecast for the number of jobs added in 2015 has been revised down marginally since June’s forecast, from 51,250 to 49,400. In the second quarter, the number of employee jobs were unchanged since the end of 2014. Within this, however, there has been rise of 10,000 in Construction, and an increase of 5,000 in manufacturing, with an equal sized contraction across the service sectors.

The number of jobs at the end of 2015 is now forecast to be 2,433,400,250, an increase of 2.1% in 2014 (the same percentage growth forecast in June’s Forecast). Our current forecast is that the Scottish economy will add 45,000 jobs in 2016, slightly lower than our June forecast, while we forecast the addition of 54,650 jobs in 2017. The net change in employee jobs in Scotland, consistent with our upper, central and lower forecasts for GDP growth, is shown in Table 4.

**Table 3: Forecasts of Scottish employee jobs ('000s, except where stated) and net change in employee jobs in central forecast, 2015 to 2017**

	2015	2016	2017
Total employee jobs, Dec	2,433,400	2,478,350	2,533,000
Net annual change (jobs)	49,400	45,000	54,650
% change from previous year	2.1	1.8	2.2
Agriculture (jobs,000s)	26	26	27
Annual change	500	800	850
Production (jobs, 000s)	245	250	256
Annual change	5,600	5,200	5,800
Construction (jobs, 000s)	148	150	152
Annual change	15,052	1,873	2,365
Services (jobs, 000s)	2,015	2,052	2,098
Annual change	28,200	37,100	45,650

*Note: Absolute changes in the number of employee jobs are rounded to the nearest 50.*

**Source:** Fraser of Allander Institute forecasts, November 2015 ©

**Table 4: Net annual change in employee jobs in central, upper and lower forecast, 2014 to 2016**

	2015	2016	2017
Upper	54,950	65,500	88,800
Central	49,400	45,000	54,650
Lower	43,800	24,450	20,500

*Note: Absolute job numbers are rounded to the nearest 50.*

**Source:** Fraser of Allander Institute forecasts, November 2015 ©

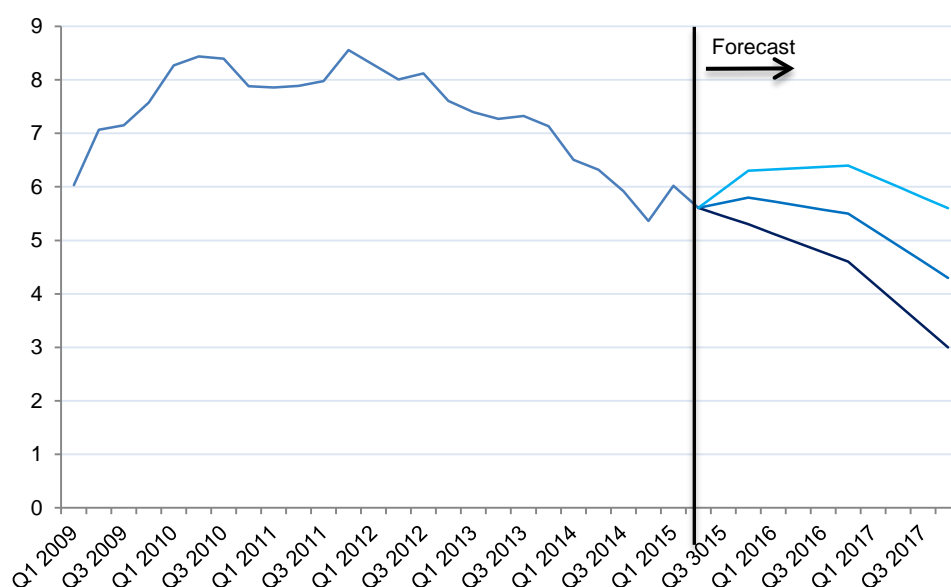
We present out forecasts for unemployment at the end 2016 and 2017 in our central scenario in our central forecasts in Table 5. We report the forecast number (and rate) of those unemployed using the International Labour Organisation (ILO) definition of unemployment. This is preferred to the claimant count measure as it gives a more complete picture of the extent of labour resources available for work but unable to find work, and so is a better measures of the level of spare capacity in the Scottish labour market.

**Table 5: Forecasts of Scottish ILO unemployment in central forecasts, 2015 to 2017**

	2015	2016	2017
Rate (%) <sup>1</sup>	6.2	5.7	4.6
Level (000s)	169,150	155,450	118,400

Note: 1 = Rate calculated as total ILO unemployment divided by total of economically active population aged 16 and over. The most recent labour market statistics are detailed in the Labour Market section.

Source: Fraser of Allander Institute forecasts, November 2015 ©

**Figure 5: Scottish ILO unemployment rate, 2009 to 2017 including forecasts from Q2 2015**

Sources: ONS and Fraser of Allander Institute forecasts, November 2015 ©

Our new forecasts of the ILO unemployment rate in Scotland at the end of 2015 and 2016 are 6.2% and 5.7% respectively, reflecting weaker growth forecasts over these periods, as well as weaker than expected labour market developments through 2015. Note, however that we forecast the overall general improvement in the number of jobs in Scotland to continue, albeit at a reduced rate to our forecasts earlier in this year. Figure 5 shows both the performance of ILO Scottish unemployment rate since 2009 as well as our forecasts for the ILO unemployment rate under the central, upper and lower forecasts to 2017.

The most recent figures for the labour market in Scotland (published on 14<sup>th</sup> October 2015) show an ILO unemployment rate of 5.6% in the three months to June 2015, down from 6.3% in the second quarter of 2014, and a fall of 0.4 percentage points from the first quarter of 2015. The level of unemployment stands at 155,000 in the same period this year, down 13,000 on the previous three months, and down by 19,000 from the same quarter one year ago.

Grant Allan

1 November 2015

## 3 Review of Scottish Business Surveys

Eleanor Malloy, Fraser of Allander Institute

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### Abstract

Business surveys provide a useful barometer of the investment and business intentions across the Scottish economy. The business surveys reviewed in this section provide an overview of key recent evidence in the Scottish economy. Up until recently, many surveys have been bullish but 2015 Q3 surveys suggest that the recovery has perhaps plateaued rather than beginning to slow. Since the start of 2015, businesses in Scotland have maintained positive confidence and output levels although the rates of increase have slowed. Nevertheless, key benchmarks are stronger than their long-term averages with many remaining at or above their pre-recession levels. Respondents, on balance, also continued to be positive about the prospects for the remainder of 2015.

### The Bank of Scotland Purchasing Managers' Index (PMI)

During September 2015 the The Bank of Scotland Purchasing Managers' Index (PMI) saw a broad-based contraction in the private sector as output in Scotland declined for the first time in six months – from 50.8 in August to 49 in September. Both the service and manufacturing sectors reported decreases in output. During August output moderated as the seasonally-adjusted PMI fell to 50.8 in August, down from 52.2 in July. During July, the data had signalled a further rise in activity at Scottish private sector companies, as highlighted by the index remaining above the 50.0 at a no-change level of 52.2. This was up from 51.2 in June and the index had seen its most marked rise in output since December 2014.

### The Bank of Scotland Business Monitor (SBM)

The latest Scottish Business Monitor (SBM) from The Bank of Scotland, reporting on results for June, July and August 2015 and expectations to February 2016, show the Scottish economy continuing to recover from the slowdown experienced at the start of the year. It reported that new business levels picked up strongly during the summer and that expectations for the next six months continue to signal moderate growth for the remainder of 2015.

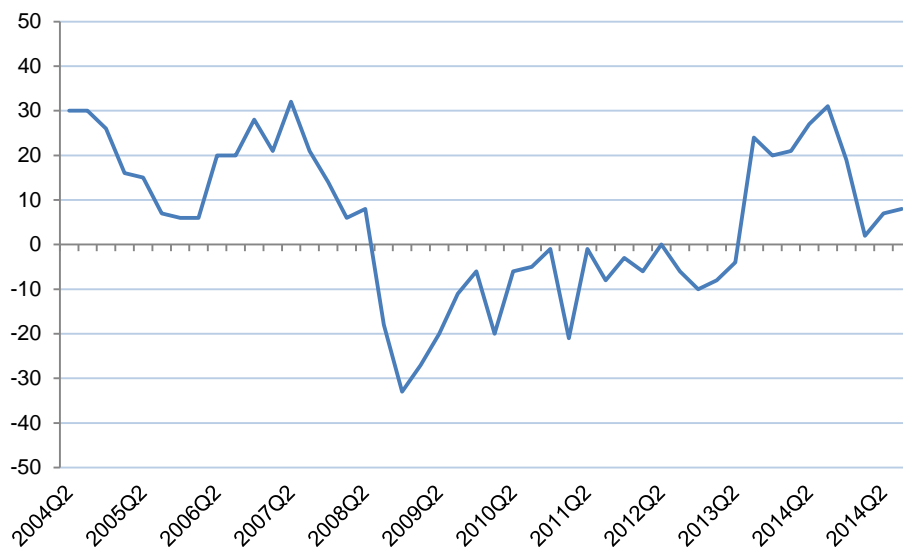
In the three months ending August 2015 a net balance of +8% (marginally up from the +7% of the previous quarter but well down from the +30% of the same quarter one year ago) reported a rise in turnover. Production firms reported a rise of +3% and service firms reported a rise of +11%. A net balance of +15% expect a rise in turnover in the period ending February 2016. Service firms remain more optimistic than production firms, with service firms showing an overall net balance for turnover for the next six months at +22% compared to +8% for production firms.

Volumes of repeat business improved slightly in the current SBM and the overall net balance of +2% was up slightly from 0% of the previous quarter (see figure 1), although worse than the +15% of the same quarter one year ago. Trends in the volume of new business were stronger with a net balance of

+17% compared to +3% of the previous quarter and close to the +23% of the same quarter one year ago.

Export activity continued to decline (-9%) in the current quarter but the rate of decline slowed from the -24% of the previous survey. During the next six months a net balance of -13% expect a fall in export orders - down on the -6% of last quarter and significantly worse than the +32% of the same quarter one year ago.

**Figure 1: Total volume of business Scotland, 2004-2015 (net balance of SBM respondents)**



Source: Bank of Scotland Business Monitor

## Manufacturing

According to the Quarterly Economic Indicator (QEI) produced by the Scottish Chambers of Commerce, in collaboration with the Fraser of Allander Institute a net balance of +12% of Scottish manufactures reported a rise in optimism – down from the +25% in Q2. A net balance of +11% of respondents to the QEI reported a rise in total orders. Rest of UK orders continued to rise for a balance of +17% of firms; however firms, on balance, reported a decline in domestic Scottish orders (-3.4%) during Q3 2015. However the decline is forecast to be temporary with a net of +18% forecasting a rise. For the fourth consecutive quarter the positive trends in exports continued in Q3 2015, with a net positive balance of firms reporting rises for both export orders and export sales revenue (net balances of +18% and +16% respectively). 67% of manufacturers expect orders to remain unchanged or increase, and +6% expect export sales revenue to be maintained or to increase.

Respondents to the Scottish Engineering Quarterly Review reported that optimism generally remained negative, especially for small and medium sized firms (SMEs). Total order intake remains negative with a net of +11% of reporting a decline. Small, medium and large companies all reported negative net balances and across manufacturing sectors there were no positive returns. Electronics (a net balance of

-9%), and fabricators (a net balance of -5%) were the least negative and mechanical equipment (a net balance of -26%) was the most negative. UK orders in general declined with small and medium companies reporting a net decline, although a net of large companies reported a rise. A net of +24% reported a decline in export orders compared to Q2.

Investment trends among QEI firms eased from previous quarters although fewer than 9% of businesses reduced total investment expenditure over the quarter, giving a net balance of +20%. A net balance of +12% of firms reported a rise in total employment levels, slightly lower than had been forecast by respondents in the previous survey.

For the first time since Q1 2010, Scottish Engineering Quarterly Review respondents reported that capital investment plans in general have dipped into a negative net balance (-1%). However only small firms reported a negative balance as both medium and large firms reported net increases (+8% and +33% respectively). Across individual sectors, metal manufacturing, non-metal products and transport reported positive results. Training investment plans in general remained positive. Employee levels generally remained unchanged for a net of firms and a small net balance are forecasting a rise in Q4 2015. Overall, output volumes remained negative. Small and medium sized firms, on balance, reported a decline while large companies reported a rise.

## Construction

According to the QEI the construction sector experienced continued growth in Q3 2015 with many positive key trends that are expected to remain positive throughout Q4 2015. A net balance of +20% of construction firms reported a rise in total contracts with this increase largely attributed to a rise in private sector commercial contracts, increasing for 40% of all firms. However results from public sector contracts remained depressed with a net balance of +5% of firms reporting a fall. 53.1% of businesses expect no change to the prices they charge during Q4 2015. Pressures to raise prices eased among construction firms in Q3 2015, although 47% remained under pressure to raise prices due to wage costs.

The latest Scottish Construction Monitor, the quarterly survey prepared on behalf of the trade body Scottish Building Federation (SBF), found confidence levels stood at +21 in the third quarter of the year down 14 points from a record high of +35 in the previous quarter. Respondents saw business confidence fall back to levels similar to those in the first half of 2014. The drop followed three consecutive quarters of rising confidence, although this was the ninth consecutive quarter in which confidence has been rated positive overall.

A net balance of +32% of QEI firms reported a rise in expenditure on investment, with positive trends reported for both training and capital investment with net balances of +34% and +23% respectively. Investment expenditure is expected to continue to grow in Q4 2015, with a net balance of +16% forecasting a further rise.

Fewer than 9% of QEI firms reduced employment over the quarter and the net balance of +33% is higher than at any other time since Q2 2007. Employment levels are expected to be maintained in Q4 2015 with 57% of businesses expecting no change and 35% anticipating an increase. Almost two thirds

of firms were actively recruiting staff during Q3 2015 and of these 48% had experienced recruitment difficulties.

## Retail

Sales revenue improved for a net balance of retail/wholesale QEI firms and a net of +20% expect a further rise in Q4 2015. Most businesses do not expect their prices to change in Q4 2015 (58%) although a net balance of +22% are forecasting a rise. A net of +5% reported an increase in profits compared to a net of -5% in the previous quarter.

The latest Scottish Retail Consortium-KPMG monitor reported that September 2015 was a more upbeat month for Scotland's retailers and that despite total sales being down again, it was the best performance since October 2014 (once Easter distortions were factored in). Like-for-like sales which exclude factors such as new store openings were down by -1.7% on September 2014 and worryingly the gap with the UK widened. Overall, sales were down -1.3% on last year but non-food sales grew slightly, with clothing, footwear, furniture and home categories driving sales; online sales performed reasonably well (up almost +2%). Food continued to struggle, as sales continued to decline in real terms as they have for the previous 22 months.

A net balance of +8% of QEI firms reported a reduction in total employment levels although no firms expect to reduce employment numbers in Q4 2015 and a quarter of firms expect to increase total employment levels.

## Tourism

A net balance of +31% of QEI firms reported a rise in optimism. Compared to the same quarter last year, a net balance of +63% of tourism firms reported that the total number of guests/customers had increased and fewer than 15% reported a decrease. The breakdown shows that a net balance of firms reported a rise in guests from all origins; from Scotland (+32%), rest of UK (+35%), rest of EU (+20%), and outwith of the EU (+31%). A net balance of +52% reported a rise in total sales revenue, with only 8% of firms reporting a decrease over the quarter.

A net balance of +39% of QEI firms in the tourism sector reported an increase in profits during Q3 2015 over the quarter, resulting in a positive net balance of +39% the highest level recorded in 2015. However, in keeping with seasonal trends this is unlikely to be sustained as 42% of firms are forecasting a decline in sales and 58% are expecting no change to the prices they charge.

A third of QEI tourism firms reported recruitment difficulties and skill shortages in this sector remain a significant challenge for businesses. More specifically, Chefs and front of house staff were the most frequently cited occupations that firms struggled to recruit. Employment levels increased with a net balance of +16% reporting a rise, although almost 40% of tourism businesses expect employment levels to decline in the next 3 months as they dispose of seasonal staff.



## Outlook

Generally, the overall economic picture is still positive but these surveys indicate that the speed of the recovery in the Scottish economy is perhaps starting to slow. Firms continued to report growth, but it was down on the previous quarter. However, expectations remain buoyant, suggesting the recovery will continue although here too the pace of increase is slowing. However, for some sectors trading conditions are still harsh, notably among exporters suggesting that aspects of the recovery remain fragile and policy action may be required to ensure that it is sustainable. The Scottish Chamber of Commerce survey noted a slowdown in investment trends for training and equipment which have dipped this quarter. These are typically indicators related to confidence and any drop in confidence should be a cautionary reminder. Confidence levels among Scottish businesses need to reach and maintain a point where firms have the confidence to invest for the longer term.

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Eleanor Molloy

1 November 2015

## 4 Scottish labour market

Andrew Ross, Fraser of Allander Institute

This section provides an overview of key labour market data in Scotland and contrasts these with both UK performance and changes over time. These data are from a range of the latest labour market data for Scotland and the UK, to August 2015. The Scottish unemployment rate stands at 6.1%, above the UK rate of 5.4%. The employment rate in Scotland is 73.7%, with the UK figure 73.6%. The number of young people in employment is seeing strong growth trending towards pre-recession levels. Growth in employment is still sustained by part-time working and self-employment.

### Recent trends and statistics

The latest comparable figures on the labour market for Scotland and the United Kingdom are summarised in Table 1. Labour Force Survey (LFS) data show that in the quarter to August 2015 the level of employment in Scotland decreased by 6 thousand, to 2,610 thousand and decreased over the year by 1 thousand. For the same period, UK employment rose by 140 thousand and 359 thousand respectively. The Scottish employment rate (16-64) – i.e. those in employment as a percentage of the working age population – was 73.3%, down 0.2% from one year earlier. For the same period the UK employment rate was 73.6%, up 0.6% compared to a year earlier. Scottish unemployment increased by 18 thousand to 170 thousand in the quarter to August 2015, a 19 thousand increase over the year. The unemployment rate increased in the months to August 2015 and now stands at 6.1%. The comparable unemployment rate for the UK is 5.4%.

**Table 1:** Headline indicators of the Scottish and UK labour markets, June – August 2015

		Scotland	Change on quarter	Change on year	United Kingdom	Change on quarter	Change on year
Employment*	Level (000s)	2,610	-6	-1	31,122	140	359
	Rate (%)	73.7	-0.6	-0.2	73.6	0.2	0.6
Unemployment**	Level (000s)	170	18	19	1774	-79	-198
	Rate (%)	6.1	0.6	0.7	5.4	-0.3	-0.6
Inactivity***	Level (000s)	729	2	-10	9,015	-4	-13
	Rate (%)	21.4	0.1	-0.3	22.1	0.0	-0.1

**Source:** ONS Labour Market Statistics, Scotland and UK, October 2015.

**Notes:** \* 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).

**Note:** 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, economically active and economically inactive – and reduces the economic activity rate and unemployment rate, while at the same time increasing the economically inactive rate.

Conversely the second measure (all aged 16 to 59/64) leads to lower numbers who are economically active, in employment and economically inactive – and leads to a higher rates of those who are economically active, in employment and unemployed and to a lower rate of those who are economically inactive. See Scottish Parliament Information Centre briefing on Scottish labour market statistics: <https://www.scottish.parliament.uk/parliamentarybusiness/70894.aspx>

The relationships between employment, unemployment, total economically active and inactive are important in discerning the response of the labour market to overall economic conditions. It is important to appreciate that changing levels of employment and unemployment, and changes in employment rates should be seen in conjunction with changes in activity rates. For example, if people leave employment and become unemployed (i.e. are actively seeking work they remain economically active) the unemployment rate will increase, but the rate of those economically active will remain unchanged.

However, if people leave employment and do not seek further employment, as seems to be a continuing pattern, they are then categorised as economically inactive, and as such the unemployment rate will remain unchanged, whilst the activity and inactivity rates will change. Equally, the changing pattern between full and part time employment is of interest as we uncover how the labour market is responding to overall economic conditions. We return to this issue later in this section.

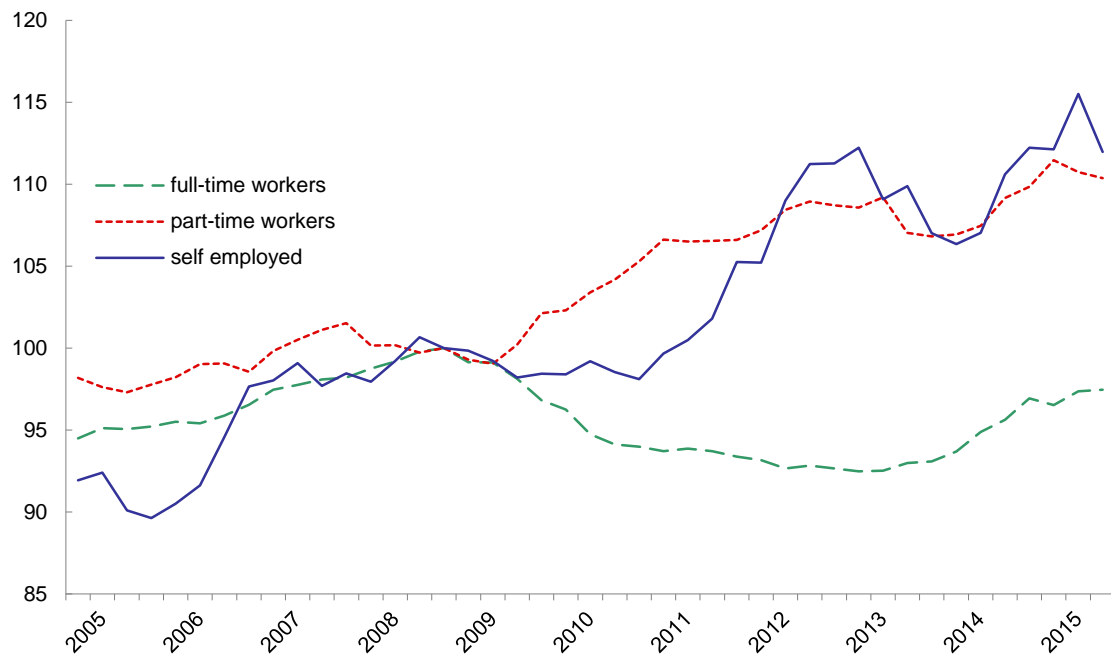
Figure 1 illustrates the trend in unemployment in Scotland and the UK since 2000. Between 2000 and 2015 unemployment in Scotland was at its lowest (106 thousand) in March – May 2008, immediately preceding the worldwide financial crash and the subsequent Great Recession.

In contrast, unemployment was at its lowest (1,396 thousand) in the UK between August – October 2004. The highest number of unemployed in Scotland was in the period May – July 2010 (237 thousand) and in the UK in the period from September – November 2011 (2.708 thousand). Unlike the pattern of previous recessions, unemployment has fallen in Scotland (and the UK) more rapidly than expected to just below 150 thousand, reflecting in part the rapid rise in part time and self-employment (see Figure 2 and Table 5) and the development – temporary or permanent – of a more flexible labour market.

Figure 2 illustrates how the employment ‘recovery’ continues to be driven by an increase in part time work and self-employment. Growth in full-time workers remains subdued but has started to gain some momentum since 2014. However, a strong, sustained, and balanced recovery in the labour market requires a more robust growth in full-time workers.

**Figure 1: Unemployment (in millions) in Scotland and the UK 2000 – August 2015**

Source: ONS Labour Market Statistics, Scotland and UK, October 2015.

**Figure 2: Index of full, part time and self-employment in Scotland, January 2004 – June 2015**

Source: ONS Labour Market Statistics, Scotland, October 2015.

Notes: Index - October 2007 – September 2008 = 100.

The economically active workforce includes all individuals actively seeking employment and those currently in employment (i.e. self-employed, private sector and government employed, unpaid family workers and those in training programmes). Between June – August 2015 the number of economically active (16+) in Scotland increased by 11 thousand, and the rate of the economic active increased by 0.2% to 63.4%. There were 2,780 thousand economically active in Scotland during the period. This comprised 2,610 thousand in employment (2,516 thousand aged 16–64) and 168 thousand ILO unemployed (all aged 16-64). The level for those of working age but economically inactive decreased by 7 thousand over the latest quarter to 1,606 thousand and remained unchanged over the year.

The economic inactivity rate for men aged 16–64 increased by 0.2% over the year to 18.1%, and increased by 0.2% for women over the year to 24.4% from June – April 2015. In the year from July 2014 to June 2015 the key components of change in inactivity were: an increase in the number of students, up by 6 thousand; more people looking after family, up by 5 thousand; more people who were temporarily sick, up by 1 thousand; fewer long-term sick, down by 17 thousand; fewer people who are retired, down by 5 thousand; and 'other' up by 6 thousand. Although the majority of the inactive (587 thousand) did not want a job, 179 thousand did want employment.

Data on employment by age, derived from the Annual Population Survey, is available up to July 2014 to June 2015. Table 2 illustrates the changing employment rates by age group from July 2007 onwards. In the year to June 2015 employment rates increased for all age groups, other than 65+ which decreased by 1.6% over the year. The largest increase in the employment rate was in the age group 18-24 (+3.0%), followed by the age group 16-24 (+2.8%), and 16-17 (+1.5%). The employment rate for all workers aged 16 and over increased by 0.6 % over the year to June 2015 to 58.7%.

**Table 2: Employment rates (%) by age, Scotland July 2007 – June 2015**

(In %) Jul-Jun.	Jun-08	Jun-09	Jun-10	Jun-11	Jun-12	Jun-13	Jun-14	Jun-15	Time-trend
All 16+	60.7	59.6	58.0	57.8	57.5	57.2	58.1	58.7	
16 - 64	74.3	72.8	71.0	70.9	70.7	70.4	71.8	72.9	
16 - 17	39.7	38.3	30.6	33.6	29.5	30.1	24.7	26.2	
18 - 24	68.4	65.7	61.9	61.0	59.3	58.8	58.9	62.0	
16-24	62.3	59.8	55.3	55.4	53.4	53.1	52.2	55.0	
25 - 34	81.6	80.3	78.4	79.0	79.5	78.9	79.8	80.9	
35 - 49	83.9	82.4	81.1	81.6	81.3	81.2	82.9	83.2	
50 - 64	65.4	64.8	64.4	63.2	64.1	63.9	66.6	67.8	
65+	5.7	6.5	6.3	6.5	6.9	8.0	8.3	8.2	

**Source:** ONS Labour Market Statistics, Scotland, October 2015.

**Note:** Denominator = all persons in the relevant age group.

Total workforce job figures are a measure of jobs rather than people. Total seasonally adjusted workforce jobs in Scotland for June 2015 (the latest available figures) stood at 2,693 thousand, (i.e. 2,389 thousand employee jobs, 290 thousand self-employed jobs, HM forces and supported trainees 14 thousand). Table 3 indicates the sectoral breakdown and provides some indication of both the impact of the recession and the differential recovery in jobs across sectors.

As noted above, these trends need to be considered with some caution as workforce jobs measure jobs rather than people in employment i.e. the estimates of self-employment jobs and government supported trainee jobs differ from the estimates of people in self-employment and in government supported training and employment programmes.

**Table 3: Total workforce jobs by industry, Scotland, June 2011 – June 2015**

Industry (in thousands, SIC07)	Jun-11	Jun-12	Jun-13	Jun-14	Jun-15	Time-trend
All jobs	2,617	2,621	2,617	2,701	2,693	
Agriculture, forestry & fishing	50	55	55	58	47	
Mining & quarrying	29	35	35	36	37	
Manufacturing	189	199	190	184	196	
Electricity & gas	20	16	15	18	20	
Water supply, sewerage, waste	16	18	16	17	17	
Construction	179	170	174	177	176	
Wholesale & retail trade	373	368	375	379	386	
Transport & storage	113	115	113	115	120	
Accommodation & food service	184	175	187	197	192	
Information & communication	65	71	70	71	68	
Financial & insurance activities	91	92	86	92	88	
Real estate activities	31	37	37	38	42	
Professional scientific & technical	195	192	194	190	181	
Administrative & support service	186	218	207	213	201	
Public admin & defence	154	154	154	150	151	
Education	207	196	198	208	217	
Human health & social work	387	371	373	397	384	
Arts, entertainment & recreation	87	78	80	85	92	
Other service activities	59	61	56	72	75	
People employed by households	2	2	1	3	3	

**Source:** ONS Labour Market Statistics, Scotland, October 2015.

**Notes:** \* Workforce jobs are a measure of jobs rather than people. There are extensive revisions from previous figures.

The data in Table 3 suggest that the Human health and social work sector has seen a significant contraction of workforce jobs. This sector has seen a decrease of 13 thousand (-3.2% change) workforce jobs over the quarter and this is a 14 thousand (-3.5% change) decrease over the year. Similarly, the Accommodation & food services sector has seen a decrease of 7 thousand over the quarter to June 2015 and a decrease of 5 (-2.6%) thousand workforce jobs over the year. The Information & telecommunications sector has also seen significant decreases in workforce jobs, -6 thousand (-7.6%) over the quarter and -3 thousand (-4.1%) over the year.

Table 4 outlines the changing patterns of full time and part time employment. The latest data indicates that from July 2014 to June 2015, the number of employees increased by 42 thousand (1.9%), and the numbers of self-employed increased by 4 thousand (1.2%). The number of part-time workers increased by 2 thousand (0.3%) over the year, and the number of temporary employees increased by 7 thousand (5.3%).

Table 4 also indicates that the numbers of full-time workers in Scotland increased by 43 thousand (2.4%) over the year from July 2014 to June 2015. Part-time employment numbers have grown significantly through the recession and have increased by 2 thousand (0.3%) over the year to June 2015.

The number of those working part-time because they could not find a full time job is 105 thousand, a decrease of 13 thousand (-10.6%) over the year to June 2015. The number of people who cannot find a full-time job is still almost double that of pre-recession numbers. This reflects continuing issues in the wider economy and whether these numbers will see significant reductions in near future is questionable.

**Table 4: Trends in Scottish employment statuses, July 2010 – June 2015**

All in employment (in thousands)	Jun -11	Jun-12	Jun-13	Jun-14	Jun-15	Time-trend
Employees *	2,190	2,167	2,162	2,208	2,249	
Self-employed *	276	299	296	297	301	
Full-time workers **	1,800	1,781	1,783	1,824	1,867	
Part-time workers **	678	696	685	694	696	
Workers with 2nd job	96	100	94	98	103	
Temporary employees	133	120	130	132	139	
Could not find full-time job	114	116	116	118	105	
Total *	2,482	2,484	2,480	2,529	2,568	

**Source:** ONS Labour Market Statistics, Scotland, October 2015

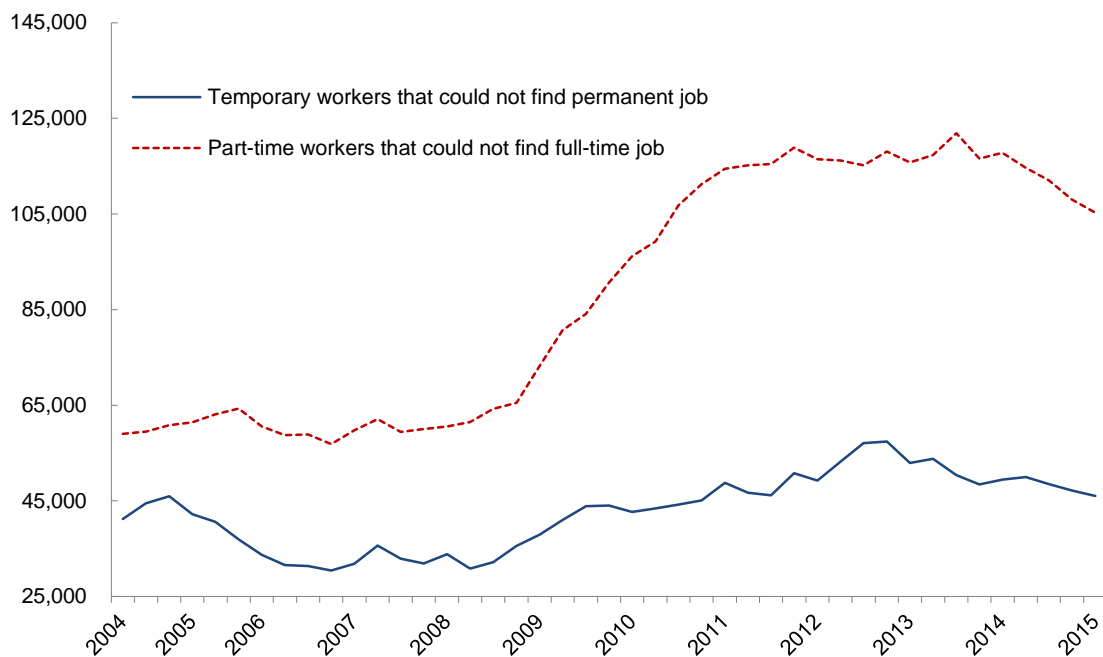
**Notes:** \* Includes people who did not state whether they worked part time or full time

\*\* The split between full time and part time employment is based on respondents' self-classification

Figure 3 shows the number of part-time workers that could not find a full-time job and temporary workers that could not find a permanent job from January 2004 – June 2015. Given that recent growth in employment has largely been fuelled by part-time workers and self-employment (see Figure 2) it is positive to see that the number of part-time workers that could not find full-time jobs are ever so slightly decreasing, from 118 thousand to 105 thousand, a drop of 10.6% over the year to July 2015.

However, the remaining high number of involuntary part-time workers shows that there is still significant slack in the labour market. The same, even though to a lesser extent, holds true for temporary workers that could not find a permanent job.

**Figure 3: Trends in full, part time and self-employment January 2004 – June 2015**



Source: ONS Labour Market Statistics, Scotland, October 2015

Public sector employment in Scotland continues to decline, although at a slower rate than previously. The latest data at the time of writing is for Q2 2015; it indicates that there were 545,600 employed in the public sector in Scotland, a decrease of 1,400 (-0.3%) since Q2 2014. This level is now at the same level as seen in 1999, when the series began.

In Q2 2015, public sector employment accounted for 21% of total employment, down from 21.1% in the previous year. In Q1 2015, there were an estimated 2,048,500 people employed in the private sector in Scotland, a decrease of 1,700 (-0.1%) over the year. Private sector employment in Scotland accounts for 79.0% of total employment (Scottish Government, 2015).



## FRASER OF ALLANDER INSTITUTE

### Editorial Introduction

In this volume of the Fraser Economic Commentary we continue to celebrate the 40<sup>th</sup> anniversary of Scotland's leading commentator on the Scottish economy; the **Fraser of Allander Institute** and its **Fraser Economic Commentary**. We publish the '**Complete Catalogue of the Fraser Economic Commentary**'. The Catalogue includes all forecasts, Outlook & Appraisals and articles published by the Commentary over the past 40 years; both as the **Quarterly Economic Commentary** (1970-2006) and the **Fraser (of Allander) Economic Commentary** (2007 - present). A Fraser Economic Commentary Digital Archive has been created and any Fraser Economic Commentary article or Outlook can be searched by author, title, date and key words – and via any search engine. Articles are made available through *StrathPrints* the University of Strathclyde institutional e-print repository.

We publish the third and final instalment of '**Forty Turbulent Years: The 'Nice' decade turns nasty; banking Armageddon; and the politics of austerity, 2001- 2015**' by Alf Young, a 40 year history of the Scottish economy and economic policy issues, as viewed through the pages of the Quarterly / Fraser Economic Commentary.

Productivity is a key issue for the Scottish economy. '**Scotland's productivity performance- latest data and insights**' by Kenny Richmond and Jennifer Turnbull brings together the latest data on this crucial long term issue for the productive capacity of the Scottish economy.

In a small, open economy like Scotland's export performance is closely linked to productivity and our international competitiveness. Jonathan Slow, Stewart Turner and Kenny Richmond review the latest evidence in '**Scotland's export performance: some recent evidence**'. How to improve to Scotland's poor export performance, relative to OECD countries, is a moot point. Loe Franssen in '**International Value Chains; opportunities and challenges for small and developing countries**' draws on a recent World Trade Organisation (WTO) report on the international engagement of SME's in less developed countries. The authors uses this to propose how Scotland might improve the export performance of SME's.

How the Scottish economy will and should respond to the challenge of global warming is the subject of '**Re-designing a more circular Scottish economy**' by Ewan Mearns and Daniel Hinze. They outline on-going research and policy work in Scotland to help develop 'circular economy' thinking in economic policy and in the development of new business and economic opportunities in some of Scotland's key sectors: oil and gas and the bio-economy.

Future changes in Scotland's demography, working age population and forecast employment demand is the subject of Graham Thom and Susan Stewart's '**Some key issues for employment and skills in Scotland: a review of emerging evidence**'. They note that change will vary across Scotland and will require new and different approaches by the public sector, industry and businesses to ensure that Scotland's labour market is able to supply the required people and skills as its working age population declines.

Wellbeing is a hot topic in public policy and is often used as a rejoinder to economists who continue to measure economic welfare in terms of GDP etc. Charlie Woods and Donald Jarvie in '**Improving lives in Scotland: a wellbeing approach**' review the outputs of research commissioned by the Scottish Universities Insight Institute (SUII). They show that wellbeing is an increasing recognised policy objective. They propose amendments to the Scottish Government's *Scotland Performs* framework to take better account of wellbeing in measuring "success".

Kevin D Kane  
Managing Editor, Fraser Economic Commentary  
Fraser of Allander Institute  
November 2015

# Economic perspectives

# Fraser Economic Commentary – The complete catalogue of reviews, outlooks and articles: 1975-2015

George Macgregor and Isobel Sheppard, University of Strathclyde

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To coincide with the 40<sup>th</sup> anniversary of the Fraser of Allander Institute and the Fraser of Allander Economic Commentary, the University of Strathclyde Andersonian Library has completed the necessary work to create a fully annotated and accessible digital archive of entire Fraser of Allander Economic Commentary, 1975 - 2015. The archive is the single most complete, publically accessible archive of detailed analyses and commentary on Scotland's economy and economic development from 1975 to the present. The archive includes all economic forecasts, Scottish, UK and international outlooks plus all articles published by the Fraser Economic Quarterly (1975 - 2007) and the Fraser of Allander Economic Commentary (2008 onwards).

The archive is available at **Strathprints** (<http://strathprints.strath.ac.uk/>), the digital repository of research publications of the University of Strathclyde. Articles can be searched using the [Strathprints search interface](#). All articles are also discoverable by searching your favourite Web search engine. If required, greater specificity in searching Strathprints from your favourite search engine can be achieved by using the following syntax:

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Browsing is often preferable when perusing an archive for possible items of interest and a list of all articles published under the [Quarterly Economic Commentary](#) and [Fraser of Allander Economic Commentary](#) is therefore also available from Strathprints.

The following is a catalogue of the entire archive covering the period from Vol. 1 No 1 (1975) to Vol. 39 No. 2 (2015) (in reverse order from Vol. 39, No. 1). Each substantive part of the Commentary, including all international, UK and Scottish outlooks and analyses plus all published articles are included in the catalogue. The catalogue provides the item / article title, its author/s and the Commentary volume and number.

As of June 2015, the entire digital archive of the Fraser Economic Commentary became available via Strathprints. Please note all items and articles have full abstracts plus keywords to better enable them to be located by researchers.

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Trade and employment in Scotland	Simpson, David; Walker, James	1980	6	2
Regional development grants : the Scottish experience 1975-1979	Fraser, Neil; Orton, Ian	1980	6	1
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The tax and price index	Bell, David N. F. et al	1979	5	2
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# Forty turbulent years: How the Fraser Economic Commentary recorded the evolution of the modern Scottish economy

## Part 3: The 'Nice' decade turns nasty; banking Armageddon; and the politics of austerity, 2001 – 2015

Alf Young

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### Abstract

The recent economic history of Scotland, its performance and place within the UK and international economy can be traced through the pages of the Fraser of Allander Economic Commentary. Created in 1975 by a private bequest from Sir Hugh Fraser, a prominent Scottish businessman, the Fraser of Allander Institute has provided a continuous commentary on the economic and related policy issues facing Scotland over the period. In this the fortieth anniversary of the Fraser of Allander Institute, this is the last of three articles which chart Scotland's transformation from an economy significantly based on manufacturing (and mining) to one that saw rapid deindustrialisation (in terms of employment, less so output), the discovery of oil and the rapid transformation of its business base with the impact of both merger and acquisition (M&A) activity as well as the varied impacts of successive governments' industrial and regional policies.

At the end of part 2 of this series we noted that Scotland's hopes of replacing its old core industries of shipbuilding and steel with a renaissance based on microelectronics was already beginning to fade. The largely American and South East Asian-owned plants fabricating processing chips and assembling computers and mobile phones, having turned large parts of central Scotland into Silicon Glen, were either transferring production to lower-cost locations or failing to deliver promised investments at all. In the first Fraser commentary of 2001 Richard Marsh considered the consequences. "The development of an electronics sector within Scotland was intended to increase job security, opportunities and value added within the economy," he wrote. "The sector's downturn is therefore bad news for Scotland's growth. This then begs the questions what are the underlying forces causing the recent developments and do they spell the end for Silicon Glen?" (Vol.26, No.2). Marsh suggested exploiting established linkages and upgrading Scotland's skills base might help underpin a smaller, smarter electronics cluster. In 2002 total exports from Scotland of computer, electronic and optical goods were worth nearly £5.6bn. By the end of that decade Silicon Glen exports had halved and halved again, to just under £1.4bn.

While Scotland's ambition to punch above its weight in this new digital world was facing setbacks, a much more traditional sector of its economy was embarking on a period of unprecedented export-led expansion. In the decade from 2004, sales of Scotch whisky to some 200 markets around the world grew by 74%. Over the same period, sales of single malts surged by 159%. In the 1980s the sector had been convulsed by takeovers, notably by Guinness, of Fells, then Distillers. In the 1990s, as a result of over-production and too much Scotch being sold in bulk to overseas competitors, distillery capacity was

being mothballed. Now Scotch vies to be Scotland's biggest single export by value. Right through to the present some mothballed distilleries are being reopened, some working distilleries are having their capacity expanded, new ones are being built, and others planned. Scotch whisky now accounts for a quarter of all UK food and drink exports. Annual visitor numbers to distilleries have topped a million and a half, boosting Scotland's tourist trade.

Oil was first discovered off Scotland's shores when the first Fraser commentary was still in gestation. North Sea production peaked at the end of the 1990s. In early 1998 the price of Brent benchmark oil was heading down towards just \$10 a barrel. Ten years later the price peaked at over \$140 a barrel. Within a year, thanks to the great recession brought on by the banking crisis of 2007/08, that oil price had fallen back below \$40 again. It recovered again to just over \$120 by 2011 and, as Grant Allan shows in a recent Fraser commentary (Vol.38, No.3) then fluctuated in a band of \$100 to \$120, until late 2014 when the price rapidly collapsed to below \$50 again. Government tax revenues from offshore oil and gas production first peak in the early 1980s, spiking again in 2008 and again in 2011 when oil prices were high. The falls since late last year mean tax revenues have all but evaporated. Since the North Sea has been historically a high-cost province, one now moving steadily into maturity, with development plans being curtailed and staff losing their jobs in significant numbers, the future looks more and more uncertain. Oil price volatility now threatens significant consequences for Aberdeen, Scotland's oil capital, but for a supply chain that stretched down into central Scotland and much further afield in the UK.

Volatility was also a major factor in the eclipse of Silicon Glen in the early 2000s. One of the underlying forces at work there was the speculative dot-com asset bubble which afflicted the American NASDAQ stock market index in the final years of the old century into the dawn of the new millennium. Its tech-heavy composite index, which stood around 100 when the Fraser Commentary first launched in 1975, broke through 1000 in July 1995. Then, fuelled by what US Federal Reserve chairman Alan Greenspan, in a speech in December 1996, called "irrational exuberance", the index rocketed. Those betting that the emergence of the world-wide web would be far more transformational for the global economy than any previous industrial revolution, could not get enough of the new internet-based companies heading to NASDAQ, some with brazenly overblown IPOs. Its composite index peaked at an intra-day high of 5132 on March 10, 2000. The collapse that followed was even more precipitous. It plunged back near where it started, to an intra-day low of 1108, in September 2002. Amazon saw its stock slashed from \$107 a share to just \$7. It took the NASDAQ index another thirteen years, until April 2015, to recover and surpass that millennial pre-burst peak. Many of its beneficiaries did not survive the burst. Some, like Bernie Ebbers of WorldCom, went to jail for securities fraud and conspiracy. Ebbers is currently serving 25 years. For some who successfully rode out the rollercoaster, it's been a very different story. Amazon's stock is now touching \$600 a share.

Another traumatic set of events on American soil, which erupted on an unsuspecting world while the hot air was still spilling out of the dot-com bubble, was to have geopolitical consequences that have also helped shape our collective destiny ever since. Of the four US domestic flights hijacked on the morning of September 11, 2001 by 19 al-Qaeda terrorists, two were flown into the twin towers of the World Trade Centre in New York's Lower Manhattan district, one was flown into the west side of the Pentagon in Washington and the fourth, after resistance by civilian passengers, crashed into a field near Shanksville, Pennsylvania. In all 2,996 people died. One early instinct was to try and quantify the impact of 9/11 on



the global economy. Three months after the twin towers fell, that December's Fraser commentary described that impact as "difficult if not impossible to quantify". Scotland could expect reduced tourism demand, lower exports outside the UK, and a reduction in inward investment. The commentary agreed with the view of the then chief economic advisor to the devolved Scottish government, Dr. Andrew Goudie, that Scotland's annual growth "will decelerate but should remain positive". The Fraser team cut its forecast for 2002 GDP growth from 1.4%, but only down to 1.2% (Vol. 26, No. 4).

US and British forces had started aerial bombardments of Taliban and al-Qaeda targets in Afghanistan within a month of the mass slaughter in New York. Special forces, on the ground in Afghanistan, had already overthrown Taliban rule by the time the December commentary appeared. The Allied invasion of Iraq in March 2003 and the subsequent overthrow of Saddam Hussein were to follow. While winning the war in Iraq and managing some sort of peace in Afghanistan were to dominate the strategic thinking of Western governments throughout the first decade of the 21st century, by 2011 we had the multi-state intervention in Libya in 2011 and, by 2014, the rise of ISIS in parts of Iraq and Syria, and the growing exodus of refugees now risking all to find a new life within the EU. Even Tony Blair now concedes "elements of truth" in the claim that the war in Iraq helped cause the rise of Islamic State. However myopia at the highest levels of western government about the long-term consequences of the geopolitical choices made in the immediate aftermath of 9/11 is mirrored in some of the key choices made by central bankers during and after the dot-com bubble.

US Fed chairman Alan Greenspan had certainly warned of the consequences of irrational exuberance in financial markets back in 1996. But he and his colleagues were slow to do anything, by way of monetary policy, to take the steam out of the mounting market hysteria. Over the five years between July 1995 and March 2000, while the NASDAQ composite index was rising more than fivefold (from 1000 to 5132), the Fed changed its main interest rate eleven times. But to little effect. It stood at 5.75% in July 1995. It was just a notch higher, at 6%, in March 2000. When the tech bubble burst, and with the wider US economy showing signs of increasing fragility, Greenspan and the Fed's open market committee suddenly became much more proactive. They cut the federal funds rate eleven times in 2001 alone. All the way down from 6% to 1.75%. Four of those cuts (1.75 percentage points in total) came in the shocking wake of 9/11. There were two further cuts, one each in 2002 and 2003, taking the main interest rate all the way down to 1% where it stayed for a further year. With rates that low for that long, another asset bubble was already in the making.

This time it was housing. With borrowing now so affordable who across America could not aspire to own their own home? The sub-prime mortgage scandal, which was to become such a central factor in the banking meltdown later in the decade, was already beginning to take shape. Greenspan has always denied he and the Fed were to blame. "Those who argue you can incrementally increase interest rates to defuse bubbles ought to try it sometime," he said in 2008. "I don't know of a single example of when interest rate policy has been successful in suppressing gains in asset prices." The former chief economist of the IMF, Kenneth Rogoff, disagreed. "If you cut interest rates when asset prices are in free fall, then when asset prices are rising while indebtedness is rising all over the country, you need to raise rates. He (Greenspan) actively chose not to do that."

Greenspan was not the only central banker taking a distinctly relaxed view of the emerging economic and geopolitical threats of the period. In October 2003, Mervyn King, just three months into his term as



Governor of the Bank of England, delivered an intriguing speech in Leicester. Since the end of the Second World War, he suggested, Britain had experienced a succession of stop-go, boom-bust cycles. However the ten years from the 2nd quarter of 1992 had been, he ventured, the nice decade. The UK had experienced a Non-Inflationary, Consistently Expansionary ten years. NICE, if you can get it. A decade in which growth was above trend (2.9% compared with the post-war average of 2.5%). Inflation, having been targeted from late 1992, had averaged 2.5%, the lowest for a generation. Unemployment had fallen from 10% to 3%, the lowest level for three decades. Output had risen in every single quarter. Living standards were rising as the terms of trade moved in Britain's favour.

The new governor put the success of the 1990s down to a number of things. One was the new monetary framework, introduced by the first Blair government in 1997, that gave the Bank of England independence and a clear inflation target. Another was "a sustainable fiscal consolidation that had turned a deficit of 8% in 1993 into a sustainable position for the public finances based on a set of clear rules for government debt". King was referring to the striking consequences of Gordon Brown, as the new Labour chancellor, adopting the tough spending targets of his Conservative predecessor, Kenneth Clarke. Since 1965 there have only been seven years when UK governments have not had to resort to net borrowing to fund their spending promises in full. Two occurred between 1969 and 1971, the last year of Harold Wilson, the first of Ted Heath. Another two at the tail end of the Thatcher era in the late 1980s. And the other three were at the end of the 1990s, when the New Labour government walked into Downing Street for the first time and Brown immediately donned Clarke's hair shirt.

King did not deny there had been some "unexpected twists and turns of the world economy ... especially in the latter half of (his nice) decade". However, he argued, "those shocks tended to average out over time rather than cumulate in either an upward or downward spiral. In other words the economic surprises alternated between good one year and bad the next rather than adding up to 'one damn thing after another'. In that sense, Lady Luck smiled on us." Would the next ten years be as nice? was King's rhetorical teaser. The new governor judged that "unlikely". However he insisted that realistic conclusion was not "a case for pessimism, rather the opposite". He judged the macroeconomic framework in the UK "sound and proven". From such a "new-found position of macroeconomic stability" there was now an opportunity "to boost productivity, education and enterprise in order to generate the resources needed to raise living standards".

The Bank of England's governor was not alone in detecting more benign economic times. In February 2004, in a speech in Washington, the man who two years later would succeed Greenspan as chairman of the US Federal Reserve was saying something very similar. Ben Bernanke noted that the previous twenty years had seen a sharp decline in macroeconomic volatility in the US. Variability of quarterly real output growth was down by a half since the mid-1980s. Variability in inflation down by two thirds. Bernanke called it the Great Moderation. He cited three reasons for it. Structural changes in the economy, including much wider use of information technology, which improved the economy's capacity to absorb shocks. Improved macroeconomic policies, notably control of monetary policy moving from politicians to central bankers. And that magic ingredient - Lady Luck - again. However these improved policies were still fallible. And all that luck was about to run out.

Before we discover why luck did run out, we should consider what impact changes in the way Scotland would now be governed were having on the evolution of the Scottish economy. The first devolved

Scottish government came into being in 1999, a Labour/Liberal Democrat coalition led by First Minister Donald Dewar. In June 2000 it produced what it called “a step change in economic policy making in Scotland”. Its Framework for Economic Development was 92 pages of principles and priorities, enabling and outcome objectives, even a vision. It was “to raise the quality of life of the Scottish people through increasing economic opportunities for all on a socially and environmentally sustainable basis”. Words that would still not seem out of place in political debate on economic ambitions today. That they still seem so familiar fifteen years on suggests delivery is an altogether tougher nut to crack than trading visions. The Framework called for “the enhancement of productivity”. So did the current UK chancellor George Osborne in his most recent budget. In one Commentary piece in June 2005, after the Scottish government launched a refresh of its Framework document, Peter Wood asked heretically “Is the growth of the Scottish economy the first priority for public spending in Scotland?” (Vol.30, No.1)

That first devolved coalition inherited the enterprise agencies, Scottish Enterprise (SE) and Highlands and Islands Enterprise (HIE), created in the Bill Hughes-inspired reforms of 1991. They are still with us today. Their inward investment arm Locate in Scotland was, in 2001, turned into Scottish Development International, charged with both attracting overseas investment to Scotland and encouraging Scottish companies to export more. The skills work previously carried out by Careers Scotland was folded into SE and HIE only to be hived off again in a new agency Skills Development Scotland in 2006. The year before SE and HIE were stripped of their networks of local enterprise companies (LECs). The Business Gateway Network was hived off to local authorities. Three self-standing Intermediate Technology Institutes (ITIs) were set up by SE in 2004 to find and develop innovative technology in the fields of techmedia, life sciences and energy, with a budget of £450m over ten years. The ITIs were absorbed back into SE in 2009, having spent £231m but with very modest returns to show for it.

A “bold” initiative, SE’s current chief executive Lena Wilson told MSPs in 2013, had fallen victim to an economy that had not turned out as the agency had thought. Both SE and HIE have survived the change of control of the devolved Scottish government, to a minority SNP administration in 2007 and then an outright SNP majority in 2011. Their budgets have reduced in real terms over a number of years and perhaps their influence too. Both Alex Salmond and his successor as first minister, Nicola Sturgeon, have chosen to appoint their own Council of Economic Advisers whom they meet twice a year. The core of both SE and HIE’s activity now is to run a system of account managed businesses, some 2500 in total, which are assessed as having real growth potential. But that, they are at pains to argue, does not preclude them doing a lot of support work with other businesses that are not account managed. One enduring mystery is why, given the failure of the ITI initiative, there is not more independent scrutiny of what the account management system is actually achieving.

The first decade of the new millennium did not quite match the 1980s in the range and scale of Scottish companies facing corporate takeover. Acquisition activity was, however, on the rise again. In 2002 the Mersey-based Peel Group acquired Clydeport. The following year the American newspaper group, Gannett, acquired the Glasgow-based Herald and Times from STV-owner SMG. In 2005 Scottish Radio Holdings was sold to Emap. In 2007 the Spanish group Iberdrola acquired ScottishPower. And in 2008 the French, largely state-owned, electricity generator, EDF, acquired British Energy, including its Torness and Hunterston B nuclear stations. From the late 1990s onwards almost all of Scotland’s mutual life insurance and pensions groups surrendered control to bigger English or continental based players.

Only Standard Life, which demutualised in 2006, bucked the trend by seeking a full market listing in its own right.

However, as we noted briefly in Part 2 of this series, the takeovers that were to dominate both the Scottish and UK economies as the new century began were the attempts by Scotland's two oldest banks, Bank of Scotland and Royal Bank of Scotland (RBS), to turn predator not prey, in the takeover game. Bank of Scotland was first to act, spurred on by Standard Life's surprise decision in 1996 to sell its one-third share in the Bank, acquired a decade earlier from Barclays. BoS, having celebrated its 300th birthday the year before, suddenly discovered a sense of vulnerability. Once Standard Life was persuaded to dispose of its stake piecemeal in the market, the Bank's Governor Sir Bruce Pattullo and chief executive Peter Burt set out to find a merger partner among the bigger UK building societies, then abandoning their traditional mutual status. That trawl proved fruitless. After Pattullo retired, Burt persuaded his board on a much bolder strategy. The Bank should launch a hostile bid for NatWest, twice the size of BoS but the poorest performer among the big four English clearers.

At first Burt tried to persuade his opposite number at RBS, Sir George Mathewson, to mount a joint bid. That would bring much more financial firepower to bear and, if successful, would allow them to split the spoils between them. However it quickly became clear both Scottish banks would want the same parts of NatWest. The talks foundered. Then in September 1999 the intended prey announced an agreed deal to buy the giant insurer Legal & General for £10.7bn. If that deal went through, the price tag on an enlarged NatWest would be way beyond what the smaller Bank of Scotland could afford. It was decision time. Would it bid or walk away? The Bank's acting chairman Sir Jack Shaw broke the news of its hostile bid in a dawn phone call to NatWest's chairman Sir David Rowland on Friday September 24 1999. The timing was exquisite. Most other senior bankers, including RBS's Mathewson, were already in America for the annual meetings of the IMF and the World Bank.

Burt won lots of plaudits for the logic of the Bank's bid. It certainly killed off NatWest's deal with Legal & General. However, as is usually the case in hostile offers, pressure was on from the City to discover how much more BoS would be prepared to pay. It did raise its terms once but, with NatWest's share price rising faster than its own, closure was proving elusive. The Bank improved its terms. However the relative share prices of predator and prey pointed to the City expecting even more. Meanwhile, with Mathewson quickly back in the UK, RBS was planning its own counter-bid for NatWest. That came on the 29th November, with the Spanish bank BSHC (now Santander), then a shareholder in RBS, willing to provide some of the cash. It was made clear that RBS's then chairman Lord Younger would retire to be replaced by Mathewson. His deputy Fred Goodwin would mastermind the integration of NatWest and succeed Mathewson as chief executive to drive the combined bank forward. On the 11<sup>th</sup> of February 2000 RBS's offer was accepted by NatWest.

A shell-shocked Bank of Scotland was forced to confront its own vulnerabilities once more. Tentative merger talks with National Australia Bank and Abbey National followed. Then, little more than a year after NatWest slipped through its fingers, Bank of Scotland agreed to merge with the biggest mortgage lender in the UK, Halifax. While the headquarters of the combined bank - Halifax Bank of Scotland or HBOS - would be in Edinburgh, most of the main jobs - chairman, chief executive, finance director, head of retail and head of insurance - went to Halifax men. Burt stayed on briefly as executive deputy chairman, then retired. He had vastly more banking experience than the Halifax five had among them.

Not that the Bank's Scottish rival, RBS, was any different in that regard. Mathewson had been first an engineer, then venture capitalist and had run the SDA before he joined RBS. And his successor, lawyer-turned-accountant Goodwin's first banking job was as chief executive of Clydesdale Bank for three years.

That didn't stop any of them from trying to build market scale in the sector that was really booming on both sides of the Atlantic, thanks to cheap money and all that central bankers' talk of a new era of macroeconomic stability. That sector was housing and the wider property market. Buoyed by capturing NatWest, Goodwin embarked on what began to look like a growth at any cost strategy. RBS kept buying more banks, many of them in the US as bolt-ons to its own existing Citizens Financial, a Rhode Island-based savings and loans bank with a big exposure to housing finance. That process led, in 2004, to paying an eye-watering \$11bn for Charter One banking group, a launch pad into the American mid west. In Ireland, where another property bubble was rapidly inflating, Goodwin urged Ulster Bank, operational right across the island of Ireland and acquired as one of the NatWest spoils, to maximise its loan book. Between 2000 and 2007, Ulster Bank grew its total assets (effectively its loan book) six-fold to €55bn! Goodwin also bought a newer mortgage bank, First Active, because he wanted the man who created it to run Ulster Bank as well. A major strand of Goodwin's ambition for RBS was to turn it into a globally significant investment bank. Another of the NatWest spoils, Greenwich Capital in Connecticut, became one of the biggest players in the underwriting in securitised packages of mortgages, many of them sub-prime, traded on as investment opportunities.

HBOS was also going flat-out to exploit the growing housing bubble. Remember Howard, the singing bank clerk who starred on the bank's TV adverts. He reportedly bought an £800,000 second home with one of the bank's mortgages. I once asked Andy Hornby, the former ASDA executive who was HBOS chief executive James Crosby's right-hand man whether he ever worried the housing bubble was getting out of hand. "It's a simple question of supply and demand," he replied. "Demand for housing vastly outstrips supply. There's absolutely no evidence that's coming to an end." Corporate banking in HBOS was the really distinctive strand Bank of Scotland brought to the merger. BoS corporate bankers had always fancied themselves as more entrepreneurial in the way they did business. Little wonder then that as commercial property deals boomed, they grabbed more than their share and, in the process, became more and more exposed to the fate of bricks and mortar in the longer term.

As the decade rolled on, investors were growing more and more restless about Fred Goodwin's seemingly insatiable appetite for serial deal making. They had noted that despite all the frenetic activity, Royal's share price, having peaked in 2002 around £21, had been becalmed for two years in the £15/£16 range. In 2005, under pressure from some on his own board, RBS's chief executive began publicly to dismiss any need for the bank to keep on making more acquisitions. But he was already preparing the next deal. A 5% stake in Bank of China. Then came the biggest deal of all - the hostile consortium bid Goodwin put together with Banco Santander and Belgian bank Fortis to snatch the Dutch banking group ABN Amro from under the nose of Barclays. The idea first captured Goodwin's imagination in 2005 and dominated his thinking for most of 2006 and 2007. The big prize for him was ABN Amro's American subsidiary LaSalle. But the Dutch bank sold it to Bank of America early in the proceedings. Quite how a generous, largely-cash bid for a bank with operations in 53 countries, operations that would then be split three ways among the consortium partners, made any sense in an

environment where property risks were crystallising and banks in general were under growing pressure, is anyone's guess. But RBS shareholders voted for it and Scotland's new first minister Alex Salmond publicly led the home cheer-leading. Bear Stearns and Northern Rock were already going under as the Royal Bank of Scotland ABN Amro saga was reaching its catastrophic conclusion.

Within a year, with the credit squeeze tightening, interbank lending slowing to a trickle and yawning property black holes opening up in bank balance sheets, Armageddon loomed. In America Lehman Brothers filed for Chapter 11. In the UK, with the cash literally running out, HBOS was shepherded, with government and Bank of England encouragement, into the arms of Lloyds TSB, with the state the dominant minority shareholder in the combined group. RBS was also kept alive, just. But with the state as the dominant shareholder with more than 80% of the shares. The Fraser commentary spoke for many about how far the Scottish banks had fallen below the historic standards they had set themselves. "The scale of the losses on sub-prime and impairments facing the two principal Scottish banks, RBS and HBOS, are considerable and exceptional compared to other UK banks. The losses have pushed RBS and HBOS to the brink of bankruptcy. This outcome underlines the extent to which the lending behaviour of the two banks had ceased to be underpinned by the traditional risk management practices that had led Scottish banking and bankers to be perceived as prudent and even canny." On its worst-case scenario there would be a period of sustained recession. "Here the seizure of the financial system continues for an extended period, bank illiquidity persists, leading continues to be severely constrained, and confidence remains low. A greater contraction in household and investment demand follows, leading to negative growth for two consecutive years." (Vol. 32, No. 2)

Being an economic commentary, the Fraser tended to play down the political consequences of the great banking crash of 2008/09. The Labour government led by Gordon Brown garnered precious little credit from the electorate for saving the UK banking system from complete meltdown. In 2010 it lost the General Election and was replaced by a Conservative/Liberal Democrat coalition. In Scotland, having surrendered the control of Holyrood it had shared with the Liberal Democrats since 1999 to a SNP minority administration in 2007 that chose to govern alone, it lost the 2011 Holyrood election to a majority SNP government. Then in the 2015 General Election the Conservatives narrowly won outright control at Westminster, while in Scotland the SNP swept the board and left Labour and the Liberal Democrats in the same parlous state as the Tories north of the border with just one MP each. Somehow Labour had meekly allowed itself to be painted as the party of sustained fiscal irresponsibility, consistently borrowing too much and spending too much. Leaving Conservatives to "fix the roof when the sun is shining" or, in its latest iteration, "fixing the foundations" by sorting out the UK's deficit once and for all. The actual numbers show a much more nuanced reality.

The numbers on public sector net borrowing as a percentage of GDP show, as we noted earlier, show the Blair/Brown years starting with three rare years of surpluses and two of minimal borrowing followed by six years of borrowing at similar levels to the Thatcher years. Only after the banks crashed and burned, requiring vast injections of liquidity by the state, did public borrowing spike higher. The Cameron/Clegg coalition promised a period of austerity that would sort the UK's deficit by this year. It only actually managed the rate of reduction Alistair Darling was promising if Labour had been re-elected. The UK government books won't be in surplus, we are now told, until the end of this parliament in 2020. A target that will only be met if George Osborne can find ways of modifying his plans for cutting tax

credits for the working poor and still find the savings elsewhere. In Scotland our fiscal future has developed a whole other layer of complexity. The Calman-inspired Scotland Act will next year transfer a number of tax powers to Holyrood. And, in the wake of last year's independence referendum, the Smith Commission process has added further tax and borrowing powers to that. Successive Fraser contributions have been contributing to this debate. For an early flavor try the debate involving Brian Ashcroft Alex Christie, Kim Swales, Graeme Roy, Paul Hallwood and Ronald MacDonald in 2006 (Vol.31, No.1) and (Vol.31, No.2).

The recession that followed the banking meltdown of 2007/08 is increasingly being dubbed the Great Recession of modern times. Five years on the texture of the recovery we have experienced since continues to feel fragile. Indeed the outlook and appraisal in the latest Fraser Economic Commentary, just published, points to some worrying features of that recovery as it has evolved in Scotland, compared with the UK as a whole. While the pace of recovery appears to be slowing for both, it is weaker in Scotland than in the UK as a whole. In terms of GVA, the UK was 5.8% above its pre-recession peak by mid-2015, Scotland just 3% above. In terms of GDP per head - arguably a better measure of personal prosperity - Scots are still 0.3% below the pre-recession peak, while the equivalent UK average is 0.6% ahead. That, argues the economist Simon Wren-Lewis is "an absolutely terrible performance for a recovery".

In financial services, a major driver of inward investment in Scotland since the decline of Silicon Glen, the picture is even less encouraging. As the latest Fraser outlook and appraisal shows, its GVA contribution had fallen 15.5% by 2012 from its 2007 peak. "There must now be a strong presupposition that the scale of the financial services sector might never return to the levels seen before the Great Recession" concludes Brian Ashcroft. After all what recovery we have seen has been achieved with an extended period of exceptional monetary easing. UK Bank rate has been held at a rock-bottom 0.5% since March 2009. Six years, seven months and counting. Quantitative easing has totaled £375bn. Commodity prices are tumbling. The price of oil has more than halved since Scotland held its independence referendum, with significant impacts on the future of the North Sea. There is scant evidence of the promised restructuring of our economy away from consumption and excessive debt towards more exports, more manufacturing and increased saving and investment. With the latest closures in what's left of the UK steel industry and the continuing haemorrhage of jobs from the oil industry, chancellor George Osborne's 'march of the makers' seems to have stalled. Truly the shadow cast by the most dramatic event of the past fifteen years - that banking Armageddon - is a very long one. One that will continue to impact the Scottish economy for years to come.

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# Scotland's Productivity Performance: Latest data and insights

Kenny Richmond and Jennifer Turnbull, Scottish Enterprise<sup>i</sup>

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## Abstract

This paper reviews the latest data and evidence on Scotland's recent productivity performance, including comparisons with the UK and internationally. It analyses trends in a number of the drivers of productivity, and considers how these have influenced productivity performance. This analysis develops our evidence base further, helping to inform discussions on where policy should focus across the drivers of innovation, internationalisation, investment and inclusive growth. The evidence suggests that Scotland's weak productivity growth and level is due to a mix of several factors, including: 'labour hoarding'; low interest rates and 'forbearance' by banks; reduced business investment; slowing innovation; and a declining number of exporters. The analysis highlights the need to continue a policy focus on innovation, internationalisation and investment as ways to improve Scotland's productivity performance and contribute to inclusive growth.

## 1. Introduction

Productivity is a measure of how well an economy uses resources to produce outputs, and is a fundamental determinant of any economy's international competitiveness and living standards. Scotland's Economic Strategy highlights that productivity is the principal long-term driver of economic growth, and that raising productivity typically leads to higher incomes, living standards and wealth<sup>1</sup>. The Scottish Government has set a target that Scotland's productivity level should match the performance of the top quartile of OECD countries<sup>2</sup>.

## 2. Why is productivity important?

Productivity measures the efficiency of production and is expressed as the ratio of output (GDP) to inputs used in the production process. GDP per hour worked and per worker are the two most commonly used measures.

Productivity is critical to economic growth. Over the long-term, improvements in productivity performance will increase the competitiveness of an economy and make the largest contribution to increases in overall economic growth rates. As employment rates in Scotland reach historic highs and the working age population is forecast to decline from the early 2020s, increases in productivity will be needed to sustain economic growth rates.

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<sup>1</sup> [Scotland's Economic Strategy](#), Scottish Government, 2015

<sup>2</sup> [Scotland Performs](#), Scottish Government, 2007

Productivity is also the single most important determinant of average living standards and wealth, and is tightly linked to incomes<sup>3</sup>. Figure 1 shows that in nearly every OECD country where productivity is above the Scottish level, annual average wages are also higher<sup>4</sup>. Across the OECD, on average for every 1% increase in productivity, annual wages are around 0.8% higher.

If Scotland's productivity matched that of the UK, this could result in annual average wages being almost £440 higher, and if Scotland matched the OECD top quartile, annual wages could be almost £3,850 or 10% higher.

**Figure 1: International Productivity and Living Standards**



Source: OECD, ONS

### 3. Recent productivity performance

Historically, the UK's labour productivity trend growth rate has been, on average, just over 2% per annum. However, growth has stagnated since the Great Recession, and UK productivity is now 15% below where it would have been had pre-recession growth trends continued<sup>5</sup>.

Since 2008, figure 2 shows that Scotland's productivity growth has performed slightly better than that of the UK, growing at around 0.6% per annum, although this is only a third of its pre-recession annual average of 1.8%. Scotland's overall level of productivity is now around 7% lower in real terms than it would have been if pre-recession productivity growth trends had continued. Scotland's recent productivity growth has also been lower than most other OECD countries.

<sup>3</sup> [Fixing the Foundations: Creating a more prosperous nation](#), HM Treasury, 2015

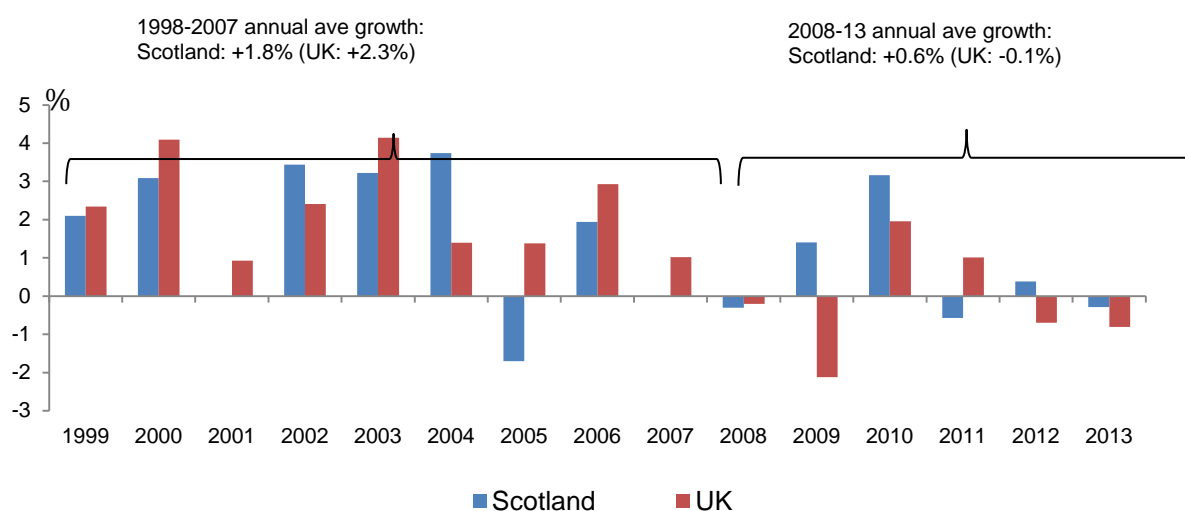
<sup>4</sup> 18 OECD countries have higher productivity levels than Scotland, and all except Spain and Italy have higher annual average wages.

<sup>5</sup> [Pay and productivity: the next phase](#), speech by Sir Jon Cunliffe, Bank of England June 2015



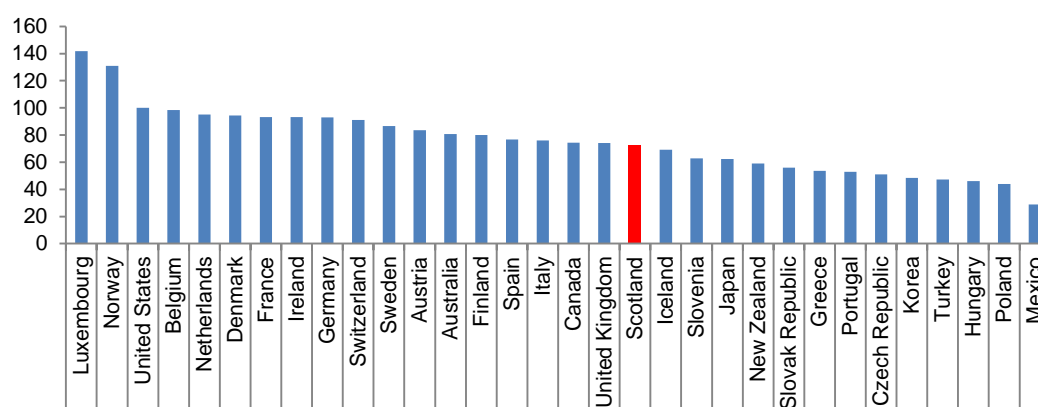
Although Scotland's productivity has grown faster than the UK's, its *level* is still below the UK average (at 97.7% of the UK in 2013, although the gap has narrowed from 94.1% in 2008). Internationally, Scotland's productivity level is in the third quartile of OECD countries (see figure 3), and is lower than many other smaller EU countries. Figure 4 shows that slower productivity growth in Scotland has resulted in the performance gap with the OECD top quartile widening over recent years – in other words, compared to many other countries, Scotland has become less competitive in terms of its overall productivity.

**Figure 2: Annual growth in productivity, Scotland & UK (%)**



Source: Scottish Government, ONS

**Figure 3: International productivity levels, 2013 (Index: USA=100)**

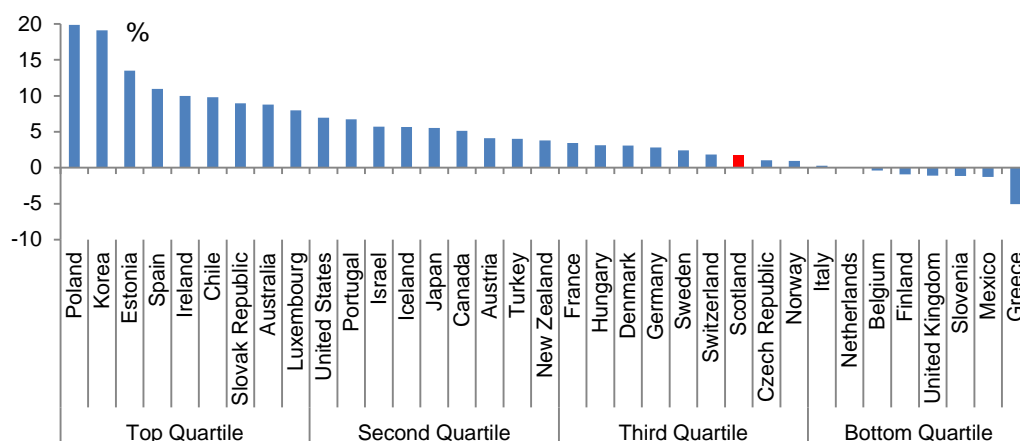


Sources: Scottish Government, OECD

The UK's low productivity growth compared to other countries does not appear to be due to a sectoral mix that is biased towards low productivity sectors, but rather due to low productivity *within* sectors (i.e.

individual sectoral productivity tends to be lower than in other countries)<sup>6</sup>. Data does not allow a comparison of Scotland's sectoral performance with other international countries<sup>7</sup>, but as its sector mix is very similar to that of the UK, it is likely that Scotland's low in-sector productivity also largely explains its poorer overall productivity performance relative to other countries.

**Figure 4: International productivity growth (%), 2008-2013**



Sources: Scottish Government, OECD

**Figure 5: Percentage change in jobs, hours worked and GDP, Scotland & UK**



Source: ONS

<sup>6</sup> [The Missing Pieces: Solving Britain's Productivity Puzzle](#), Dolphin, T and Hatfield, I. Institute for Public Policy Research, 2015

<sup>7</sup> Data for GDP per hour worked by sector is not available for Scotland. Data for GDP per worker can be estimated, but this is not the ONS preferred measure for international comparisons.

#### 4. The productivity 'puzzle'

It is not unusual for productivity to fall during an economic downturn. However, what has been unusual is the slower rebound in the UK's productivity since the Great Recession, compared to past recessions. In addition, the UK's productivity performance since 2008 has been far weaker than in many other advanced economies. At the same time, UK GDP growth has been relatively strong (GDP rebounded after an initial steep fall), though this has been driven by more hours being worked rather than higher productivity. These trends have been described as the UK's 'productivity puzzle'<sup>8</sup>.

Scottish trends have been slightly different. Figure 5 highlights that, over both the 2008–2010 and 2011–13 periods, GDP performance in Scotland and the UK was very similar, but Scotland experienced a far greater percentage decline in jobs and hours worked over 2008–10, and a lower percentage increase over 2011–13. This resulted in Scotland's better productivity performance over the 2008–13 period. However, the reasons for Scotland's greater labour market adjustment compared to that of the UK are not entirely clear<sup>9</sup>.

So, although Scotland's productivity performance has not been as weak as in the UK, growth still lags pre-recession rates and that of many other OECD countries. So, Scotland also has a 'productivity puzzle', just not as pronounced as that of the UK<sup>10</sup>.

#### 5. Factors affecting productivity performance

There are several potential factors that can explain the weak productivity growth since 2008 in both Scotland and the UK. These include:

##### ***Labour hoarding***

Some businesses were unwilling to lay off workers during the recession due the costs of losing staff and skills (and the costs of rehiring when demand picked up) or the need for minimum staffing levels. Many businesses therefore responded by reducing hours worked and wages (real and sometimes nominal) rather than reducing numbers of staff. Evidence suggests this was a factor in the UK, particularly in the period up to 2012, although as noted above, perhaps less so in Scotland. Also, weak demand conditions may have meant that some firms needed to work harder or put more staff resources into winning contracts and retaining existing customers, thereby reducing their productivity.

##### ***Impaired capital allocation***

Low interest rates could have allowed less profitable (and lower productivity) businesses to remain operational as they were able to service low debt interest repayments. Linked to this, lenders may have been reluctant to foreclose on some poorer performing businesses because of the potential damage to

<sup>8</sup> [What is the productivity puzzle?](#) ONS digital, 2015

<sup>9</sup> [Fraser of Allander Economic Commentary](#), Vol. 36 No. 2, Fraser of Allander Institute, Strathclyde Business School, 2012

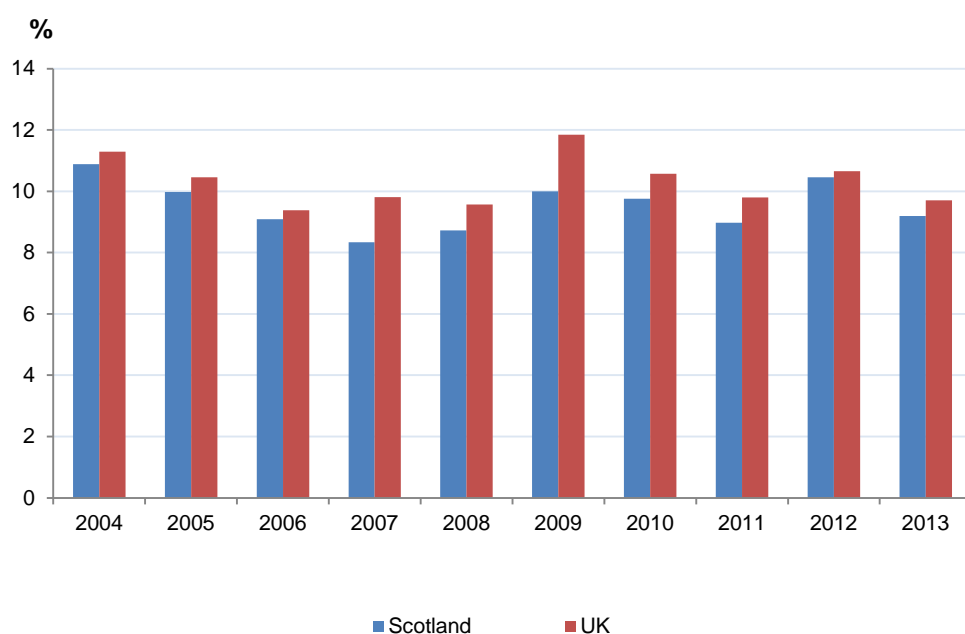
<sup>10</sup> [Productivity Puzzle](#), 'State of the Economy', Scottish Government, November 2012,

their balance sheets, and so provided 'forbearance' through leniency or support to those firms struggling to meet their obligations.

Research shows that UK SMEs in receipt of forbearance have productivity levels 40% below that of other SMEs, although at the UK level only a small proportion (around 6%) were in receipt of forbearance in 2013<sup>11</sup>. Low interest rates and forbearance are likely to have allowed some poorer performing businesses to survive that, in normal times, would have failed (so-called 'zombie businesses'), resulting in business failure rates being lower than would perhaps have been expected.

Data suggests that the level of business 'deaths' did not rise significantly over the period of the recession, and were lower in Scotland than in the UK. Figure 6 shows that although the business death rate increased in Scotland and the UK after 2008, particularly in 2009, the increase was possibly less than might have been expected given the depth of the recession. This in turn may have impaired the reallocation of capital to fund new or more dynamic businesses with the potential to achieve higher productivity.

**Figure 6: Business 'deaths' as % of total active businesses, Scotland & UK**



Source: ONS

### **Weak Business Investment**

Industries with a larger stock of capital per worker tend to have higher levels of productivity<sup>12</sup>, and some estimates suggest that most of the fall in UK labour productivity could be accounted for by declines in

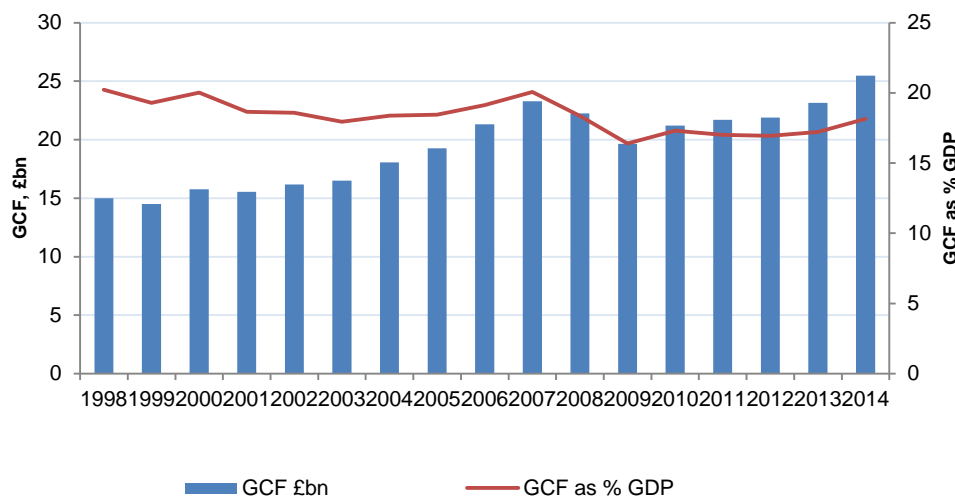
<sup>11</sup> [SME forbearance and its implications for monetary and financial stability](#), Bank of England, Quarterly Bulletin Q3 2013, pages 296-303

<sup>12</sup> [Economic Review](#), Banks, A, Taylor, C. and Wales, P. ONS, July 2014

effective capital per worker<sup>13</sup>. The level of UK capital stock per worker has generally grown since 2008, but at below pre-recession rates (and indeed it declined in 2011)<sup>14</sup>. Capital stock figures for Scotland are not available, but trends are assumed to be broadly similar.

Capital stock growth is driven by business investment. Annual levels of business investment in the UK declined in the early years of the financial crisis, and did not return to pre-recession levels until 2012. This is likely to have been due to a combination of reduced business confidence as demand slowed, and a tougher (and more expensive) funding environment, especially bank funding for smaller businesses. Also, as real wages declined during the recession (and have only recently returned to growth), the relatively low cost of labour may have led some businesses to use more labour intensive forms of production rather than investing in capital. The Bank of England estimates that if business investment had grown at pre-2007 averages, capital per worker would have been 8% higher than it was by the end of 2013<sup>15</sup>.

**Figure 7: Investment (gross capital formation) in Scotland**



Source: Scottish Government

Up-to-date business investment data for Scotland is not available. However, data up to 2010 does suggest that business investment declined in the years immediately following the Great Recession (2008) in both Scotland and the UK<sup>16</sup>.

More recent gross fixed capital formation data, that measures all investment (government, dwellings and business investment - of which business investment accounts for between 50% and 60%<sup>17</sup>), suggests

<sup>13</sup> [The UK Productivity and Jobs Puzzle](#), Pessoa, J.P. and Reenan, J.V. Special Paper No. 31, Centre for Economic Performance, 2013

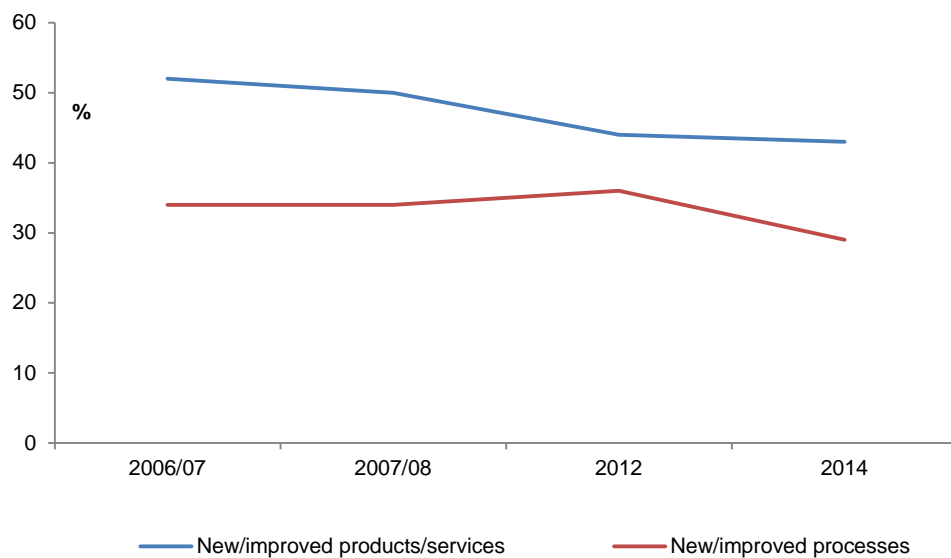
<sup>14</sup> [Capital Stocks, Consumption of Fixed Capital](#), ONS, 2014

<sup>15</sup> [The UK Productivity Puzzle](#), Bank of England, 2014

<sup>16</sup> [State of the Economy](#), Scottish Government March 2013

that investment levels declined in Scotland in 2008 and 2009, as figure 7 shows. In cash terms capital formation only returned to pre-recession levels in 2014, although, relative to the size of the economy, investment is still lower than it was in 2007. This in turn suggests that capital per worker in Scotland is also lower than it would have been had pre-recession investment trends continued. Compared to other countries, Scotland's gross fixed capital formation rates are low, with Scotland in the fourth quartile of OECD countries, as it has been for quite a number of years.

**Figure 8: Percentage of Scotland's SMEs introducing new or significantly improved products/services or processes in the past 12 months**



Source: Small Business Survey

### **Slowing innovation rates**

On some measures, innovation activity has weakened since 2008. Although business R&D spending in Scotland has been generally rising since 2006<sup>17</sup>, this is an *input* measure to the innovation process rather than an *output*. Data on outputs from the UK Innovation Survey show that the proportion of Scottish companies that were product innovators declined between 2006-08 and 2008-10, only rising slightly in 2010-12. The proportion of businesses that were process innovators also declined. Research shows that product innovators are around 20% more productive than other companies<sup>19</sup>.

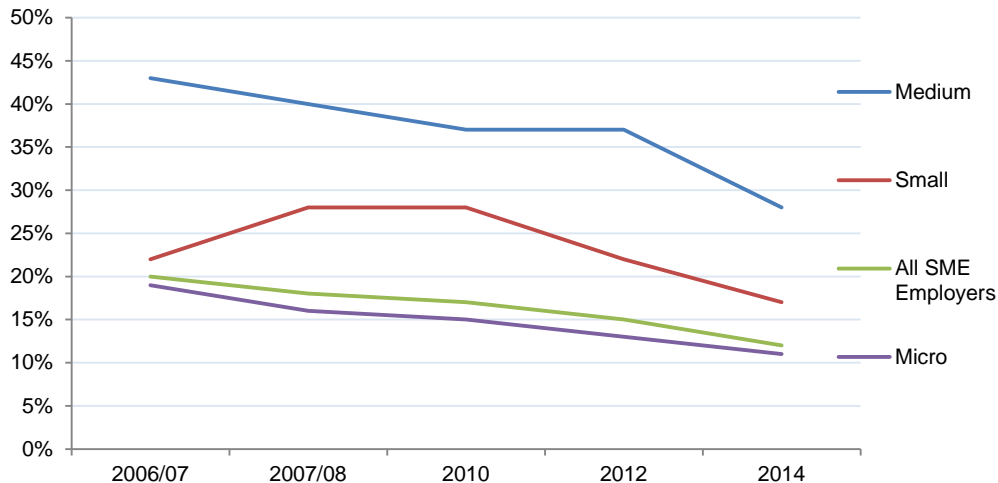
<sup>17</sup> Business investment accounts for between 50% and 60% of gross capital formation: [State of the Economy](#), Scottish Government March 2013

<sup>18</sup> <http://www.gov.scot/Resource/0046/00466415.pdf>

<sup>19</sup> [The UK Productivity Puzzle](#), Barnett et al, Bank of England, Quarterly Bulletin Q2 2014 pages 114- 128

More recent data from the Small Business Survey show that the proportion of Scottish SMEs introducing new products or services declined between 2006/07 and 2014, down from 52% to 43%<sup>20</sup>, as figure 8 demonstrates. Trends for the UK are broadly similar.

**Figure 9: Scottish SME exporters (% of all SMEs, by size band)**



Source Scottish Government

Again, compared to other countries, Scotland's business expenditure on R&D is in the fourth quartile of OECD countries; if a wider definition of business innovation is considered (e.g. introduction of new products, services, processes, business models, organisation etc.), Scotland is placed in the third quartile.

### **Fewer exporters**

A range of evidence shows a positive link between exporting and productivity. Companies with higher productivity are more likely to be exporters, and increase their productivity further through exporting<sup>21</sup>. Data suggests that the proportion of SMEs in Scotland that export internationally has fallen in recent years, from 20% in 2006/07 to 12% in 2014, as shown in figure. Data also shows that a lower proportion of Scottish SMEs export overseas than those in the UK as a whole, and in many EU countries.

## **6. Scotland's productivity performance, by sector**

Analysis of productivity performance usually focuses on whole economy productivity levels and growth. Below this level, productivity performance varies widely by sector, and between businesses within any given sector.

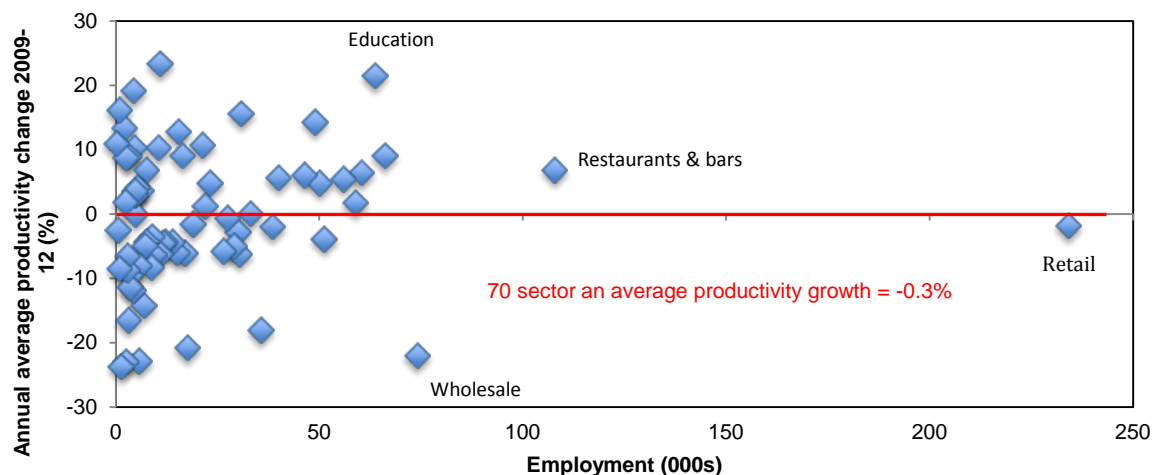
<sup>20</sup> Including those with 1-10 employees

<sup>21</sup> [SDI Policy Evaluation](#), Scottish Enterprise, 2010

Using the GVA per full-time equivalent (FTE) worker measure of productivity, it is possible to analyse Scotland's sectoral productivity performance (2012 is the latest data available at the time of writing)<sup>22 23</sup>. Robust data is available for 70 private sector industries in Scotland; these employed over 1.4 million full-time equivalent (FTE) workers in 2012, equivalent to around 67% of total employment and 89% of private sector employment<sup>24</sup>.

The data shows a wide range of productivity levels and growth rates across Scotland's sectors. Over the period 2009-12, 32 of the 70 sectors had positive productivity growth rates, and the overall productivity for the 70 sectors declined at an average annual rate of -0.3%. There is no distinct pattern in terms of productivity level and productivity growth – some sectors with high productivity levels achieved productivity growth (e.g. pharmaceuticals), whereas other sectors with high levels experienced a fall (e.g. drink). In 2012, figure 10 shows that around 820,000 people were employed in sectors that posted a decline in productivity, with 804,000 employed in sectors that posted productivity growth.

**Figure 10: Scotland's sector productivity growth (2009-12) and employment levels (2012), (70 sectors)**



*Note: Productivity as measured as output per FTE worker*

*Sources: SABS, BRES, HM Treasury*

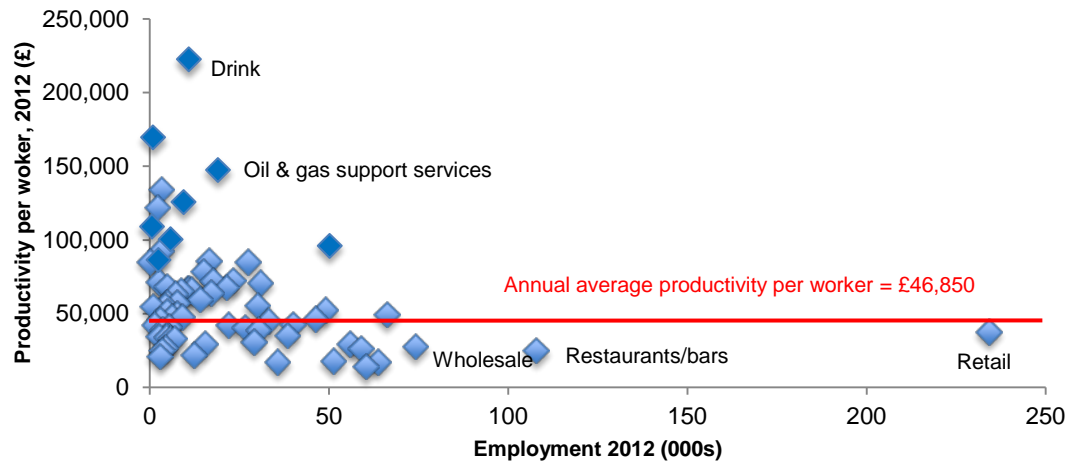
Figure 11 demonstrates that, of the 70 sectors, 31 had productivity levels below the overall average. These employed 1,086,000 workers in 2012, or 67% of employment across the 70 sectors.

<sup>22</sup> Data on hours worked by sector covering the whole economy are not available for Scotland

<sup>23</sup> A number of sectors have a large proportion of part time workers (e.g. almost 60% of workers in the retail sector), which will reduce GDP per worker compared to sectors where PT working is less prevalent. Therefore, the analysis is based on full time equivalent workers. For this analysis 2 PT workers = 1 full time equivalent worker.

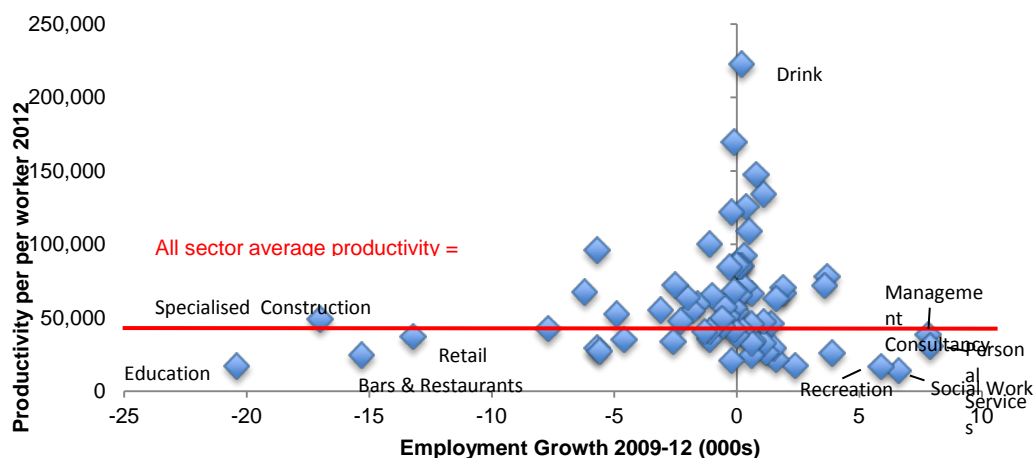
<sup>24</sup> Total employment includes employees and self-employed.



**Figure 11: Scotland's sector productivity and employment, 2012 (70 sectors)**

*Note: Productivity as measured as output per FTE worker*  
*Sources: SABS, BRES, HM Treasury*

There does not appear to be – over the period 2009-2012 – any relationship as between jobs growth (or decline) and productivity levels. Of the 70 sectors, employment rose in 33 and declined in 34. Half of the jobs created (32,000 jobs) were in sectors with below average productivity (particularly Personal Service Activities, Head Office Activities, Social Work, Sports & Recreation and Building & Landscape Services) while job numbers declined in a number of sectors with above average productivity levels, such as Manufacturing, Construction and Computer Software. Figure 12 demonstrates the pattern of employment growth across the 70 sectors.

**Figure 12: Scotland's sector productivity (2012) and employment growth (2009-12) (70 sectors)**

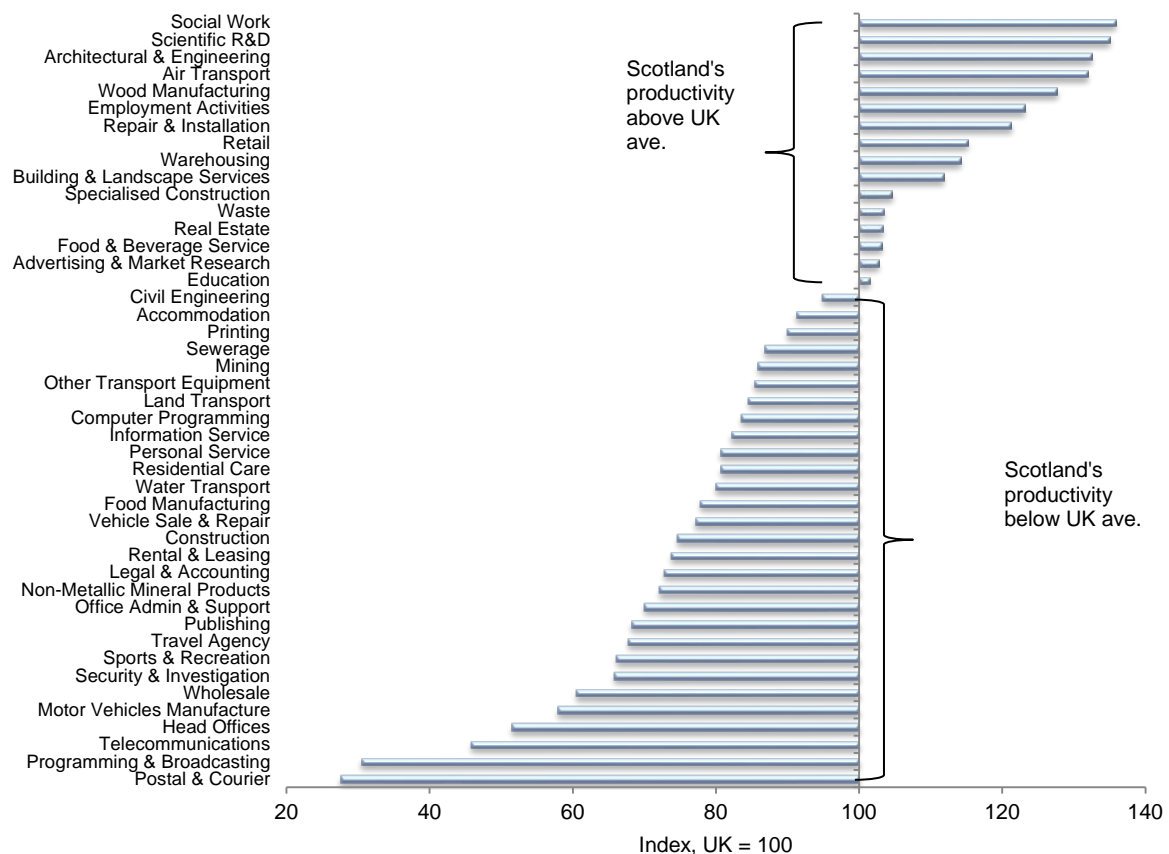
*Note: Productivity as measured as output per FTE worker*  
*Sources: SABS, BRES, HM Treasury*

## 7. Scotland versus UK sector productivity

Scotland's productivity can be compared to the UK's for 45 sectors<sup>25</sup>, covering 79% of Scottish private sector employment in 2012<sup>26</sup>. In 29 sectors, Scotland's productivity was lower than the UK and higher in 16<sup>27</sup>. This is illustrated in figure 13 in which Scotland's productivity performance is indexed relative to the UK = 100.

Issues around withheld data and data discontinuities mean there are little trend data available to determine the extent of volatility in productivity levels over time but, generally, three quarters of the 45 sectors maintained their position relative to the UK between 2011 and 2012. In the remaining sectors, just over half moved above the UK level and a half moved below.

**Figure 13: Productivity per worker, Scotland relative to UK = 100, 2012**



Sources: ABS, SABS, BRES

<sup>25</sup> Some employment and GVA data are not published for all the UK regions as they are deemed to be disclosive by the ONS.

<sup>26</sup> Excluding the financial sector, parts of agriculture and offshore oil & gas: turnover data are not available for parts of agriculture (SIC 01.1 to 01.5) or financial intermediation. Combined, these sectors account for only 8% of private sector employment and less than 6% of total employment, and therefore are not significant omissions.

<sup>27</sup> The large productivity differences for some sectors may be due to measurement issues and challenges. For example, for the postal & courier and programming & broadcasting sectors, a large proportion of GDP is likely to be produced by UK national organizations (e.g. Royal Mail, BBC), with GDP reported at the HQ location, although employment is reported regionally. Were this the case, this would artificially reduce Scotland's productivity levels.

The data suggest there is potential across a number of sectors to grow productivity levels if they were to match the UK levels. Were Scotland's productivity to match that of the UK for lagging sectors, this would have added £3.5bn (or +3.5%) to Scotland's total GVA in 2012.

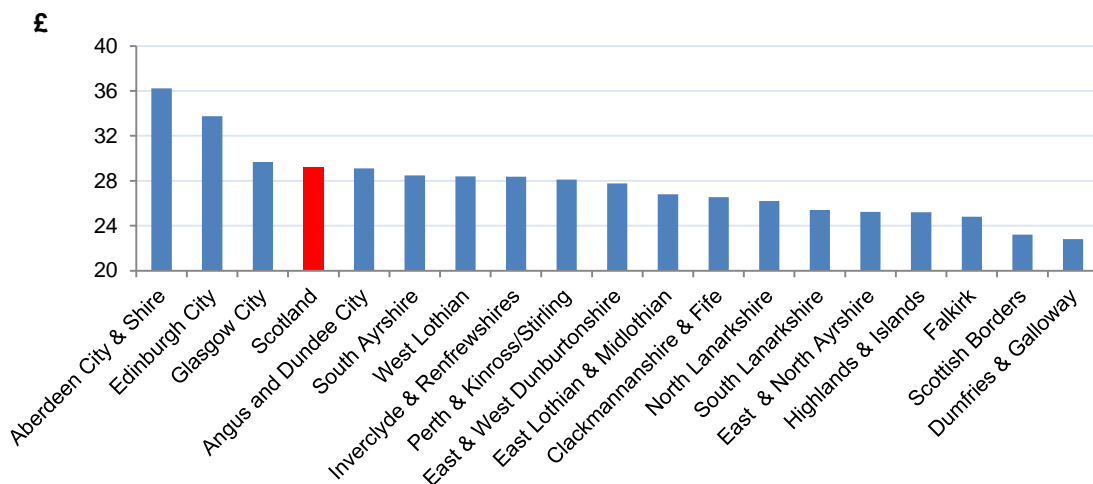
## 8. Productivity across Scotland

As figure 14 highlights, productivity also varies across Scotland, with the best performing area - Aberdeen City & Shire - having a productivity level almost 60% higher than the lowest performing - Dumfries & Galloway. The data highlights the role that Scotland's three largest cities play in sustaining and raising Scotland's overall productivity performance.

It is likely that the variation in productivity reflects employment / sectoral structure, with jobs in higher productivity sectors more concentrated in cities. For example, Aberdeen City & Shire has a high concentration of employment in high productivity sectors such as Architectural & Engineering Activities, Technical Testing & Analysis and Oil & Gas Service Activities, while the South of Scotland has higher concentrations of employment in lower productivity sectors such as Retail, Health and Education.

The patterns also may reflect that cities have more of the assets and characteristics likely to drive higher productivity performance, such as a higher skilled population, better connectivity (physical and digital), greater levels of competition, more knowledge spillovers and sources of innovation such as universities.

**Figure 14: Productivity levels across Scotland, 2013 (GVA per hour worked)**



Source: ONS

## 9. Conclusions

This paper considers a number of the factors and trends that explain post-recession productivity performance. Its conclusion is there is likely to be no single explanation for Scotland's 'lower productivity

growth compared to pre-recession trends, and compared to many other OECD countries. Scotland's poor productivity performance since the Great Recession, is likely to be due to a combination of:

- a degree of labour hoarding by companies;
- lower business investment rates that has reduced capital stock per worker;
- the survival of poorly performing and less profitable/productive businesses that otherwise would have failed;
- declining levels of businesses introducing new products and services;
- declining levels of exporting.

It is important to note that a number of these factors are long-standing weaknesses in the Scottish economy. For example, over recent years, Scotland's investment, innovation and exporting rates have been below that of many other countries, and this is likely to explain Scotland's persistent (at best) 'mid table' productivity performance. In addition, other factors likely to affect Scotland's productivity performance (not discussed in depth in this paper) include weaker management skills and a smaller business base and its impact on competition.

The analysis provides further evidence to confirm a policy focus on increasing the innovation, internationalisation and investment performance of Scotland's business base, and how this contributes to inclusive growth. However, it also highlights the scale of the change required for Scotland to reach the target levels of matching the top performing OECD countries. The analysis demonstrates that there is significant potential for Scotland to increase its productivity levels, for example, by Scottish sectors raising their performance to that of equivalent UK sectors and those of the better performing OECD economies. Further research and analysis of the productivity challenges faced by specific sectors will help identify the most appropriate policies and approaches to achieve this.

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# Scotland's international export performance: some recent evidence

Jonathan Slow, Stewart Turner & Kenny Richmond<sup>1</sup>

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## Abstract

This paper outlines the latest data and evidence on Scotland's export performance and highlights key changes over the past decade. Exporting, for the purposes of this paper, is defined as sales to overseas markets. Scotland's international exports have changed significantly over the past 10 years. The overall nominal value of international sales has grown since 2005 but the number of exporting businesses has declined, with the result that Scotland's exports are increasingly reliant on the performance of fewer firms. The sectoral composition of Scottish exports has also changed significantly: in manufacturing, the main change has been from electronics to food & drink and chemicals. Additionally, the overall contribution of Services exports, such as financial and business services, has been important. Developed economies, particularly the EU and US, are Scotland's largest export markets with emerging economies beginning to comprise a larger proportion of Scottish exports, albeit from a low base. A key factor in raising Scottish exports from current levels will be to increase the number of exporting businesses. Evidence suggests only a very small number of non-exporting businesses (3%) plan to start exporting. However, for example, if Scotland had an export rate similar to that of the UK there would be an additional 2,500 exporting businesses.

## 1. Introduction

International exports are a key contributor to economic growth and there are positive links between exporting and business performance in terms of firm innovation, productivity and growth<sup>2</sup>. Having a greater contribution from net trade is an important goal for economic policy (for example, as set out in Scotland's Economic Strategy<sup>3</sup>) and it is important to business growth, as exporting allows companies to access the opportunities that bigger markets present. In Scotland's Economic Strategy, the stated aim of the Scottish Government is to "support Scotland's exporters to grow into new markets and expand their presence in key traditional markets" and "encourage a more export-orientated focus across all businesses and sectors in Scotland".

This paper outlines the latest data and evidence on Scotland's exporting performance and highlights key changes over the past decade. Exporting, for the purposes of this paper, is defined as sales to overseas markets<sup>4</sup>.

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<sup>1</sup> *Scottish Enterprise* is one of Scotland's economic development agencies.

<sup>2</sup> <http://www.enterpriseresearch.ac.uk/publications/sme-innovation-exporting-growth-review-existing-evidence/>

<sup>3</sup> *Scotland's Economic Strategy*

<sup>4</sup> *SG: Scotland's Trade & Investment Strategy*

## 2. Scotland's international exports: what has changed over the past decade?

There are a variety of sources of export data for Scotland – the Global Connections Survey (GCS), the Small Business Survey (SBS) and data from HM Revenues & Customs (HMRC)<sup>5</sup>.

GCS data show that Scotland's exports have increased in nominal terms annually from 2005 (Figure 1). Real price GCS data are not available but a broad analysis<sup>6</sup> suggests that international exports have grown in real terms too, but at a lower rate. 2005 is both an inflection and transition point from an 'electronics-led' export to a 'food & drink and chemicals' era. The HMRC data corroborate the GCS data but suggest a relative decline in the contribution of manufacturing to total exports (i.e. the gap between the red and green bars is increasing). IME data show an increase in recent years and are above the 2005 level. Whilst this is a volume measure it does show an increase in international exports in recent years that mirror some of the real growth mentioned in the paragraph above.

**Figure 1 Total exports (£m) (GCS) vs Total goods exports (£m) (HMRC) vs Manufactured goods volume (Index) (IME)**

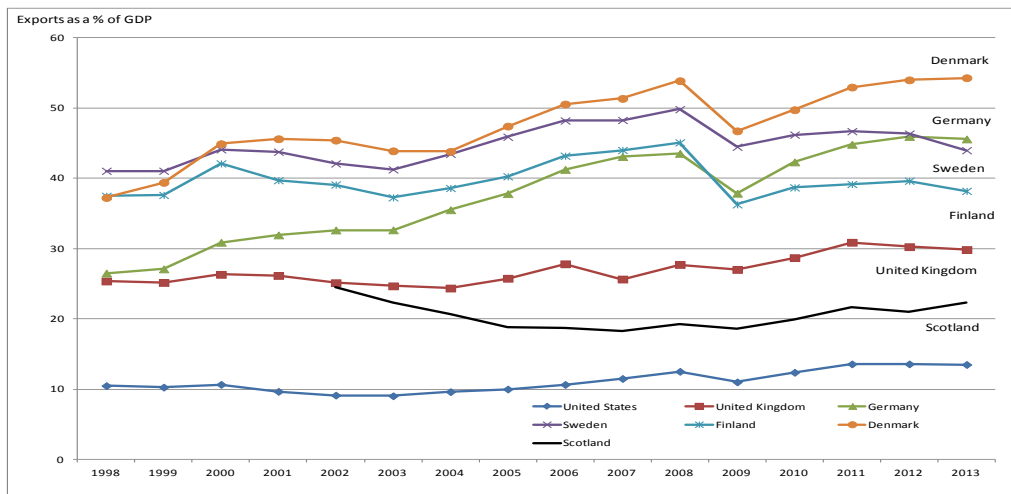


Source: Scottish Government, HMRC

How well does Scotland perform export-wise relative to other countries? Exports as a percentage of GDP is a measure that can provide evidence on the 'openness' of an economy and can perhaps be used as an indicator of a country's relative international productivity. Figure 2 shows that although Scotland's proportion of exports compared to GDP has grown over time, and performance since 2009 in particular has been relatively strong, the level is still lower than other countries.

<sup>5</sup> GCS is an annual survey of Scottish exporting businesses and allows an assessment of total (nominal) exports from Scotland; SBS is a bi-annual sample survey with figures on the number of exporters included within it; HMRC produce quarterly figures on the value of exports for the UK and nations/regions based on manufactured products.

<sup>6</sup> Using UK GDP deflators

**Figure 2 Scottish international exports and those of other European countries as a % of GDP**

Source: OECD, GCS

## 2.1 Too few exporting businesses?

One of the biggest challenges to increasing Scottish exports is that Scotland has too few companies that export. In 2013, around 60% of Scottish exports were accounted for by only 100 companies, and whilst it is difficult to say precisely how this proportion has changed over time<sup>7</sup>, it is likely this has been the case for a number of years.

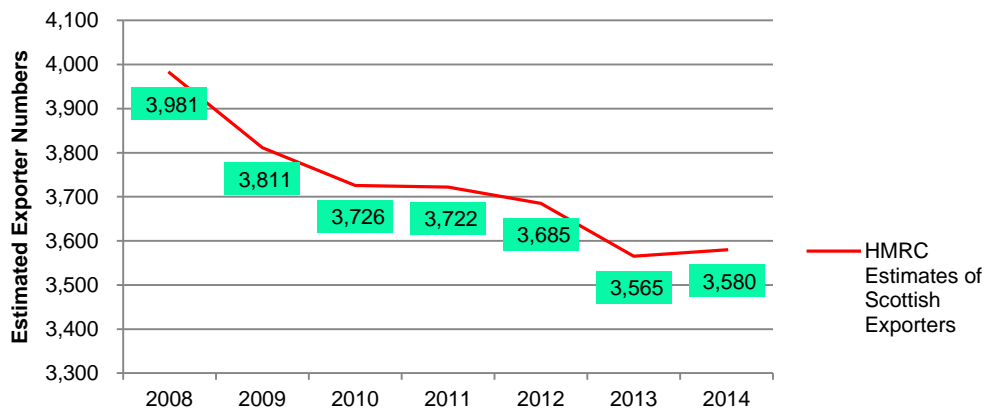
It is difficult to assess exactly how many export businesses there are in Scotland as there is currently no definitive data source. Totals are available from HMRC - but only for manufacturing businesses – while the Small Business Survey (SBS) has data for the percentage of SMEs that sell overseas (based on a sample survey). Unfortunately, for various statistical reasons, neither of these sources is ideal as a measure<sup>8</sup>.

Figure 3 shows the number of exporters reported by HMRC, which, given its manufacturing basis, is an underestimate of the overall total number of exporters, but does provide an indication. The decline in the number of manufacturing exporters is long-standing. To some extent this reflects the recession and subsequent slow, uneven recovery. It also reflects the continuing sectoral trend away from manufacturing. A third reason may be that there are simply fewer manufacturing businesses in Scotland. Data from the Scottish Government's 'Business in Scotland' show that although between 2006 and 2009 the number of manufacturing businesses with employees in Scotland stayed roughly constant, between 2010 and 2014 the number of businesses declined from 6,575 to 6,025<sup>9</sup>.

<sup>7</sup> Due to a changing composition of companies responding to the GCS each year

<sup>8</sup> For example, the SBS only covers small and medium businesses and HMRC only covers manufactured products

<sup>9</sup> <http://www.gov.scot/Topics/Statistics/Browse/Business/Corporate>

**Figure 3 HMRC estimates of number of Scottish exporters**

Source: HMRC

However, the total number of goods exporting businesses may not be declining quite as dramatically as the HMRC data suggests. For example, it does not include growth in the number of exporting service sector companies (which do not appear in HMRC data) or companies 'moving' from manufacturing to services through a re-classification of their activities (for example, a move to outsourcing). Examinations of other data are, therefore, helpful.

The SBS reports on the number of exporting SMEs. In 2014, only 12% of Scottish SMEs surveyed considered themselves to be exporters (compared to 19% for the UK). This is equivalent to around 15,000 SME exporters. However, the survey notes that not all companies export every year<sup>10</sup>. SBS data show that the proportion of SMEs that are exporters has been in decline since 2006/7 (Figure 4). The SBS data also highlight that:

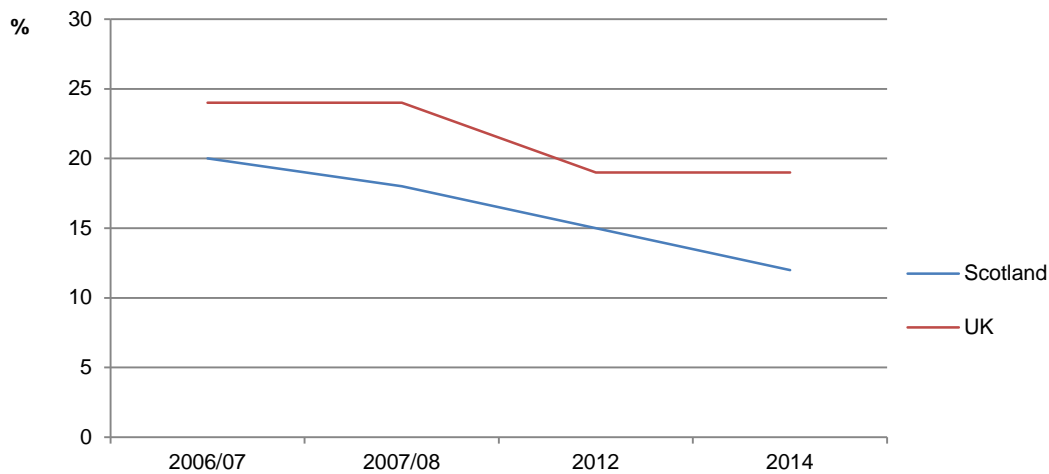
- a smaller proportion of Scotland's manufacturing, ICT and business services SMEs export as compared to the UK.
- 88% of Scottish SME exporters export every year (similar to UK).
- exports account for less than a quarter of turnover for 64% of exporters (similar to UK levels).

Without more detailed data it is hard to assess how many more exporters Scotland may need to raise it to UK levels, however to increase the number over time will require more new exporters as well as ensuring that current exporters keep selling overseas. For example, in terms of the current performance gap with the UK, Scotland would need 2,500 additional exporting businesses.

Having more exporters may help reduce Scotland's dependency on a narrowing range of SME exporters.

<sup>10</sup> <http://www.gov.scot/Topics/Economy/ASBS>



**Figure 4 Percentage of SMEs (with employees) selling goods or services outside the UK**

Source: BIS, Small Business Survey, 2014

## 2.2 Scotland's international exports, by sector

As noted above a key sectoral transition in Scottish exports has been a move from electronics to food & drink and chemicals – the latter of which now represent Scotland's leading export sectors. However, other trends are also evident. Figure 5 below shows the contribution to Scottish exports of major sectoral groups for 2002, 2007 and 2013.

As can be seen, the increase in the proportion of exports by whisky, chemicals and the services sectors is marked, as is the decline in computer and electronics-related exports. In terms of growth areas, 'other manufacturing', which includes food and pharmaceuticals, is also worthy of note. In areas where smaller Scottish companies are prevalent (e.g. textiles), growth has been more muted.

The importance of whisky and chemicals, plus an increase in the 'concentration' of exports among a smaller number of companies, creates a number of economic risks and any decline in the export activity of those companies will, therefore, impact significantly on the overall Scottish exports total. Moreover, many of the crucial export-driving businesses are non-Scottish owned.

The risks of a dependency on a small number of sectors has been highlighted, for example, by recent data from HMRC and the Scotch Whisky Association that show a decline in the value of whisky exports (of around 7% by value and 6% by volume) between 2011 & 2014<sup>11</sup>.

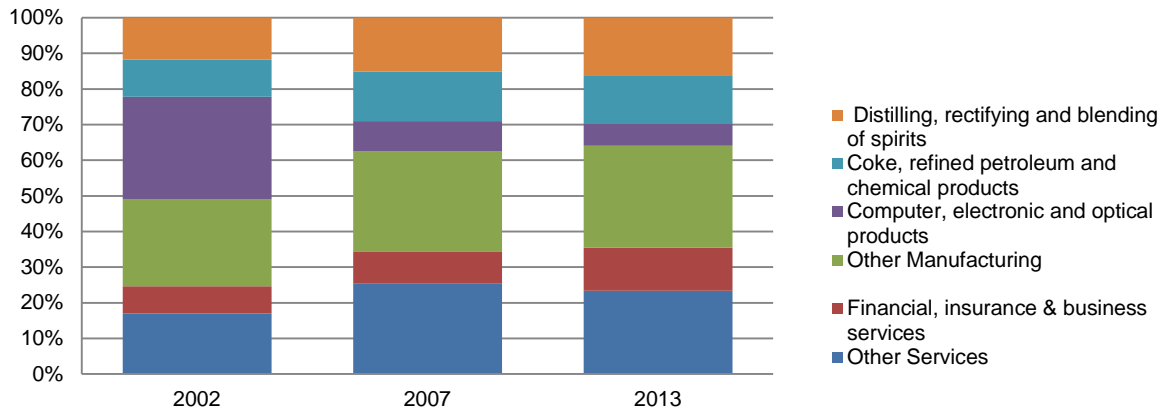
The picture for the services sector is different. Overall growth between 2002 and 2013 has been strong (+43%) and is relatively balanced in terms of major contributing sub-sectors. The contribution of

<sup>11</sup> <http://www.scotch-whisky.org.uk/news-publications/publications/documents/scotch-at-a-glance-2014>

financial services and business services is noticeable while in other areas, like Telecommunications, R&D and Education, growth has also been significant. Interestingly, more than £1.3bn of export sales in 2013 were from sectors that are often considered to be 'locally-traded' (e.g. retail and wholesale); it is not possible to identify the specific reasons for this from the data, however, e-business growth is likely to be a factor and indeed further adoption and growth in e-business may increase these totals further.

**Figure 5 Percentage contribution of major sectors to Scotland's international exports, 2002 – 2013**

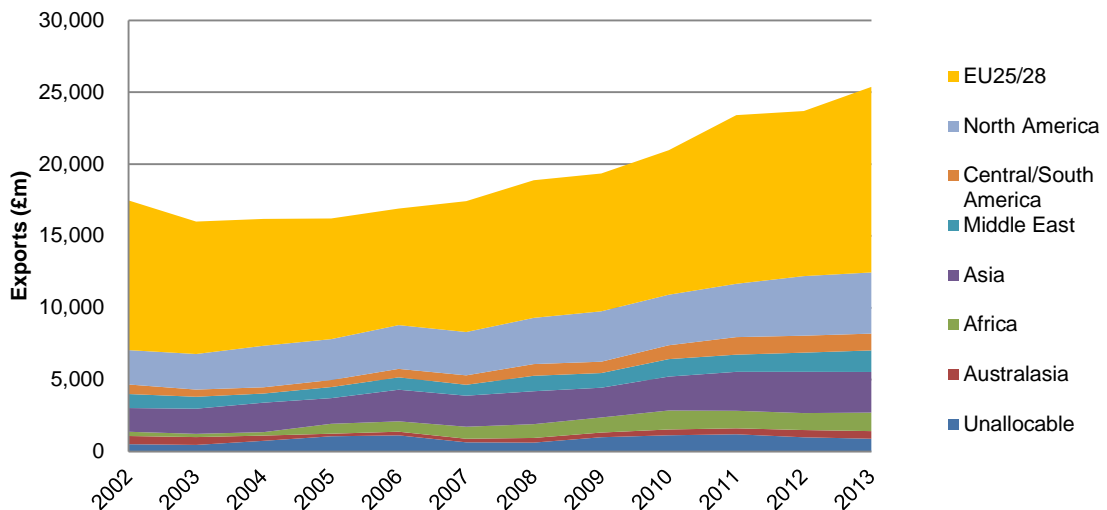
(Refer to Annex A for more detailed tables)



Source: GCS

### 2.3 Scotland's international exports, by country markets

**Figure 6 Scottish international exports (£m), by destination**



Source: GCS 2013

Figure 6 shows the main international markets for Scottish exports. In 2013, the EU accounted for 46% of Scottish exports and the US, the largest single market, around 15%. Other markets are much smaller. The proportion of exports going to the EU has declined from 56% in 2002 (although total sales

have increased by over 12% to almost £13b). Annex A provides greater detail of Scotland's top 20 export markets.

The consistent importance of the EU, Rest of Europe and North America (especially the US) is clear and the overall ranking of Scotland's export markets has remained fairly consistent over time. And this will probably not change significantly in the near future, given the established links that Scottish businesses have to these markets and the significant proportion of exports that are in high value goods (e.g. whisky and chemicals) that tend to be demanded by developed economy markets.

Figure 7 plots the scale of Scotland's major export markets by their growth rate. As can be seen those markets that Scotland currently does business with (green 'bubbles') are relatively slow growing. Scotland's exports to faster growing and/or more difficult-to-work-with markets (amber/red 'bubbles' e.g. China, India and Africa) are more modest and although the growth in exports to some (e.g. China) has been good it is growing from a relatively low base.

**Figure 7 Country growth vs Scottish exports (bubble = relative size of overall economy)**



Source: GCS, IMF

### 3. How can the number of Scottish exporters be increased?

Currently, one of the potentially biggest barriers to increasing the number of exporters is an apparent lack of interest or ambition amongst companies to want to start to export. Small Business Survey data suggest 97% of non-exporters do not plan to start exporting in the future with the main reason being that they believe their products are not suitable for export, and that exporting is not part of their business plan.

However, if 'export-ambition' can be developed, the potential to increase the number of exporters is large. For example, based on figures from the Small Business Survey, if Scotland had an SME export rate similar to the UK, there would be over 2,500 additional exporters.

The largest single impediment to exporting is that Scottish companies do not consider they have a suitable product or service suitable to export: according to the SBS, 34% have never considered exporting, despite (in their view) having a suitable product. The companies in this group are small (86% have 1-9 employees) but are well-established (69% are over 10 years old) and could be considered as a potential exporting cohort as they have survived and grown by serving domestic markets and already possess a product that could be sold overseas.

Building export ambition (and awareness of overseas opportunities) is important to increasing the number of Scottish export businesses. However, building ambition may be insufficient by itself to help increase overseas exporters significantly; companies also need the capacity and capability to successfully exploit opportunities.

One such capability is existing productivity levels; high productivity is crucial to export success: firms with higher productivity are more likely to be internationally active (and able to be successfully international); AND internationally active firms tend to be more productive<sup>12</sup>. The act of internationalising also increases productivity further, for example through companies becoming better at obtaining and using market intelligence<sup>13</sup>.

Therefore, increasing the productivity levels of Scottish businesses will contribute strongly to export growth.

## 5. Conclusions

The main conclusions from this analysis of Scotland's international exports and exporters are:

- Scotland currently perhaps has too few exporting businesses (selling overseas), and Scotland's export performance is therefore too dependent on a small number of key companies, sectors and overseas markets.
- The proportion of SMEs that sell overseas is lower than for the UK as a whole and is declining.
- However, there are opportunities to increase the number of Scottish exporting companies; for example, if Scotland matched the UK's exporting rate, there would be over 2,500 more Scottish businesses selling overseas.
- The EU and US are and will likely remain key markets for Scotland and while exports to emerging markets have increased proportionately they are low but have the potential to grow further given their generally higher forecast economic growth rates.
- Company productivity is a key enabler to helping to increase the number of Scottish exporters.
- Developing a level of international ambition in more Scottish businesses will also be crucial to increasing the number of Scottish exporters; and high productivity levels will help develop their capacity and capability to profit from opportunities.

<sup>12</sup> <http://www.enterpriseresearch.ac.uk/publications/sme-innovation-exporting-growth-review-existing-evidence/>

<sup>13</sup> [SDI Evaluation](#)

### Annex 1 – A1 - Scottish international exports by Manufacturing and Services sectors and sub-sector, 2002, 2007 and 2013

International Exports By Commodity (Manufacturing)					
£millions <sup>4</sup>	2002	2007	2013	%age Change 02-07	%age Change 07-13
<b>Total International Exports</b>	<b>20,135</b>	<b>19,915</b>	<b>27,875</b>	<b>-1.09</b>	<b>39.97</b>
<b>Manufacturing<sup>3</sup></b>					
Food products, beverages and tobacco products	2,765	3,330	5,015	20.43	50.60
<i>Of Which Distilling, rectifying and blending of spirits</i>	2,285	2,825	4,260	23.63	50.80
Textiles, wearing apparel, leather and related products	395	340	365	-13.92	7.35
Wood and paper products; printing and reproduction of recorded media	345	360	420	4.35	16.67
Coke, refined petroleum and chemical products	2,015	2,625	3,505	30.27	33.52
Basic pharmaceutical products and preparations	305	260	340	-14.75	30.77
Rubber and plastic products, and other non-metallic mineral products	395	540	815	36.71	50.93
Basic metals and fabricated metal products, except machinery and equipment	400	520	560	30.00	7.69
Computer, electronic and optical products	5,570	1,590	1,595	-71.45	0.31
Electrical equipment	550	360	435	-34.55	20.83
Machinery and equipment NEC	755	885	1,745	17.22	97.18
Transport equipment	700	1,010	1,230	44.29	21.78
Other manufacturing: including furniture	165	205	175	24.24	-14.63
Repair and installation of machinery and equipment	230	275	580	19.57	110.91
<b>Total Manufacturing</b>	<b>14,585</b>	<b>12,295</b>	<b>16,780</b>	<b>-15.70</b>	<b>36.48</b>

International Exports By Commodity (Services)					
<b>Services<sup>3</sup></b>					
Wholesale <sup>1</sup> , retail trade; repair of motor vehicles etc.	945	1,485	1,350	57.14	-9.09
Transportation and storage	555	690	910	24.32	31.88
Accommodation and food service activities	175	265	275	51.43	3.77
Publishing, audiovisual and broadcasting activities	55	90	45	63.64	-50.00
Telecommunications	20	120	255	500.00	112.50
IT and other information services	255	390	500	52.94	28.21
Financial and insurance activities	700	645	1,280	-7.86	98.45
Real estate activities	20	30	45	50.00	50.00
Legal, accounting, management, architecture, engineering, technical testing and analysis activities	780	1,065	1,870	36.54	75.59
Scientific research and development	270	315	500	16.67	58.73
Other professional, scientific and technical activities	240	110	200	-54.17	81.82
Administrative and support service activities	445	840	1,210	88.76	44.05
Education	175	280	620	60.00	121.43
Other Services <sup>2</sup>	135	140	185	3.70	32.14
<b>Total Services</b>	<b>4,765</b>	<b>6,460</b>	<b>9,235</b>	<b>35.57</b>	<b>42.96</b>

1. Wholesale figures include the wholesale of agricultural products, fish and crustaceans & molluscs.  
 2. Other Services<sup>1</sup> includes the following activities: Health and other community activities, social and personal service activities as well as arts, entertainment and recreation  
 3. All values rounded to the nearest 5% change calculations are based on unrounded data. Some changes in Industry sector should be considered with some caution due to change in company classification

Source: GCS 2013

**A2 –Top 20 Scottish international export destinations, by country and value (£m), 2002, 2007 and 2013)**

Destinations						
Rank	2002		2007		2013	
	Destination	Total Exports (£m)	Destination	Total Exports (£m)	Destination	Total Exports (£m)
1	USA	2,150	USA	2,445	USA	3,910
2	France	1,930	Netherlands	1,805	Netherlands	2,040
3	Netherlands	1,905	France	1,305	Germany	1,945
4	Germany	1,790	Germany	1,295	France	1,845
5	Italy	1,095	Belgium	860	Denmark	1,420
6	Spain	905	Spain	845	Norway	1,110
7	Eire	800	Eire	655	Belgium	1,000
8	Sweden	625	Switzerland	640	Eire	920
9	Norway	575	Italy	635	Spain	870
10	Belgium	530	Norway	545	Italy	745
11	Denmark	430	Denmark	515	Sweden	715
12	Switzerland	430	Singapore	415	Switzerland	615
13	Russia	360	Japan	400	UAE	605
14	Japan	315	China	380	Singapore	585
15	Canada	290	UAE	320	China	580
16	South Korea	250	Sweden	310	Australia	435
17	Austria	225	Canada	280	Canada	345
18	Australia	215	India	240	Japan	295
19	Finland	200	Australia	235	South Africa	285
20	Greece	190	South Korea	200	Brazil	285

2002 - 2007: Drop-outs in Green

2007: New additions in Blue

2007 - 2013: New additions in Red - Drop-outs in Purple

Source: GCS 2013

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# International Value Chains: opportunities and challenges for small and developing countries

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## Abstract

While internationalisation can improve firm performance, it is often only the most productive firms that are able to internationalise (Wagner, 2005, 2012; Melitz, 2003). Recent reductions in transportation costs and trade barriers alongside technological advances have fragmented production into intermediate tasks that can be executed in several countries, creating international value chains (IVCs). These IVCs can act as a stepping stone for less productive firms to tap into international markets, and benefit from learning-by-doing, without taking on all the tasks in the value chain, thereby lowering the entry requirements for internationalisation associated with exports (OECD, 2008). This article examines the opportunities and challenges of IVCs for SMEs in small and developing countries and, in a final section, applies some of these lessons to Scotland.

Key words: SMEs, International Value Chains, upgrading, technology spillovers, internationalisation

## I Introduction

Firms that are integrated in global markets are more productive, pay higher wages and create more jobs (Wagner, 2005, 2012). However, the exact nature of that relationship remains a topic of debate. On the one hand, more productive firms tend to transfer into international markets, as they are the only firms that can afford the associated entry costs, such as transportation, production and marketing (Helpman, Melitz and Yeaple, (2003); Melitz (2003)). On the other hand, there is the hypothesis that internationalisation leads to increased productivity through learning by doing and exposure to increased quality standards, superior technology and greater competition. Despite the significance of SMEs in national economies, research on internationalisation strategies and outcomes mainly focuses on large firms, and the evidence on SMEs is scarce. Therefore, studying the opportunities for SMEs to internationalize is not only relevant but also of immediate policy interest (Giovannetti, Marvasi and Sanfilippo, 2014).

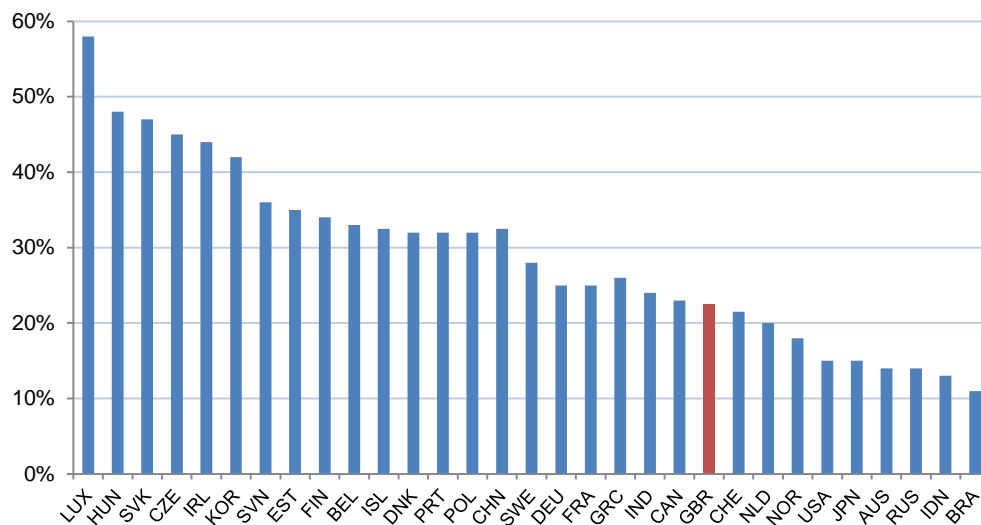
In the spectrum of internationalisation strategies, the recent rise of international value chains (IVCs) provides many interesting opportunities and challenges to firms worldwide. This article provides an overview of recent literature on these opportunities and challenges for SMEs in developing countries of linking into international value chains (IVCs). In short, IVCs can act as a stepping stone for less productive firms to internationalize as well and reap the benefits of “learning by doing”. At the same time, however, IVCs provide a threat that SMEs in developing countries might get stuck in the low value added activities of IVCs, such as purely assembly activities. A critical factor in this is the power structure within the IVC between the global buyer and the local supplier. This relationship determines the extent and type of spillovers a local SME can attain via the chain. This power structure, in turn, depends on the level of competitiveness of the SME, with more competitive and productive firms having a stronger

bargaining power allowing them to achieve a higher share of the IVCs' value added. This article discusses IVCs in further detail, examining the opportunities and challenges for SMEs in developing countries, while a final section focuses on the implications for Scottish SMEs.

## II What are international value chains?

While the terminology can differ widely<sup>1</sup>, international value chains have existed for some time. The concept of a value chain has been introduced notably by Michael Porter (1985) and can be described as the full range of activities and processes that are needed to bring a product from conception through the intermediary stage of production to delivery to final consumers and final disposal after use (Kaplinsky and Morris, 2001). Recent technological advances and reductions in trade costs, however, have made it possible to fragment production into individual tasks, allowing firms to specialize in parts of a supply chain. Once fragmentation occurs across national borders, this specialisation can stimulate firms' internationalisation and lead to the creation of international value chains (IVCs) that can be regional or global. As result of this fragmentation, trade in intermediate, as opposed to final, goods has increased significantly over the past two decades, and is estimated to account for two-thirds of all trade (Johnson & Noguera, 2012).

**Figure 1 Share of foreign value added in gross exports per country, 2011**



Source: OECD-WTO (2015)

Another common way of measuring a country's engagement in IVCs is by looking at the share of foreign value added that is exported. Dating back to Hummels, Ishii and Yi (2001), this measurement is known as vertical specialisation (VS). Using this method, Figure 1 shows the engagement of various countries in international value chains, with the UK being indicated in red.

<sup>1</sup> Throughout the literature, various terms have been used to describe the same phenomenon, the most important being fragmentation (Deardoff, 2001) (Arndt & Kierzkowski, 2001, p. 2), international fragmentation of production (Helg and Tajoli, 2004; and Yamashita, 2010), outsourcing (Feenstra, 2010) (Egger & Stehrer, 2003), trade in tasks (Grossman and Rossi-Hansberg, 2006), offshoring, processing trade (Görg, 2000) and most recently, global value chains (OECD, 2013a) or International value chains (ITC, 2015).



From Figure 1, we can see that smaller economies such as Luxemburg, Slovakia and Ireland tend to source relatively more inputs for use in IVCs than do larger economies. This indicates that participation in IVCs is related to an economy's size, openness and proximity to trading partners in participating countries. Specific data on Scotland are not available but the UK share of foreign value added in gross exports at 23% and has been steadily increasing since 2005 (OECD-WTO, 2015).

The impact of international value chains is now so significant that a number of economists argue that globalisation has entered a new paradigm (Baldwin, 2006, p.1), offering opportunities and challenges for SMEs that can have wider impacts on host countries' development paths. Indeed, a recent WTO-OECD survey (2013b) demonstrated that lack of integration of low-income countries into international value chains is a major obstacle to their development. Engaging in IVCs allows firms to specialize and play to their strengths, more so than in purely domestic markets, and can help increase their productivity, wages and employment, as well as be a stepping stone to more advanced modes of internationalisation (e.g. direct exporting or FDI, facilitated by decreasing the entry and search costs of internationalisation). A recent study, for example, on the experience of African SMEs engaging in regional and international value chains found that this expanded their markets, improved their productivity, and helped them attain financial stability (Wamalwa and McCormick, 2015).

### **III International Value Chains: opportunities for SMEs**

The potential advantages to SMEs of international value chains (IVCs) are numerous, with some authors writing of a 'laundry list of benefits' (Park, Nayyar and Low, 2013). At the macro level, there are opportunities to create jobs, increase income, improve working conditions (Shingal, 2015) and diversify production and exports (WTO, 2014). At the micro level, IVCs can help increase access to finance, shorten lead times, reduce operational disruptions, cut inventory, improve quality and customer service, speed innovation and reduce risk (Arend and Wisner, 2005; Fawcett et al., 2009; Vaaland and Heide, 2007). While the link between exporting and increased economic performance is well-established, the fact is that importing also can spur such gains, something that is less well known or appreciated. Traditionally, under a mercantilist view, imports are seen as substituting for domestic production and so are viewed as adversely affecting SMEs. However, when importing intermediate goods, there are considerable benefits for SMEs. Indeed, a recent OECD paper (2013b) on IVCs has shown that success in international markets today depends as much on the capacity to import world-class inputs as on the capacity to export them.

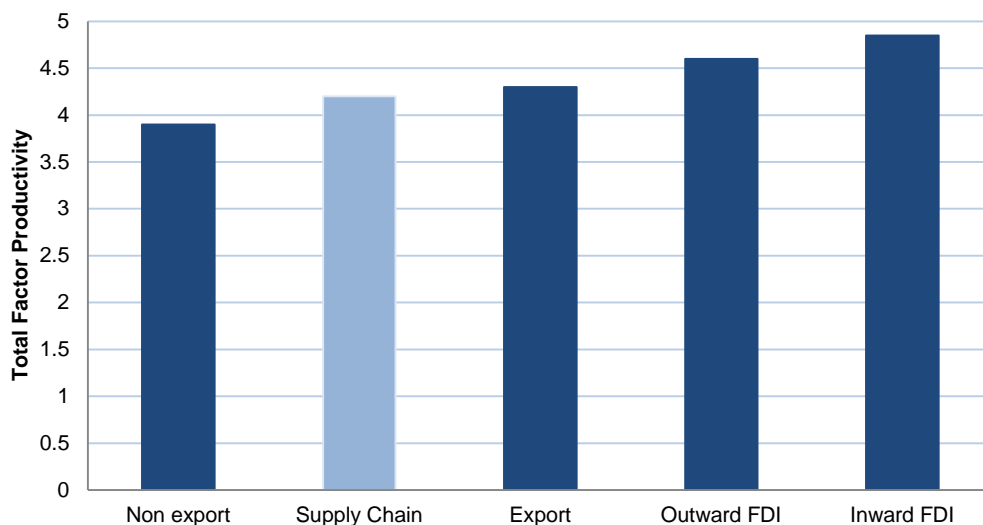
For firms that sell only in the domestic market, importing intermediate goods for further processing offers one way to engage with international value chains. This can act as a stepping-stone for more advanced forms of internationalisation by breaking down the fixed costs, such as regulatory compliance, and the costs of searching to identify profitable markets and reliable partners (Giovannetti et al., 2014). There is also evidence that participation in production chains, both local and international, increases the chances that SMEs will begin exporting. A recent study of over 7,500 Italian SMEs, for example, indicated that even small and less productive firms involved in production chains could take advantage of reduced costs of entry and economies of scale to enhance their probability of becoming exporters (Giovannetti et

al., 2014). For firms employing 1–9, 10–49 and 50–249 persons, the probability of being an exporter increased by 98%, 34% and 34%, respectively, when the firms were part of an international supply chain.

International supply chains can assist SMEs by establishing well-defined contractual arrangements with other companies in the chain, which may facilitate access to cheaper or higher quality intermediate inputs. In addition, being part of a supply chain may be the preferred strategy when capital and research and development intensity are relatively low, as such inputs are more likely to be controlled by downstream firms improving their capacity to internationalize. In this way, SMEs can tap into international markets without taking on all the tasks in the value chain, thereby lowering the entry requirements for internationalisation associated with exports (OECD, 2008).

Firms that engage in IVCs have a productivity level between that of purely domestic firms and exporters, indicating again that smaller, less productive firms may use IVCs to help them internationalize (Figure 2). Larger firms on the other hand, might internationalize regardless of supply chain integration due to different structural characteristics (Giovannetti et al, 2014; OECD, 2008).

**Figure 2 Average total factor productivity (TFP) of Italian SMEs (2009-2011), by mode of internationalisation**



Source: Giovannetti, Marvasi and Sanfilippo (2014)

Even for firms that already export, research increasingly shows that importing intermediate goods can increase the effectiveness of exports (Freund and Jaud, 2015). There is empirical evidence at firm level that importing intermediate goods improves the quality (Freund and Jaud, 2015; Bas, 2012) and quantity (Feng, Li and Swenson, 2012) of exports and therefore magnifies its effect on productivity. There is even evidence that importing intermediate goods increases firm productivity more than exporting does (Amiti and Konings, 2007; Goldberg et al., 2015). For example, Amiti and Konings (2007) found that while a 10 percentage point fall in output tariffs increased Indonesian firms' productivity by about 1%, an equivalent fall in input tariffs led to a 3% productivity gain for all firms and an 11% productivity gain for importing

firms. In the Middle East and North Africa (MENA) region, Cruz and Bussolo (2015, p.1) found that "firms that are relatively more exposed to input tariffs perform better in those sectors with the largest input tariff reduction with better access to markets, higher probability to survive when exporting new products in those sectors and higher export value growth". In Tunisia, for instance, firms that engage in international trade are more productive, more profitable and create more jobs than firms that do not engage in any form of trade (Baghdadi, 2015).

IVCs have another advantage, especially for firms in developing countries: their capacity to act as a channel for technology diffusion, which can stimulate innovation (Pietrobelli and Raballotti, 2011). This can happen in various ways. First, if a firm engages with IVCs by exporting intermediate goods, it must satisfy the chain's requirements regarding product quality, delivery time, process efficiency etc. – as well as potential environmental, labour and social standards (Pietrobelli and Raballotti, 2011). These demands may require SMEs to upgrade their production or delivery methods, as well as their actual product, for which they need to acquire foreign technology via licensing arrangements. For this reason, Humphrey and Schmitz (2002) conclude that for SMEs engaging in IVCs is especially good to encourage product and process upgrading. Second, importing intermediate goods can lead to a direct (in)/diffusion of technology if the imports are technologically superior. This, in turn, can stimulate improvements in human capital if the imports require training. For small LDC firms especially, participation in value chains is crucial to obtain information about the type and quality of products and technologies required by global markets and to gain access to those markets (Pietrobelli, 2008). Leaders in the chain have a key role in transferring knowledge to their suppliers. Multinationals or other large integrated industrial enterprises are central in controlling the production system (Gereffi, 1994). Foreign firms typically make their technologies widely available to their local suppliers to avoid delays in the delivery process (Blalock and Gertler, 2008). For instance, Volvo provides its suppliers in Brazil, China, India and Mexico with technological assistance to improve their operations (Ivarsson and Alvstam, 2005). In Chinese Taipei, local manufacturers in the computer industry benefit strongly from an intensive collaboration with IBM, including through training of local engineers (Kishimoto, 2004). Even without direct support, foreign buyers can stimulate innovation. For example, firms in Chinese Taipei developed a triangle manufacturing system in response to pressure from foreign buyers to reduce delivery times (Gereffi, 1994 and 1999). This system enhanced these firms' capabilities to coordinate, search for and procure external goods and services (Kishimoto, 2004).

#### **IV The challenge for LDC SMEs to not get stuck in low value added activities**

The previous section outlines the advantages of engaging in international value chains, particularly for SMEs. However, it is by no means guaranteed that an SME will be able to reap these benefits. The extent to which SMEs can successfully link to IVCs largely depends on their internal level of competitiveness. Besides such internal issues and the general challenges linked to internationalisation, there is the specific danger that SMEs can get stuck in low value added activities, such as assembly or provision of raw materials. In such instances, firms absorb little, if any, of the profits, technology and extra returns that the value chain generates. While firms in developing countries often enter IVCs via such activities, due to their comparative advantage of low wages, it is important that firms subsequently upgrade to activities of higher value added. For example, an assessment of the gains created along a

typical value chain for jeans, beginning with the harvesting of raw materials and initial manufacturing in China and ending with the selling of the jeans in Europe, shows that of the total \$50 dollar cost of each pair of jeans produced, only \$3.20 remains in China (Ruffier, 2008).

There are several reasons why firms may be unable to upgrade to higher value added activities. Some of these may be external to the firm, such as regulatory and infrastructural problems or limited access to finance. Others may be internal to the firm, such as being unable to meet increased quality or delivery standards. Internal factors are closely tied to a firm's existing level of competitiveness, which to a large extent determines its ability to benefit from internationalisation. A more IVC-specific factor, however, has to do with the governance of the value chain, where power asymmetries between buyers and sellers determine much of the gains SMEs can hope to realize.

## **V Value chain governance**

Global firms may prevent SMEs from functional upgrades, if this threatens their core activities, such as marketing, research and development or sales. Therefore, large firms are crucial in determining the ability of SMEs to upgrade. Large firms are responsible for the inter-firm division of labour, and hence for the capacities of particular participants to upgrade their activities (Kaplinsky and Morris, 2001). Chain leaders coordinate and govern the IVC. Healthy, stable profits depend fundamentally on the power relationships within the chain. Lead firms often hold considerable bargaining power, which is based on three key factors (Gereffi, Humphrey and Sturgeon, 2005): capabilities of the supplier base; degree to which a job can be codified; and, complexity of the job. If a job can be relatively easily codified and is not too complex – often the case for standard manufacturing and assembly – a supplier can be easily replaced. Hence, such suppliers have reduced bargaining power. A further factor is the cost to suppliers of switching to another buyer, which effectively can lock them into a single buyer. For the mobile phone IVC, intense competition has driven out most lead firms, with Apple and Samsung dominating the market (Lee and Gereffi, 2013). Sturgeon and Memedovic (2011) identify an additional dynamic: the ability of lead firms to play suppliers off against one another in the selection and placement of orders.

From an economic perspective, such power dynamics may lead to lower economic growth and greater volatility, as firms with low margins find it hard to increase their productivity and are especially sensitive to outside economic shocks, such as environmental disasters or financial crises. In addition, persistently low wages among the poorest will inhibit them from increasing their productivity by investing in their own skills and education. From a development perspective this is especially troubling, as aid programmes such as Aid for Trade are often targeted at firms lower down the value chain, which tend to employ economically vulnerable people (Mayer and Milberg, 2013). For this reason, value chain governance is of critical importance in determining the potential direct and indirect economic development benefits from technology spillovers, especially in Less Developed Countries (LDCs).

## **VI International Value Chains: opportunities for Scotland?**

Many of the lessons for SMEs in developing countries can be applied, in part, to Scotland. The Scottish government recognizes the importance of international value chains to its economy. Namely, in its

Economic Strategy (Scottish government, 2015) internationalisation is identified as one of the 4 key priorities to help increase Scotland's competitiveness and tackle inequality. This idea is based, amongst others, on firm level evidence for the UK manufacturing and services sectors during 1996-2004 by Harris and Li (2007) who found evidence of both the self-selection bias, i.e. the fact that only more productive firms tend to internationalize, as well as the learning by exporting hypothesis, i.e. that exporting makes firms more productive. More specifically, Harris (2010) found that learning-by-exporting increased the productivity of Scottish firms by between 16-18 %.

Many of the lessons described in this article can also be applied to the Scottish oil and gas, and electricity value chain. In their paper, Raines, Turok and Brown (2001) firstly found that domestic links between Scottish SMEs and locally-based foreign subsidiaries can facilitate the internationalisation of Scottish SME suppliers. SMEs in both industries indicated that existing links with international companies and supply chains had been critical in them gaining initial export experience and market diversification. In comparing the two chains, Raines et al. (2001, p.975) found that Scottish suppliers in the oil and gas sector tended to be engaged in higher value-added activities, were more likely to engage in product innovation and tended to exhibit stronger technology spillovers than did Scottish suppliers in the electronics industry. This can partly be explained by the distinctive nature of the two value chains. In oil and gas, Scotland benefited from its supply location which the industry exploited by setting up localized procurement arrangements, personal networking and incentives for investors to progress from dependent, foreign-plant supply relationships to more independent contractors. In the electronics sector on the other hand, Scotland's competitive advantage lay in more basic factors such as low-cost labour, access to the EU market and government incentives. Because of this, local suppliers in the electronics sector sought to engage in lower value added activities such as the manufacture of basic parts and turnkey supply services. Because of the nature of these activities, there is naturally less scope for technology spillovers. Besides this, Raines et al also point to the stronger relationships between global buyers and local suppliers in the oil and gas sector that enable them to upgrade. They include by stating that the more intensive the linkage with the domestic market, the more likely linkages will help support suppliers to internationalize.

This point is also a key feature in the Scottish Economic Strategy (Scottish government, 2015) which notes that in order to ensure long term benefits from inward investment, such as spillover effects, supply chains need to be linked with the domestic economy. Such spillover effects can occur via competition or demonstration effects, labour mobility, and via forward and backward linkages throughout the chain. Harris and Li (2014), for example, find that foreign owned manufacturing firms can have a positive spillover effect on the productivity of UK-owned manufacturing firms not engaged in overseas investment. Scotland's Economic Strategy sets the aim to look at particular areas of the Scottish economy where supply chain linkages could be strengthened further and to explore options to better exploit these linkages and ensure that local businesses – and the wider Scottish economy - benefit.

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## Policy section

# Some key issues for employment and skills planning in Scotland: a review of emerging evidence

Graham Thom and Susan Mackay, SQW

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## Abstract

This paper draws on evidence from the first set of Regional Skills Assessments produced for lowland Scotland to highlight some issues for skills policy and planning. Scotland has an ageing population and this is set to accelerate over the coming decade. Forecast employment and population changes point to a potential mismatch between future labour supply and demand in Scotland. The shifting industrial and occupational structure of Scotland has implications for the level and type of qualifications that individuals will need in order to access future job opportunities. Changes in population and the economy will require careful consideration of the right scale and mix of post-16 education and skills provision. This is a key issue that policy makers, public agencies and local and national governments must address if Scotland is to effectively maintain its productive potential in the face of a declining working age population.

## 1 Introduction

In 2014, the first set of Regional Skills Assessments (RSAs) were commissioned by Skills Development Scotland (SDS) and partners from SQW. The purpose of the RSAs was to provide a shared and agreed evidence base to inform skills planning and investment at a regional level, including the Regional Outcome Agreements being developed between the Scottish Funding Council and newly formed regional colleges.

The output of this work was a series of eleven reports covering regions across lowland Scotland<sup>1</sup>, with a Skills Investment Plan for the Highlands and Islands region having been developed separately. The RSAs brought together available evidence on current and projected future demand for employment and skills, alongside analysis of trends in people and skills supply, and employer reported mismatches between the two.

The analysis within the RSAs focusses on evidence of skills supply and demand within each region as compared to the national picture; an equivalent analysis covering Scotland as a whole was not produced. This paper draws on the RSA evidence base to highlight some Scotland-wide issues for policy and planning consideration. Only by taking a national perspective does the scale and spatial nature of some of the issues raised become apparent.

The discussion below covers in turn: the changing demographic profile of Scotland; where future demand for employment and skills is expected to be concentrated in terms of sectors and regions; the fit of forecast net employment change to projected changes in the working age population; and opportunities arising from replacement demand. This analysis raises a number of issues for

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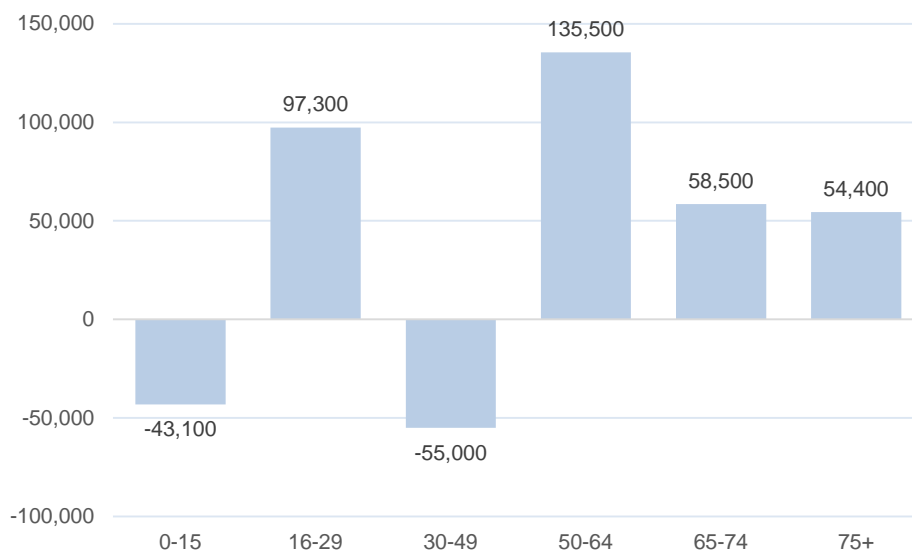
<sup>1</sup> The full set of RSAs are available to download at: <http://www.skillsdevelopmentscotland.co.uk/resources/regional-skills-assessments/>

consideration by those involved in the planning and delivery of employment and skills provision in Scotland.

## 2 Changing demographics

As with many developed economies, Scotland has an ageing population. This is the result of the interplay of factors including: falling birth rates, increased life expectancy and the post-war 'baby boomer' generation reaching retirement age. In the ten years to 2012, Scotland's population growth was mainly concentrated amongst the over-50s (refer Figure 1). There was positive growth in the 16-29 age group over the period, mainly driven by net in-migration, but this was offset by declines in the key working age group of 30-49 and the numbers of young people under the age of 16.

**Figure 2: Population change by age band in Scotland, 2002-12**

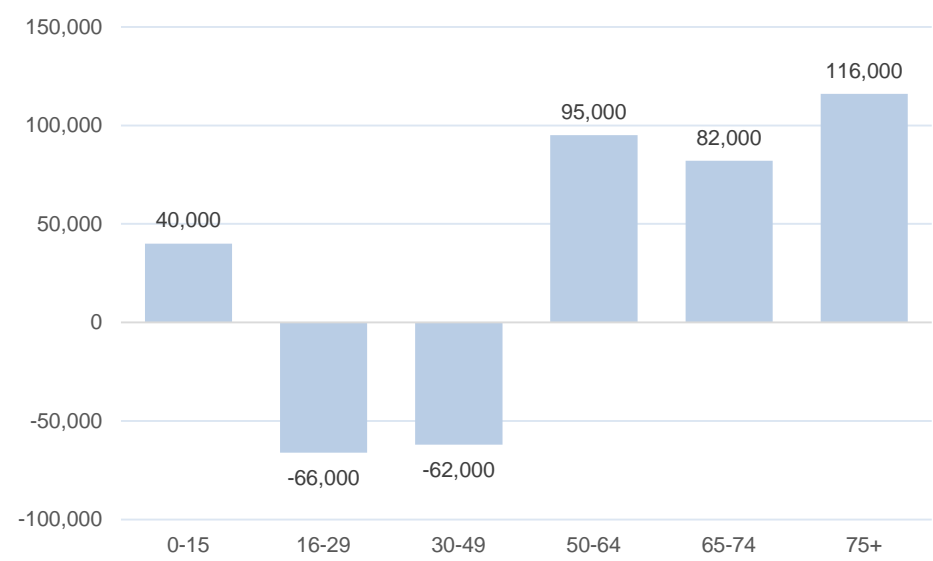


*Source: SQW analysis of data from National Records of Scotland*

Figure 2 shows that this ageing of the population is set to accelerate over the coming decade. There will be substantial increases in all groups over the age of 50, with the largest net expansion expected amongst those aged 75 and over. A forecast increase in the birth rate is also expected to result in more children and young people under the age of 16. However, the key age groups in terms of labour and skills supply (16-29 and 30-49) are both set to contract. These changes will alter the dependency ratio in Scotland; that is the balance of the share of the population that is economically productive relative to share that is not.

This changing demographic profile will have major implications for the future demand for public services, including education, training and employment. In the short run, the decline in the 16-29 age group is likely to result in an over-supply of employment and skills provision targeted at young people and school leavers in particular. This in turn, raises questions about the scale and mix of apprenticeship, further and higher education provision that will be required, as well as how to better cater to the skills and employment needs of working age population groups.

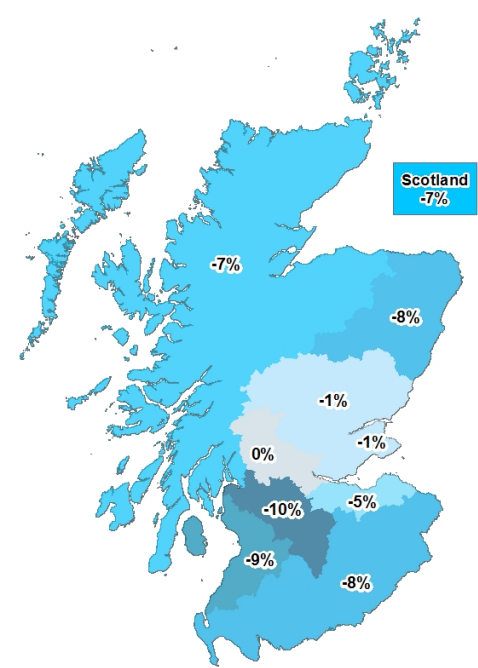
Figure 3: Projected change in population in Scotland, 2012-2022



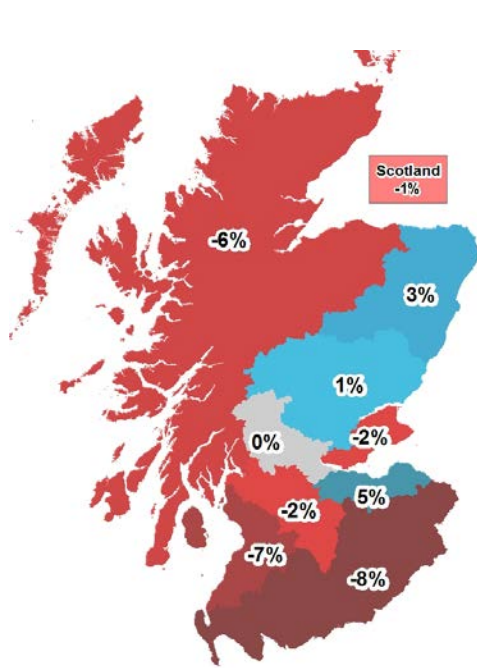
Source: SQW analysis of data from National Records of Scotland

Figure 4: Projected percentage change in population, by region (2012-2022)

Population Aged 16-29



Working Age Population (16-64)



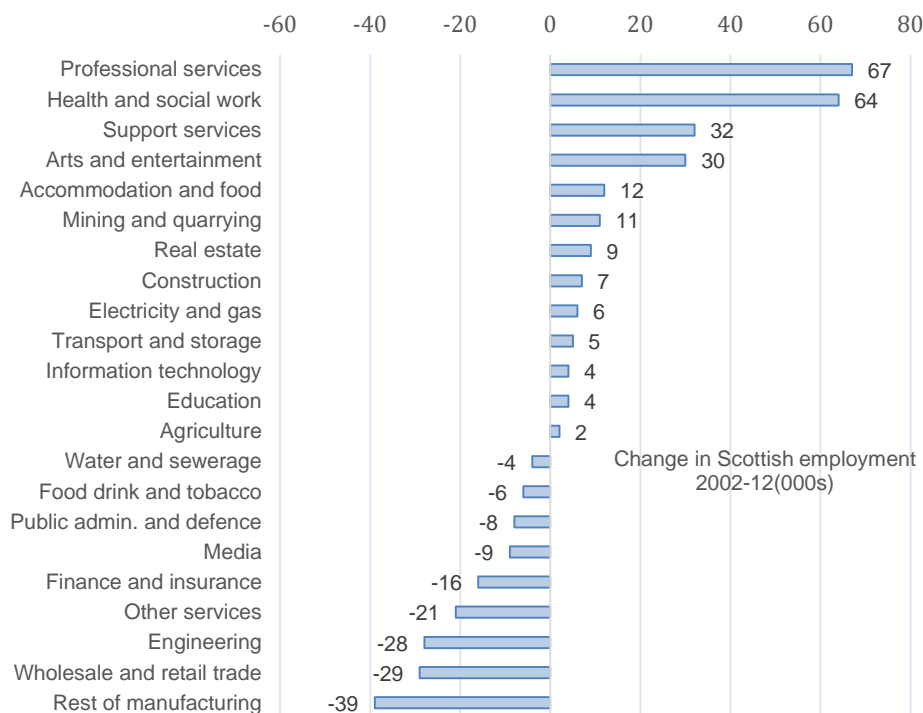
Maps produced by SQW 2015, © Ordnance Survey database rights 2015; License Number 100019086

Source: National Records of Scotland

The question of what types of education and training might be most appropriate to adjust and develop to reflect these changing demographic circumstances should be shaped by evidence of demand for employment and skills. This is something we turn to later. However, analysis of demographic data suggests that changes will not be uniform across Scotland. As Figure 3 shows:

- The 16-29 population is projected to decline across all areas of Scotland, aside from Forth Valley where it is expected to remain stable. The sharpest declines in this age group are expected to be in Glasgow and Clyde Valley, and Ayrshire.
- The working age population displays a more mixed picture, with growth concentrated in the east (Edinburgh and the Lothians at 5%, Aberdeen City 3% and Tayside 1%) with declines expected across all other areas (-2% to -8%).

**Figure 5: Change in Scottish employment by sector, 2002-2012 (000's)**



Source: SQW analysis of Working Futures data

### 3 Demand for employment and skills

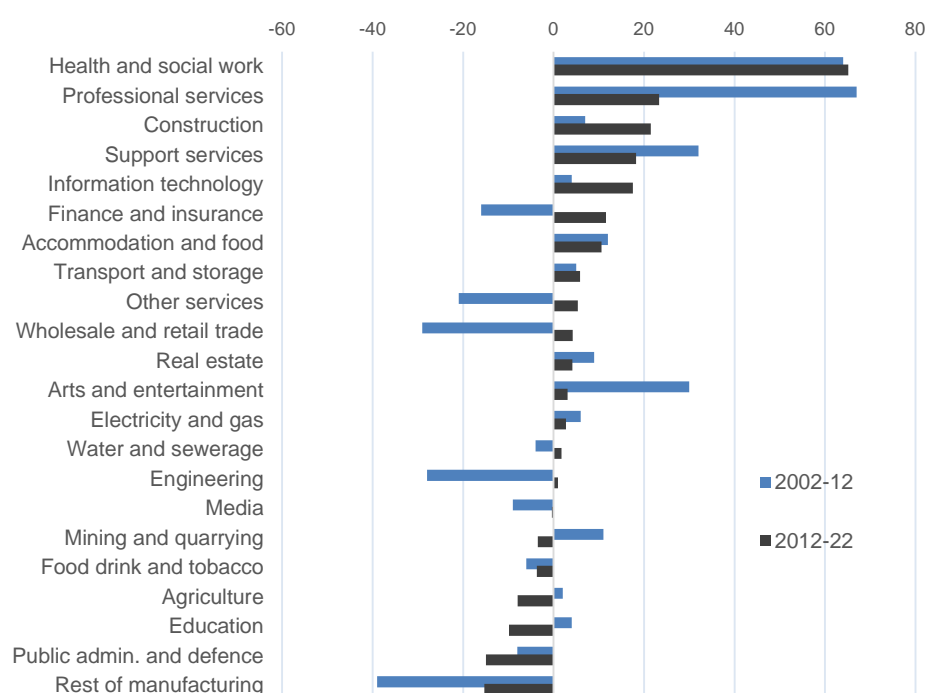
The UK Commission for Employment and Skills issues employment projections every two years through its Working Futures publications. The results provide a consistent and systematic view across the whole of the UK economy and labour market. The *Working Futures 2012-2022* study included a set of sub-

national employment projections for regions within Scotland, analysis of which was included within the RSAs<sup>2</sup>.

The publication also included data on historic trends in employment. These show that professional services and health and social work have been dominant drivers of employment growth in Scotland over the past decade (refer Figure 5). Support services, which includes facilities management and other business support services, and arts and entertainment have also grown strongly. At the other end of the scale, the long term trend of decline in manufacturing and engineering employment has continued, whilst there was also a contraction in wholesale and retail, and financial services employment over the period.

Figure 6 shows that the forecast scale and nature of employment change in Scotland is expected to be somewhat different than over the past decade. Whilst health and social work is expected to continue to expand on a similar scale to the previous decade, growth in professional services employment is forecast to be much slower. There are also expected to be marked slowdowns in employment growth within other sectors, such as support services and arts and entertainment. Conversely, others will expand, or return to growth, such as construction, information technology and financial services. Taken together, these changes will alter the scale and nature of labour demand and will have significant implications on the skills and education provision that will be required to support future economic growth.

**Figure 6: Net change in employment by industry in Scotland, 2002/12 and 2012/22 (000's)**



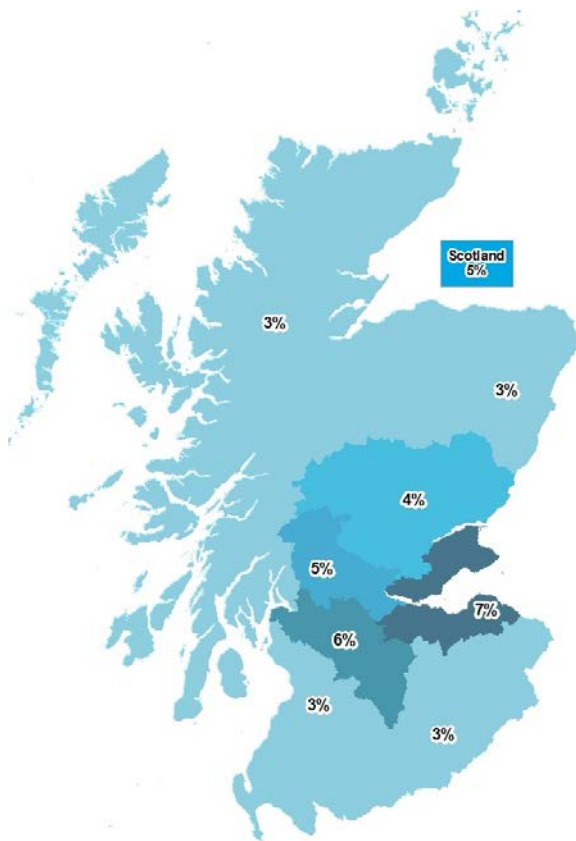
Source: SQW analysis of Working Futures data

<sup>2</sup> Wilson, R. A., R. Beaven, M. May-Gillings, G. Hay and J. Stevens (2014). *Working Futures 2012-2022: Main Report*. UK Commission for Employment and Skills: Wath on Dearne.

All areas of Scotland are expected to experience net employment growth over the coming decade (refer Figure 6). However, this will not be evenly spread across the country, with the fastest rates of growth expected in the Central Belt; Glasgow and Clyde Valley, Edinburgh and the Lothians and to a lesser extent Forth Valley and Tayside. Peripheral and more rural areas, such as Aberdeen City and Shire, Highlands and Islands and the South of Scotland, are expected to experience slower rates of growth.

It is important to note that these projections were produced in autumn 2013 and therefore do not take account of the recent fall in the oil price, which has resulted in over 6,000 jobs in the oil and gas sector being announced as lost or at risk since 2014. Though these are mainly concentrated in the Aberdeen City and Shire area, they will have major ramifications throughout Scotland and across the supply chain. The outlook for Aberdeen City and Shire, and for other areas with concentrations of oil and gas supply chain firms and employment, is likely to be less positive than these forecasts would suggest.

**Figure 7: Projected percentage change in employment 2012-22, by region**



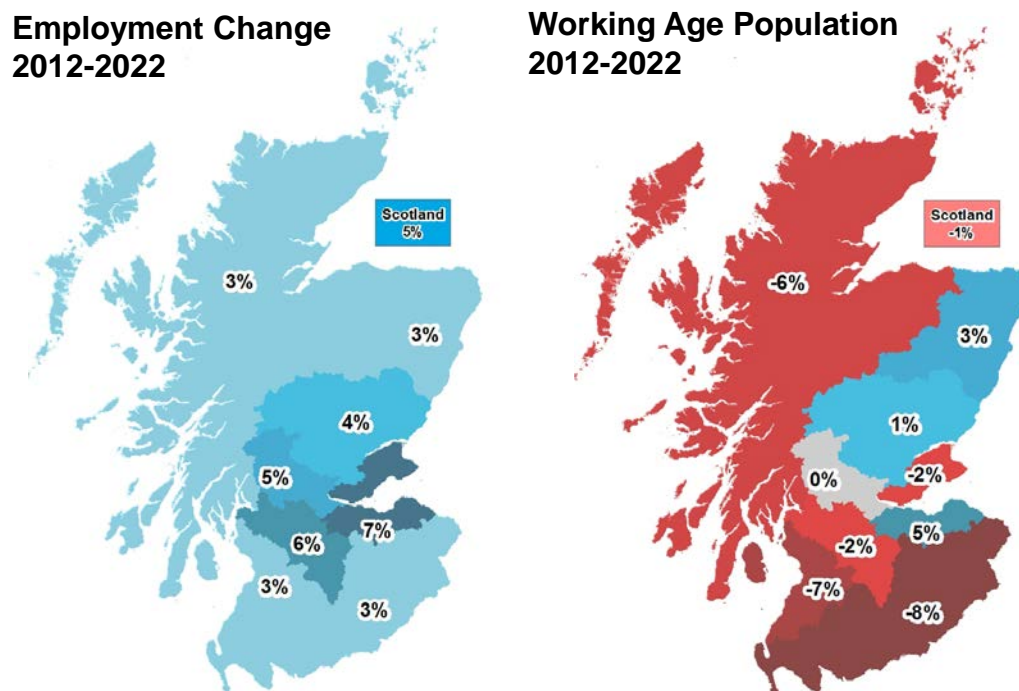
*Map produced by SQW 2015, © Ordnance Survey database rights 2015, License Number 100019086  
Source: UK CES Working Futures*

Taking together, forecast employment and population change points to a potential mismatch between future labour supply and demand in Scotland: the total number of Scottish jobs is expected to increase by 5% between 2012 and 2022, whilst the working age population is expected to contract by 1% over the same period. Figure 8 shows regional variations in projected change in these two headline measures:

- A net increase in employment is expected across all areas, with the fastest rates of growth expected for central and eastern areas
- Edinburgh and the Lothians, Tayside and Aberdeen City and Shire are the only areas expected to experience growth in their working age populations
- The number of people of working age is set to contract across all other areas, with the more rural areas of the South of Scotland, Ayrshire and Highlands and Islands expected to experience the fastest rates of decline.

These trends are likely to heighten existing skills shortages and could potentially act as a constraint on future growth, particularly within western and rural regions.

**Figure 8: Projected jobs demand versus employment and skills supply, 2012-2022 (% change)**



*Maps produced by SQW 2015, © Ordnance Survey database rights 2015; License Number 100019086*

*Source: UKCES Working Futures; National Records of Scotland*

The apparent disparity between projected employment demand and working age population supply raises a number of challenges for policy makers. It suggests a need to more carefully consider measures to: increase the participation rate (especially of under-represented groups such as women, people with health and disability problems, including those with mental health problems, ethnic minorities and other under-represented groups); take advantage of the increase in older people working longer; delaying full retirement from the labour market; and growing the working age population through increased in-migration.

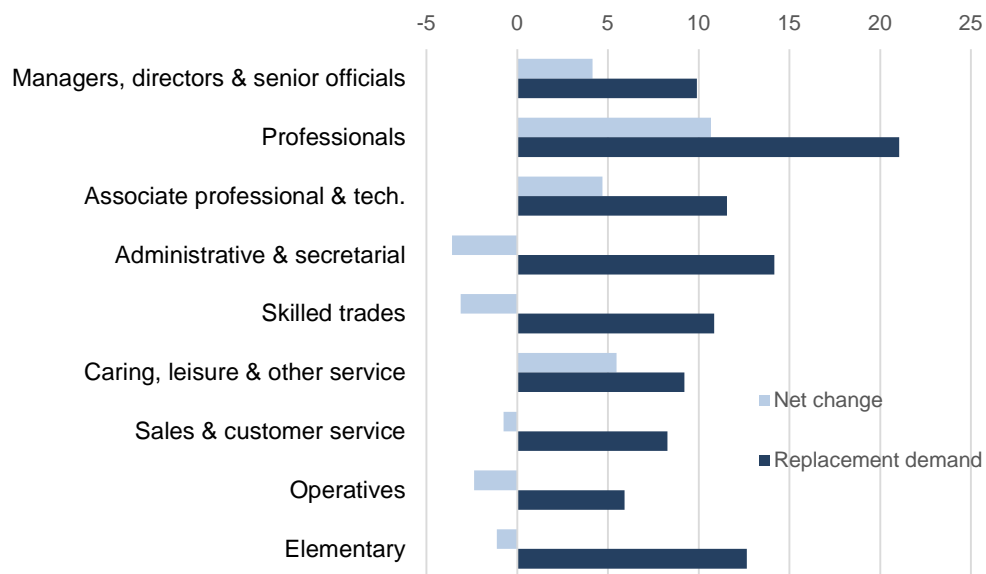


#### 4 Replacement demand

To get a balanced view of future labour market demand, it is useful to distinguish between the scale and nature of ‘*expansion demand*’, generated by growth in the Scottish economy and ‘*replacement demand*’ generated by replacing those people who retire, change occupations or move away. Expansion demand in Scotland is expected to result in 140,000 new job opportunities between 2012 and 2022; however, replacement demand is projected to result in over one million job openings over the same period, nearly ten times that resulting from net growth. Importantly, these openings will occur across all types of jobs, including those that are expected to decline in net terms and present a challenge to policy makers who are often overly-focused on net-growth sectors.

Managers, professionals and associate professionals combined will be the source of over half of all job openings to 2022 (Figure 9). This group is expected to experience positive expansion *and* replacement demand; the only other such occupational group to do so is caring, leisure & other services, which includes many people working in tourism and hospitality sectors, and also those in caring professions. The continued expansion of this occupational group is partly the result of an ageing population leading to increased demand for care and related services.

**Figure 9: Forecast net change and replacement demand in Scotland (‘000’s), by standard occupational classification (SOC) groups, 2012-2022**



Source: SQW analysis of Working Futures data

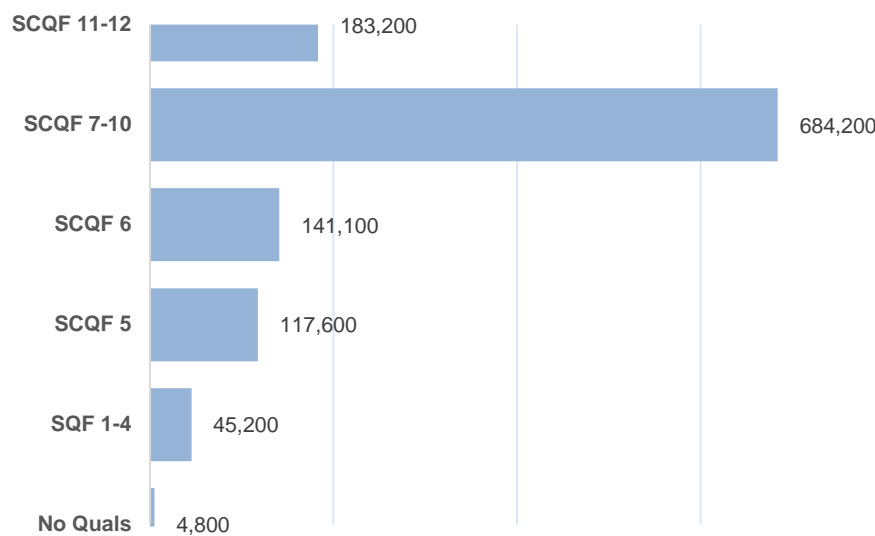
All other occupational groupings are expected to experience a decline in net terms, resulting in a rebalancing of the occupational structure of the economy towards higher skilled occupations. This is a continuation of a long term trend within the UK and other industrialised nations and is consistent with interpretations of polarisation in the UK’s skills structure, with increased demand for high and low level

skills, combined with a net decline in occupations requiring intermediate skills, such as administrative and secretarial, skilled trades and operatives<sup>3</sup>.

This shifting occupational structure also has implications for the qualifications that individuals will need in order to access the job opportunities that become available. **Error! Reference source not found.** shows that, of the 1.2 million job openings expected to become available between 2012 and 2022, the majority will require individuals qualified to at least SCQF Level 7 – equivalent to a Higher National Certificate (HNC) or Modern Apprenticeship Level 3. The remainder will mainly be for individuals qualified to Level 5 / 6 and there will be limited opportunities available to those qualified below this level or those with no qualifications at all.

In 2014, 6% of the economically active population in Scotland had no qualifications – a total of 165,000 people<sup>4</sup>. This analysis shows that less than 5,000 job openings to 2022 will be available to those with no qualifications. Though more than half (52%) of those with no qualifications are over the age of 50 and therefore likely to be leaving the labour market within the next 10-15 years, there is still likely to be a need for provision aimed at increasing the qualification levels of those who are unemployed or in low skilled occupations, at least in the short to medium term, in order to increase the participation rate and ensure that anticipated demand for qualifications can be met.

**Figure 10: Projected job openings, by required qualification level (2012-2022)**



Source: SQW analysis of Working Futures database: Total job openings = 1.2m

<sup>3</sup> UKCES (2014). *The Labour Market Story: Skills for the Future*.

<sup>4</sup> Source: Annual Population Survey.

## 5 Concluding comments

This paper has drawn on evidence from the Regional Skills Assessments (RSAs) to highlight some key issues for the Scottish labour market. The RSAs are currently in the process of being updated and it will be important to review these to see how the picture is changing alongside the updated employment and population projections. Meantime, there are a number of crucial issues for policy makers to consider if the Scottish skills system is to deliver the right number of people with the right qualifications to support future growth.

Key amongst these should be consideration of the appropriate scale and nature of provision required for young people at a time when their numbers are expected to decline. This requirement becomes even more acute in the context of a declining working age population, which could act as a constraint on future growth. Indeed, the paper highlights the need for careful consideration of future employment and skills policy to maximise the contribution that people of *all* ages can make to economic growth. Older workers and migrants are likely to have a crucial part to play in supporting growth and it will be important that the system supports them to do so, as will the effective support of inclusive growth that draws into the labour market groups that all-too-often have been under-represented: including women, people with physical and mental health conditions and ethnic minorities.

In a Scotland with fewer working age people and continuing tight public sector finances, it is more important than ever to ensure that available resources are targeted at key areas of the labour market and that the system is as efficient (and effective) as possible. The broad thrust of Scotland's projected demographic change suggests that there may be a need for less provision for young people going forward. This will be difficult for politicians and policy makers, where the expectation has been of increasing education and training places for young people. The changing nature of employer demand for skills also suggests that the nature of provision will need to be different to what has gone before. Together these factors will require careful consideration of the right scale and mix of post-16 provision across schools, colleges and universities – and crucially in the workplace (eg apprenticeships and staff development and progression). Achieving this balance may be difficult given that available information is – and always will be – imperfect; however it is a crucial issue to be addressed. And it is one that policy makers, public agencies, local and national governments and businesses must address if Scotland is to effectively maintain its productive potential in the face of a declining working age population and changing labour market demands.

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# Re-designing a more circular Scottish economy

Ewan Mearns, Scottish Enterprise and Daniel Hinze, Government Economic Service

## Abstract

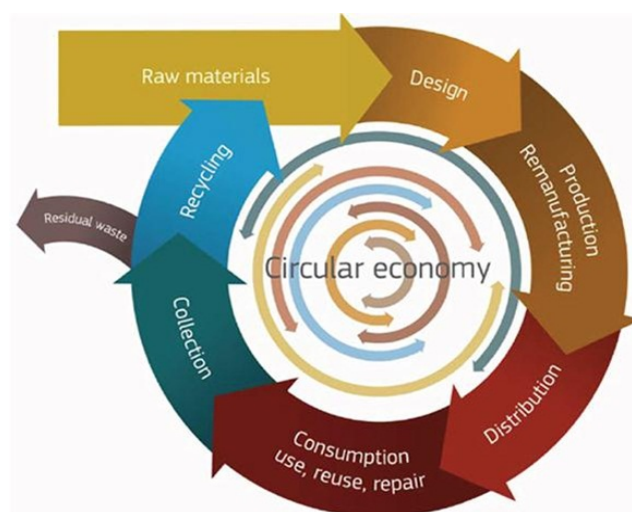
Policies to develop a more circular economy can unlock opportunities that change how businesses, supply chains and economies could operate in the 21st Century. Such approaches build on the application of earlier concepts of industrial ecology (Frosch and Gallopoulos, 1989), cradle-to-cradle (Braungart and McDonough, 2002) and the performance economy (Stahel, 2010). This article explores the nature, benefits, barriers and enablers of the shift towards a more circular Scottish economy, drawing on the global evidence and the programme of research undertaken by the Scottish Government and its public sector partners. In particular, it assesses the nature and scale of the opportunities in two of Scotland's growth sectors – oil & gas and the bioeconomy – and highlights the policy and evidence issues that will be important to support the transition to a more circular – and sustainable – Scottish economy.

*Key words:* circular economy, Scottish economy, oil and gas, bioeconomy, Scottish Government, evidence base, methodologies

## I What is the 'circular economy'?

In a world of finite resources and rapid population growth the circular economy offers a new and exciting perspective. It is an approach that shifts the focus from the ever more efficient use of resources to *re-using* those resources across the economy (Figure 1). Such an approach not only boosts productivity, by reducing demand for and the cost of raw materials, but also stimulates innovation in terms of product re-design, re-use and re-manufacture.

**Figure 1: The circular economy<sup>5</sup>**



<sup>5</sup> European Commission (2014) *Towards a circular economy: A zero waste programme for Europe*

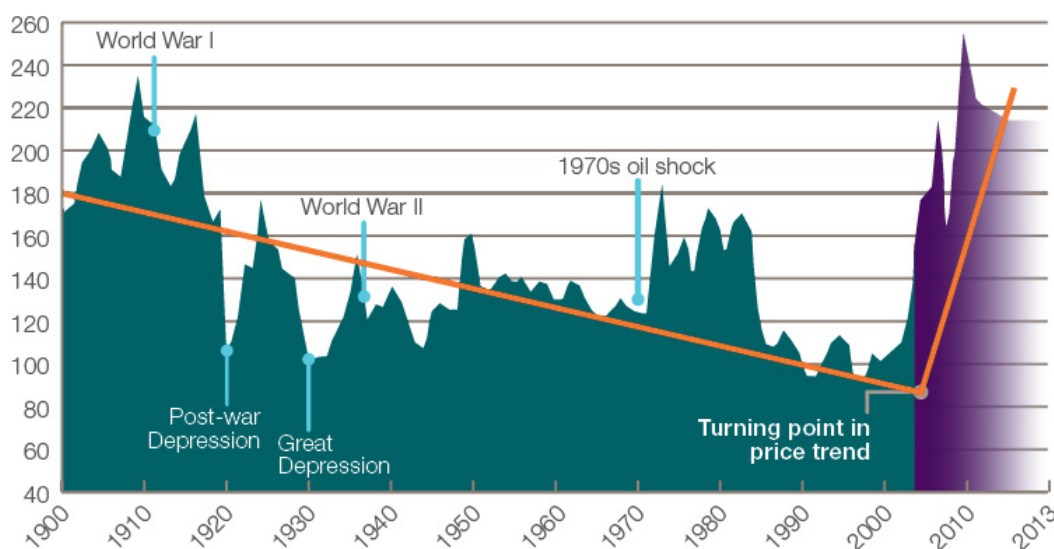
Circular thinking presents a vision for how businesses and nations could operate in the 21<sup>st</sup> century, a vision increasingly supported by leading economies, global businesses and institutions such as the EU and World Economic Forum. For companies, circular models help reduce business risk from volatile and costly global commodities such as copper, lithium and phosphorous. Re-using materials also helps to create new value by, for example, substituting finite with renewable materials, re-using resources through remanufacturing and adopting new business models that optimise the performance of products through their shared use.

For governments and businesses, the circular economy offers ways to drive sustainable growth and innovation, decoupled from the consumption of virgin natural resources, whilst creating jobs and reducing environmental impacts. Together with many leading economies such as the Netherlands, Belgium and Finland, Scotland is actively investigating the scale and nature of circular economy opportunities and re-aligning its policy frameworks to enable businesses and individuals to grasp the opportunities<sup>6</sup>.

## II Shifting from linear to circular systems

The circular economy is an alternative to a more traditional linear economy in which products (and energy) tend to be used over a short period then discarded as waste. This is an economic system focused on producing and consuming as cheaply as possible, and one that is not sustainable given surging demand from emerging economies and pressures on the cost and supply of global commodities.

**Figure 2: McKinsey commodity price index<sup>7</sup>**



Between 2000 and 2010, resource limits and rapid growth in global demand erased the decline in commodity prices achieved over the previous century (see Figure 2). Commodity price volatility is now a

<sup>6</sup> Scottish Government (2015) *Making things last: Consultation on creating a more circular economy in Scotland*

<sup>7</sup> IPPR (2014) *The wasteline: Redefining 'waste' and improving resource management policy*. IPPR

key economic concern. However, this does not imply that future commodity price increases are inevitable. Following the rapid rises of 2000-10, prices have fallen significantly (notably for oil), driven by weakening global economic growth and (in the case of oil), oversupply. Substitution of expensive commodities by new materials and new processes can also help alleviate resource price pressures. Indeed, adopting circular economy approaches in themselves will help reduce demand for virgin resources.

The benefit of the circular economy to the macro economy is fourfold, it:

- reduces commodity price pressures;
- limits exposure to resource price volatility;
- reduces country/supply risks; and
- develops domestic, circular industries which partially substitute for imports.

The origins of the circular economy concept date from the 1970s when the idea of a regenerative society was born, in which processes renew the sources of energy and materials they consume. Walter Stahel developed a model of 'loops' in which resources and energy are maintained and regenerated via product life extension, long-life goods, reconditioning activities and waste prevention. The substitution of products by services (or labour) is also an important aspect of circular economy thinking with its emphasis on helping to create jobs and boost economic competitiveness and was later referred to by Stahel as the 'performance economy'<sup>8</sup>.

Borrowing from natural biological concepts (focusing on the circulation of organic and inorganic nutrients circulating in healthy, safe metabolisms), Braungart and McDonough's cradle-to-cradle<sup>9</sup> concept focuses on the critical importance of design for effective resource use. They identified two main categories of materials, technical (e.g. plastics and metals) and biological, each underpinned by different design principles for their recovery and reuse. To them, products containing technical materials, for example, should ideally be designed to promote ease of disassembly so that their constituent parts can be upgraded or reused.

The third key theoretical foundation to circular economy thinking is industrial ecology<sup>10</sup>. This adopts a systems-level approach to eliminate waste by designing processes in which outputs from one process serve as an input to another. Various referred to as industrial symbiosis or closed-loop systems, industrial ecology aims to mimic living systems as far as possible, optimising material, water and energy use.

All three conceptual approaches focus on the re-design of production systems to promote product longevity, re-use and modular upgrading, using either renewable resources or optimising the use of non-renewable materials.

<sup>8</sup> Stahel, W. (2010) *The performance economy*. MacMillan

<sup>9</sup> Braungart M. & McDonough W. (2002) *Cradle to cradle: Remaking the way we make things*. North Point Press

<sup>10</sup> Frosch, R.A. & Gallopoulos, N.E. (1989). *Strategies for Manufacturing*. *Scientific American* 261 (3): 144–152.

More recently, the circular economy concept has been cited as a means of decoupling global resource use from economic growth<sup>11</sup>. While resource efficiency measures simply slow the use of virgin materials, circularity could lead to a step-change. The UN Environment Programme estimates that global annual consumption of minerals, ores, fossil fuels and biomass could triple between today and 2050, while it is also estimated that global energy and water use could increase by 50% by 2030<sup>12</sup>. The collaborative economy is a term used to describe a range of more radical business models that represent a shift from product ownership towards rental, leasing or shared access to goods or services. Online marketplaces (such as eBay), car sharing (eg ZipCar) and access to under-used capacity (eg Airbnb) all illustrate ways in which new economic value can be created through the optimal use of existing resources flowing through the economy.

### III Why is the circular economy a timely policy issue for Scotland?

At a global level the concept of the circular economy is gaining traction and has been discussed at the World Economic Forum<sup>13</sup> in Davos each year since 2012. Much of the recent drive for the circular economy has been led by the Ellen MacArthur Foundation (EMF) which has focused on, in particular, championing business opportunities. Global companies such as Renault, Michelin and Philips are all members of the EMF's Circular Economy 100 Network, which aims to build scale and business capabilities in re-designing how supply chains and economies could operate in future. Indeed, in a recent UN study conducted by Accenture, 36% of 1,000 CEOs across 25 industries planned to use circular economy practices such as shifting from product-ownership to service-based models, engaging in the sharing economy or recapturing and re-using valuable materials<sup>14</sup>.

Governments have also responded to this agenda, recognising the strategic importance of circular solutions to the twin challenges of productivity growth and environmental degradation<sup>15</sup>. Following initial political wrangling the European Commission is now about to launch a more ambitious circular economy 'package'. The Scottish Government became the first regional member of the Circular Economy 100 Network and has now been joined by other leading countries and regions including Denmark, Taiwan, Catalonia and Wallonia.

The Scottish Government's overarching strategy, *Scotland's Economic Strategy*<sup>16</sup>, highlights the role of circular economy opportunities in addressing both inclusive growth and competitiveness, helping to create a more resilient and rebalanced economy:

*"[W]e are creating conditions for a more circular economy that helps companies embrace new business models and manufacturing processes, and which transforms used products into assets that support industries like remanufacturing, reuse, product disassembly and reprocessing. Remanufacturing is transforming how parts and products are produced. In doing so, it helps industries minimise their use of*

<sup>11</sup> World Economic Forum (2014) *Towards the Circular Economy: Accelerating the scale-up across global supply chains*.

<sup>12</sup> Prepared in collaboration with Ellen MacArthur Foundation and McKinsey & Company

<sup>13</sup> See Chatham House (2012) *A Global Redesign? Shaping the Circular Economy*

<sup>14</sup> <https://agenda.weforum.org/2015/01/collaboration-drives-circular-economy/>

<sup>15</sup> UN Global Compact (2013) *Accenture CEO Survey*

<sup>16</sup> Ellen MacArthur Foundation (2015) *Delivering the circular economy: A toolkit for policymakers*

<sup>16</sup> Scottish Government (2015) *Scotland's Economic Strategy*

*raw materials, while reducing energy and water use. Sectors as diverse as aerospace, energy, automotive, IT and medical equipment industries are already benefiting from this transformation". (p46)*

This policy stance represents a significant development on Scotland's Zero Waste policies and re-positions the circular economy as a means to stimulate sustainable economic growth as much as to manage environmental resources. Following its *Making Things Last*<sup>17</sup> consultation, the Scottish Government intends to publish its circular economy programme by late 2015 to provide strategic direction and policy certainty to help unlock economic and business opportunities for Scotland.

#### **IV What are the benefits of a shift to a more circular Scottish economy?**

In broad terms, the circular economy offers a wide range of benefits to the economy and to individual businesses and their supply chains. These include:

- Increased productivity and competitiveness: eliminating wasted materials and maximising the value of products and materials;
- Stimulating product and supply chain innovation: working across supply chains to re-design products for a lifetime of disassembly and re-use;
- Stronger customer relationships: developing processes to enable product maintenance and refurbishment rather than disposal, and collaborative use rather than product ownership;
- Greater resilience: to supply constraints and price spikes in relation to finite raw materials such as copper and indium; and
- Job creation: moving value-creation from product manufacture 'downstream' to servicing, customer co-creation and material re-use and recovery.

As governments focus on promoting the circular economy the evidence base is strengthening. Influential research by McKinsey<sup>18</sup> for the Ellen MacArthur Foundation suggests transformative economic impacts for the EU economy. Its analysis of selected manufacturing and fast-moving consumer goods (FMCG) sub-sectors indicates significant cost savings and productivity gains as well as increased land productivity and job creation:

- material cost savings of £220bn - £410bn per annum in relation to the manufacture of complex durables with medium lifespans (e.g. motor vehicles, electrical machinery and furniture). This is equivalent to 14% to 23% of total input costs in the EU for the eight manufacturing sub-sectors studied;
- savings of up to 20% on material inputs (up to £450bn) for the fast-moving consumer goods (FMCG)<sup>19</sup> sector. This relates to ten consumer goods categories including clothing, food, beverages and consumer health, which account for 35% of material inputs to the economy,

<sup>17</sup> Scottish Government (2015) *Making things last – Consultation on creating a more circular economy in Scotland*

<sup>18</sup> Ellen MacArthur Foundation (2012) [Towards the circular economy – economic and business rationale for an accelerated transition](#)

<sup>19</sup> Ellen MacArthur Foundation (2013) [Towards the circular economy – opportunities for the consumer goods sector](#)



over 90% of agricultural output, 60% of total consumer spending and 75% of municipal waste; and

- increased biological resilience in terms of higher land productivity, less waste in the food value chain and the return of nutrients to the soil.

Further research by the Ellen MacArthur Foundation, in conjunction with Scottish Enterprise and Zero Waste Scotland<sup>20</sup>, applied this same methodology to similar manufacturing and consumer goods sub-sectors in Scotland and it identified proportionally similar cost savings:

- annual cost savings of £0.8bn -1.5bn (5-9% of turnover) for the manufacture of medium-life durables, resulting from the reduction of material inputs such as metals and plastics; and
- annual cost savings of £1.5bn from a reduction in materials used in the ten consumer goods categories.

The scale of anticipated impacts in Scotland compares favourably with similar studies in the Netherlands and Sweden:

- Over the next decade circular practices could grow the Netherlands' economy by an additional £5.35bn annually, creating 54,000 new jobs<sup>21</sup>. The current value of the circular economy in the Netherlands for 17 product categories from the metal and electrical sectors is estimated to be £2.43bn, growing by an additional £420mn each year.
- A Swedish case study by the Club of Rome<sup>22</sup> modelled the impacts of a combination of increased resource efficiency, the use of renewable energy and a shift to a materially-efficient circular and performance-based economy. It found that together, these measures could lead to an increase in employment of 100,000 (2-3% of the labour force), an improved trade balance of >3% of GDP and a 70% reduction in CO<sub>2</sub> emissions.

As well as the economic drivers for a more circular approach, there are also significant environmental benefits, ranging from lower greenhouse gas (GHG) emissions, less pressure on water resources, virgin materials and habitats, and reduced pollution.

These various studies all demonstrate that the circular economy could deliver significant employment, economic growth and environmental benefits at regional, national and supranational levels. However, the evidence base needs to develop further. In particular, the use of different methodologies and assumptions means that comparative analysis between study findings is currently difficult.

<sup>20</sup> Ellen MacArthur Foundation, Scottish Enterprise and Zero Waste Scotland (2013) *Scotland and the circular economy: A preliminary examination of the opportunities for a circular economy in Scotland*

<sup>21</sup> TNO (2013) *Opportunities for a circular economy in the Netherlands*

<sup>22</sup> Club of Rome (2015) *The circular economy and benefits for society: Swedish case study shows jobs and climate as clear winners*

## V Where are circular economy opportunities likely to be greatest?

Clearly the economic impacts of the circular economy will not be equal across all market sectors. In particular, the 2012<sup>23</sup> and 2013<sup>24</sup> McKinsey studies adopted a sectoral focus, assuming that impacts could be greatest for the manufacture of certain durables (i.e. technical materials) and selected fast-moving consumer goods (i.e. bio-materials).

**Figure 3: The RESOLVE framework<sup>25</sup>**

<b>REGENERATE</b>	<ul style="list-style-type: none"> <li>• Shift to renewable energy and materials</li> <li>• Reclaim, retain and restore health of ecosystems</li> <li>• Return recovered biological resources to the biosphere</li> </ul>
<b>SHARE</b>	<ul style="list-style-type: none"> <li>• Share assets (eg cars, rooms, appliances)</li> <li>• Reuse/second hand</li> <li>• Prolong life through maintenance, design for durability, upgradability etc.</li> </ul>
<b>OPTIMISE</b>	<ul style="list-style-type: none"> <li>• Increase the performance / efficiency of products</li> <li>• Remove waste in production and supply chains</li> <li>• Leverage big data, automation and remote sensing</li> </ul>
<b>LOOP</b>	<ul style="list-style-type: none"> <li>• Remanufacture products or components</li> <li>• Recycle materials</li> <li>• Digest anaerobically</li> <li>• Extract biochemicals from organic waste</li> </ul>
<b>VIRTUALISE</b>	<ul style="list-style-type: none"> <li>• Dematerialise directly (eg books, music, films, travel)</li> <li>• Dematerialise indirectly (eg online shopping)</li> </ul>
<b>EXCHANGE</b>	<ul style="list-style-type: none"> <li>• Replace old with advanced, renewable materials</li> <li>• Apply new technologies (eg 3D printing)</li> <li>• Choose new products/services (eg multimodal transport)</li> </ul>

<sup>23</sup> Ellen MacArthur Foundation (2012) [Towards the circular economy – economic and business rationale for an accelerated transition](#)

<sup>24</sup> Ellen MacArthur Foundation (2013) [Towards the circular economy – opportunities for the consumer goods sector](#)

<sup>25</sup> McKinsey Center for Business and Environment and Ellen MacArthur Foundation (2015) *Growth within: A circular economy vision for a competitive Europe*

The most recent 2015 McKinsey study<sup>26</sup> takes this a stage further and provides a helpful framework to analyse the kinds of business model and technological innovations that comprise the circular economy. The researchers used assumptions about technological and behavioural changes in the period to 2050 to understand where we might expect impacts to be greatest. The 'RESOLVE' framework in Figure 3 describes six broad areas of business opportunity, enabled by new technologies, behaviours and business models. All of them represent different ways in which the use of physical assets is increased, prolonging their life, and shifting resource use from finite to renewable sources.

McKinsey applied this framework to three areas of household expenditure, mobility, food and housing, which together account for 60% of average EU household spend and 80% of resource consumption. Informed by expert views on technologies to be available by 2020, they identified significant savings over the period to 2050: 60-80% for mobility, 25-40% for food and 25-35% for housing. They anticipate some of the greatest savings in the following areas:

- *Mobility*: the widespread adoption of car-sharing schemes and other business models that change demand patterns, the electrification of inter-modal transport systems and light-weighting of vehicles using materials such as aluminium and carbon fibre;
- *Food*: the application of ICT, automation and satellite systems to radically increase food productivity, reduce waste, increase yields and better match supply and demand; and
- *Built environment*: widespread adoption of new technologies including modular construction, 3D printing and smart energy management systems, and better space utilisation and space-sharing. Together, these innovations are expected to reduce building use costs and thereby increase demand.

## **VI Scottish case studies: the oil and gas and bio-economy sectors**

A closer look at the oil & gas and bio-economy sectors provides an insight into the specific opportunities and challenges for Scotland in shifting towards a more circular economy. These case studies are drawn from a joint evidence-gathering programme carried out in 2014-15 by The Scottish Government, the Enterprise Agencies, Zero Waste Scotland and SEPA. The research programme set out to identify the nature and scale of circular economy opportunities for Scotland. It focused on several industry sectors together with economy-wide opportunities such as design, regulatory change and public procurement.

### **(i) Oil and gas decommissioning**

Two key issues affecting Scotland's oil and gas industry include the sharp fall in the oil price since late 2014 and North Sea decommissioning, where between 2014 and 2023 around 400,000 tonnes of infrastructure will be removed for dismantling, recovery, recycling or disposal. Together, these two issues mean there is a strong focus on cost reduction and asset life extension, with total decommissioning spend alone forecast to reach £46bn in real terms by 2040 and average £1.8bn per annum until 2020.

<sup>26</sup> McKinsey Center for Business and Environment and Ellen MacArthur Foundation (2015) *Growth within: A circular economy vision for a competitive Europe*

Circular economy business and supply chain practices have the potential to add significantly to the end-of-life value of oil and gas assets deployed in Scottish waters. It is estimated that the recycling (scrap) value for the 'average' North Sea installation is around £173,000 but this could be increased by up to an additional £900,000 if all of the assets were reused. The returns are likely to be greatest where high-value equipment such as pumps, valves and cranes can be re-used and remanufactured. However, the majority of value and volume for remanufacturing will come from lower value steel structures and pipes.

As yet, re-use and remanufacturing are not mainstream practices in the context of decommissioning. Only a handful of small companies have spotted a market niche in buying higher-value assets able to be re-used, such as oil rig accommodation blocks for example. It is often more convenient for the large infrastructure owners to sell assets to specialist recyclers rather than seek buyers on the re-use market. Unfortunately, the vast majority of steel so far decommissioned has been lost to the Scottish economy, particularly given that there is no large-scale steel reprocessing plant north of the border and only small markets currently exist for reused and remanufactured products.

However, the focus on decommissioning by industry bodies such as Decom North Sea and Oil and Gas UK, supported by the Oil and Gas Innovation Centre, Energy Skills Taskforce and public sector partners, means that capturing the value of circular practices is now a growing priority. There is also stronger public support for remanufacturing more generally from the Scottish Manufacturing Advisory Service and the recently-established Scottish Institute for Remanufacture based at the University of Strathclyde, which offer company development and technical expertise respectively. Together these should help grow remanufacturing in the oil and gas industry as well as in the aerospace, rail and automotive sectors, where remanufacturing has been firmly established for many years<sup>27</sup>.

## **(ii) Bioeconomy**

In circular economy terms the bioeconomy refers to waste streams that have chemical or biological properties that can be reprocessed to produce base materials for new products or to substitute for conventional sources. Bio-based waste can often be converted ("upcycled") into higher-value materials to provide additional income streams for companies. Such higher-value materials include chemicals and biofuels; food ingredients such as protein, oils, carbohydrates and fibre; fibres for use in textiles, paper or similar uses; substrate or nutrient feed for new biological production (e.g. mushroom cultivation, algae/insect production for animal feed); construction materials; and sources of renewable heat and/or power.

Research focusing on the beer, whisky and fish sectors<sup>28</sup> suggests that an additional £0.5–£0.8bn annual turnover could be added by diverting waste streams to higher-value markets. Examples include processing whisky and brewing by-products into biofuels, chemicals and animal/fish feeds, and extracting proteins from fish wastes for use in human food supplements.

<sup>27</sup> *Scottish Government and partners (2015) Remanufacturing Study*

<sup>28</sup> *Scottish Government and partners (2015) Sector Study – Beer, Whisky and Fish*

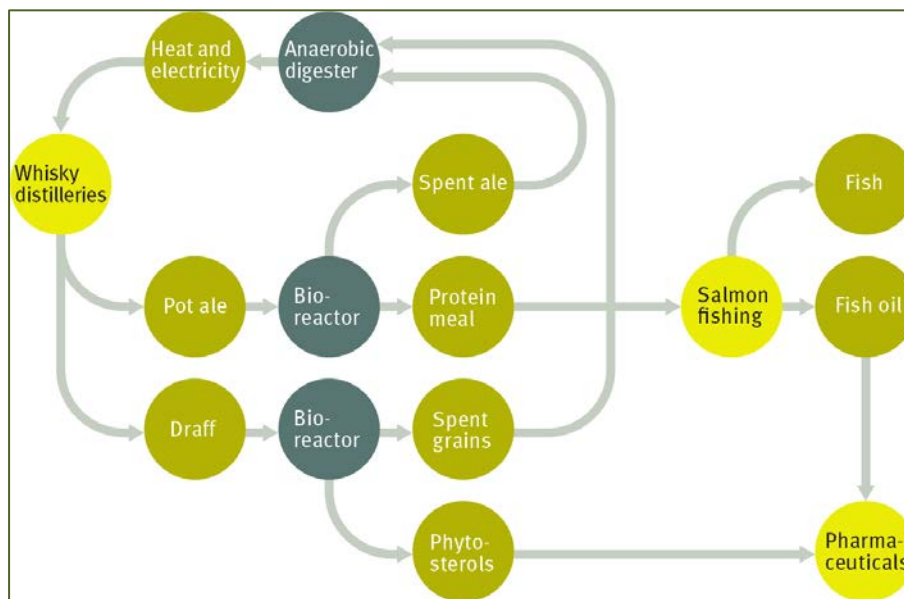
**Figure 4: Bio-based circular economy opportunities for Scotland<sup>29</sup>**

Figure 4 illustrates how distillery by-products – or ‘co-products’ – (e.g. pot ale and draff) can be converted using industrial biotechnology processes into a range of higher value materials including biofuels, proteins, heat and electricity. Importantly, this example also illustrates how waste outputs from one sector can provide an input into other sectors, strengthening collaboration between the primary, food and drink manufacturing and chemical science industries.

There are now around 50 core industrial biotechnology companies in Scotland<sup>30</sup> which, with 10 supply chain companies, generate turnover of over £200 million pa. By 2025 the sector aims to grow to over 80 companies, employing over 2,500 and generating over £900 million turnover pa. The European Commission also forecasts that the bio-based share of all chemical sales will rise from 12.3% to 22% between 2015 and 2020<sup>31</sup>. This is expected to be driven by a strong demand to substitute fossil-fuel sources for bio-based products including ‘second generation’ biofuels and ‘renewable chemicals’, produced from wastes/by-products rather than from crops.

Key challenges to securing such growth in the bioeconomy include the need to change existing practices to secure sufficiently high-volume, consistent and pure supplies of bio-feedstocks to make them economically viable. For example, much of Scotland's distillery co-products are already used by the agricultural industry as cattle feed and diverting these into higher value alternative uses such as high-value chemicals and biofuels could lead to additional costs for farmers to secure alternative feedstock.

Awareness of potential opportunities for creating value from current biological/chemical waste and/or low value products is now growing, supported by greater cross-sectoral collaboration. Recent initiatives,

<sup>29</sup> Green Alliance in partnership with the Scottish Council for Development and Industry (2015) *Circular Economy Scotland*

<sup>30</sup> Frontline Consultants (2015) *Economic Impact of Industrial Biotechnology in Scotland*

<sup>31</sup> [http://ec.europa.eu/growth/sectors/biotechnology/bio-based-products/index\\_en.htm](http://ec.europa.eu/growth/sectors/biotechnology/bio-based-products/index_en.htm)

particularly Scotland's industry-led National Plan for Industrial Biotechnology<sup>32</sup>, the Biorefinery Roadmap and the Industrial Biotechnology Innovation Centre, are driving technology development and innovation to address these opportunities.

## VII How should public policy implementation best address the opportunities?

As noted above, while circular business practices are already commonplace in certain sectors, patterns of adoption across the economy vary considerably owing to differing industry drivers, cost pressures and receptiveness to innovation. It is clear that Scotland – and other economies – are still at the early stages of a journey that will take many years.

The role of the public sector is to create an enabling policy framework, underpinned by a clear and consistent direction of travel that supports the necessary changes that are required to take place. Building on the *Zero Waste Plan* (2010) and *Safeguarding Scotland's Resources programme* (2013), the Scottish Government has now recognised the potential of the circular economy in *Scotland's Economic Strategy* (2015) as a wider policy goal that demonstrates benefits to business, communities as well as the environment.

The forthcoming consultation document on Scotland's circular economy programme includes a range of new proposals which form part of a long-term policy framework.

Design:

- support designers to design products for longer lifetimes, able to be disassembled, repaired and eventually recycled (since 80% of a product's environmental impact is effectively 'locked in' at the design stage);
- help companies to adopt new business models that allow them to retain ownership of valuable products and materials (eg product leasing, servicing and remanufacturing).

Reuse, repair and remanufacture:

- support more companies to adopt remanufacturing processes for defective and obsolete products;
- build acceptance of remanufactured products among consumers, and use public procurement processes to grow remanufacturing in Scotland;
- make it easier for consumers and businesses to repair damaged products by, for example, introducing a comprehensive repair-finding service and making technical manuals more easily available.

<sup>32</sup> *Chemical Sciences Scotland & Life Sciences Scotland (2015) National Plan for Biotechnology – Towards a cleaner, greener 2025*

#### Recycling (material recovery):

- improve recycling rates and ensure recycling services are more consistent across Scotland;
- improve the quality of recyclate (recovered recycled materials) by reducing levels of contamination in collection systems and attracting investment in materials reprocessing facilities.

#### Recovering value from biological resources:

- support company innovation and commercialisation to address technical barriers to the processing of bio-wastes into higher-value materials;
- develop better intelligence on material flows and stocks within and across sectors to support increased anaerobic digestion, composting and bio-refining.

Raising awareness of circular economy opportunities among companies and encouraging cross-sectoral collaboration are also taking place. One specific proposal is to develop a new *Scottish Circular Economy Network* to support greater collaboration and sharing of best practice. In addition, organisations such as Scotland's Innovation Centres, the Scottish Institute for Remanufacturing and the various Industry Leadership Groups of Scotland's key sectors also have important roles to play.

### **VIII The importance of building a robust evidence base**

An important step in establishing the circular economy as a policy priority and communicating its significance is to identify the scale and nature of the economic opportunities. To date, key issues relate to definitions, data availability/gaps and methodologies.

First, defining the circular economy is difficult and not easily captured by official statistics. It is a concept that relates to businesses, markets and sectors across the whole economy, and cannot be categorised within one particular 'sector'. In effect, we are interested in recording the uptake of circular business practices such as the 3 R's (reuse, repair and remanufacturing) or the adoption of particular business models. Research to date at the EU and Scottish level has had to reply on 'bottom up' perspectives by identifying existing examples and extrapolating their impacts at higher sectoral or national economy levels.

Second, there are opportunities to strengthen intelligence on flows of materials such as plastics, textiles and paper. It is vital to establish more reliable and better quality data (often held by companies) on the consumption and flows of these materials. The mandatory introduction of the electronic waste transfer documentation system ("edoc") now proposed by the Scottish Government will help in this regard.

Better intelligence will also help provide greater certainty for local authorities, the waste management sector and investors more generally, allowing them to make clearer decisions on alternative uses of such materials. The Scottish Materials Brokerage Service is now being established to better match materials supply and demand and create stronger markets for materials trading in Scotland. This should

enable a greater security of supply to meet the economies of scale needed to make reprocessing more commercially viable for many materials in Scotland.

A third weakness in the evidence base relates to the methodologies used to assess the scale and nature of the circular economy. In Scotland as elsewhere, more robust assumptions and standardised methodologies are required that can withstand scrutiny. On all of these issues highlighted there are significant opportunities for closer collaboration between public agencies and researchers in Scotland. In particular, public agencies are keen to help develop greater capacity among the research community to support the further development of a circular economy in Scotland.

## **XI Conclusions**

The vision of a circular economy in which nothing is wasted and everything is a resource is as exciting as it is challenging. In this vision, the economic system – or at least its material aspects – works more like an interconnected natural ecosystem that is geared towards maximum recovery of available resources, rather than a series of disconnected market places.

However, some may question the active promotion of such a policy approach by the Scottish Government, arguing that resource scarcity will lead to efficient adjustments of practices through market mechanisms, without the need for public sector intervention. This is a salutary “market failure” challenge and needs to be taken seriously by policy makers. However, the nature of the challenges outlined above (for example, engineering system-wide change and investing in long-term infrastructure needs) suggests that to make the circular economy a reality will require sustained supra-market co-ordination and a long-term public policy commitment by government that markets alone are not able or may not be willing to provide.

The evidence of the broad benefits of a circular approach is clear, both at a global and a Scottish scale. However, there is still a need for further, in-depth research on where the greatest opportunities lie and how they can best be realised in order to translate the vision into reality. Also required are more relevant statistics to track progress together with more consistent, economy-wide methodologies to be able to accurately assess the opportunities.

With its circular economy proposals, the Scottish Government is taking a big step towards realising its overarching Purpose of making economic growth truly sustainable. Though true circularity is not achievable in the short term, countries are able to learn from each other as their visions become reality. Given the interdependent strands of the circularity framework, success will depend on strong partnerships between Government, public sector partners and crucially, the private sector.



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# Improving lives in Scotland – a wellbeing approach

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## Abstract

This paper has been developed from a programme of work supported by the Scottish Universities Insight Institute, Scotland's Futures Forum and partners in 2014, which focused on wellbeing in Scotland. Such an approach takes a balanced look across social, economic and environmental dimensions to understand what influences the wellbeing of citizens and society at large and to assess its progress. The wellbeing of individuals and society is influenced by a wide range of factors that are interrelated and often self-reinforcing. A broad conclusion that can be drawn from a wellbeing perspective is that fairer, more inclusive societies tend to be happier, more prosperous and have better developed social capital and fewer social problems. Scotland is considered to be one of the leading countries in the world in measuring wellbeing, although there are a number of areas where this could be improved. While measurement plays an important role in assessing progress and focussing resources, it must be used carefully and a number of issues need to be taken into account. A wellbeing framework provides an opportunity to actively engage citizens, join up policy and practice and prevent the need for often costly remedial action. Actively engaging, enabling and empowering citizens will not only improve policy and practice and strengthen democracy it will also directly improve wellbeing.

## I Introduction and background

In 2014 the Scottish Universities Insight Institute (SUII)<sup>1</sup>, Scotland's Futures Forum and partners<sup>2</sup> supported a programme<sup>3</sup> aimed at better understanding, measuring and promoting wellbeing in Scotland, it sought to address three broad questions:

*What influences individual and societal wellbeing?*

*How best to measure wellbeing and what influences it to help shape and guide policy and practice? (and contribute to the development of the Scottish Government's National Performance Framework)*

<sup>1</sup> The Scottish Universities Insight Institute (SUII) is a joint venture between eight of Scotland's research intensive universities (Aberdeen, Dundee, Edinburgh, Glasgow School of Art, Heriot Watt, St Andrews, Stirling and Strathclyde). It supports multi-disciplinary, multi-institutional teams of researchers, to come together with policy makers, practitioners, end users and overseas experts, to share knowledge and ideas to address the challenges and opportunities faced by Scotland and the wider world.

<sup>2</sup> Carnegie UK Trust\*, Scottish Environmental Protection Agency\*, Scottish Enterprise\*, Scottish National Heritage\*, Scottish Parliament, Scottish Government, Audit Scotland, SCVO, Oxfam Scotland, Volunteer Scotland and the David Hume Institute. (\* co-funders)

<sup>3</sup> The programme comprised of six individual projects:

- Good lives and decent societies (GLADS) – Edinburgh & Strathclyde
- Home not housing – Dundee, Stirling & Edinburgh
- The path to wellbeing – Aberdeen & St Andrews
- Walking for wellbeing – Edinburgh & Strathclyde
- Flourish (wellbeing in 'invisible' communities) – GSA & Aberdeen
- The economics of wellbeing – Scottish Institute for Research in Economics (Stirling)

It involved 15 knowledge sharing events and workshops with over 500 participants, including a conference in the Scottish Parliament in November 2014.

More information on the programme and all the projects can be found here:

<http://www.scottishinsight.ac.uk/Programmes/Wellbeing2014.aspx>

*How best to promote and embed improved wellbeing?*

The work built on the growing international interest in this area including: the Scottish Government's work on child well-being<sup>4</sup>, the Carnegie UK Trust's 'Shifting the Dial in Scotland' report<sup>5</sup>, the Stiglitz, Sen and Fitoussi work on behalf of the French Government<sup>6</sup>, the Oxfam Humankind Index<sup>7</sup> (developed by the Fraser of Allander Institute), the OECD's Better Life initiative<sup>8</sup>, the Office for National Statistics<sup>9</sup>, the New Economics Foundation<sup>10</sup> and the Social Progress Imperative<sup>11</sup>.

This paper presents a synthesis of some of the main outputs from the SUII programme. These reflections are a summary of a significant body of work to which it is impossible to do justice. All responsibility for the content and interpretation rests with the authors.

## **II What is meant by 'wellbeing' and a 'wellbeing approach'?**

A focus on wellbeing has a long and evolving history. Over two hundred years ago David Hume wrote "The great end of all human industry is the attainment of happiness. For this were arts invented, sciences cultivated, laws ordained." Around one hundred years ago Andrew Carnegie gave his UK Trust the remit of the "improvement of the wellbeing of the masses of the people of Great Britain and Ireland". More recently Ian Marchant (outgoing chairman of Scotland's 2020 Climate Group<sup>12</sup>) described sustainable development as increasing wellbeing while reducing the resources used.

In essence a wellbeing approach takes a balanced and systemic look across social, economic and environmental dimensions to understand and assess what influences the quality of life of citizens and society at large in order that it might be improved.

The measurement of wellbeing can help to define the concept but done badly it can also distract, mislead or provide too narrow a focus on what constitutes wellbeing. One of the motivations driving the development of a wellbeing approach is to move beyond GDP as an all-encompassing measure of economic welfare. In some countries, for example, subjective surveys of happiness or life satisfaction have been developed, although they usually only form part of the picture alongside more objective dashboard of measures of social, environmental and economic progress. Interestingly in this context Sir John Sinclair (who coined the term 'statistics') felt one of the key roles for government was to assess the "quantum of happiness".

As can be seen from the brief historical references above, happiness is a term which best captures much of what is involved in describing wellbeing. This has been revived in a more modern context by the work of Richard Layard<sup>13</sup> and others. Yet this renewed focus on happiness is often misunderstood and

<sup>4</sup> <http://www.scotland.gov.uk/Topics/People/Young-People/gettingitright/well-being>

<sup>5</sup> <http://www.carnegieuktrust.org.uk/publications/2013/shifting-the-dial-in-scotland>

<sup>6</sup> <http://www.stiglitz-sen-fitoussi.fr/en/index.htm>

<sup>7</sup> <http://www.oxfam.org.uk/scotland/blog/2012/04/-/media/6A6B095DB10E432A88DEBCA5C9F0F365.ashx>

<sup>8</sup> <http://www.oecdbetterlifeindex.org/>

<sup>9</sup> <http://www.ons.gov.uk/ons/guide-method/user-guidance/well-being/index.html>

<sup>10</sup> <http://www.neweconomics.org/issues/entry/well-being>

<sup>11</sup> <http://www.socialprogressimperative.org/data>

<sup>12</sup> <http://www.2020climategroup.org.uk/>

<sup>13</sup> Richard Layard, "Happiness: Lessons from a new science" Penguin (2<sup>nd</sup> edition 2011)

its aims underestimated. It is not just about the pursuit of our 'favourite things', as Paul Dolan puts it in a recent book<sup>14</sup> "The pursuit of happiness is a ... noble and very serious objective".

### **(i) Individual wellbeing**

For individuals, Dolan sees happiness as a combination of pleasure and purpose, which together shape the quality of experience. Attempts to capture how happy individuals are tend to use surveys of both hedonic wellbeing (with questions such as how happy were you yesterday) and overall life satisfaction (on a scale of one to ten how would you evaluate your life)<sup>15</sup>.

Happiness may appear a simple concept yet the influences on it are many and complex. We are discovering ever more about thinking processes and the relationship between conscious and unconscious thoughts - psychologists and behavioural economists are continuing to explore the many unconscious biases that influence our understanding and decision making<sup>16</sup>, which will also have an impact on how happy we feel. Linked to this is the degree of objectivity we used to assess a situation and the relationship between perception and reality. For example recent polling data suggests that across a number of different countries citizens consistently overestimate the level of social and economic problems that exist - sometimes by a wide margin<sup>17</sup>. For example, unemployment is felt to be around three times higher than it actually is in many places - given the impact that unemployment has on wellbeing (see below) this is bound to feed through into assessments of happiness.

Age also appears to be a factor - happiness appears to be U-shaped with age<sup>18</sup>; we start off reasonably happy (full of expectations perhaps) then as we move towards our fifties we become less happy (as ambitions are dashed and the cares of the world grow?) and as we grow older our happiness increases.

### **(ii) Societal wellbeing**

Human evolution has been strongly influenced by our ability to co-operate in societies<sup>19</sup> and we have developed cultures, norms and moralities to support this<sup>20</sup>. Such co-operative behaviour has tended to develop in relatively small groups and a key contemporary challenge is to co-operate more widely to tackle issues that have a global reach<sup>21</sup>.

At a societal level happiness can be contagious and provide a context for individual happiness. Giving seems to be important in this respect, it can increase the wellbeing of the giver and receiver and thus an overall culture of generosity can influence society at large through building trust. There appear to be links between levels of inequality and happiness and the impact that this can have on a sense of trust

<sup>14</sup> Paul Dolan, "Happiness by design", Allen Lane 2014

<sup>15</sup> World Happiness Report (2013) [http://unsdsn.org/wp-content/uploads/2014/02/WorldHappinessReport2013\\_online.pdf](http://unsdsn.org/wp-content/uploads/2014/02/WorldHappinessReport2013_online.pdf)

<sup>16</sup> For example, Daniel Kahneman "Thinking Fast and Slow", Penguin (2012), Dan Ariely, "Predictably Irrational: The Hidden Forces that Shape Our Decisions", Harper Collins (2009)

<sup>17</sup> Ipsos MORI, "Perceptions are not reality: Things the world gets wrong" (2014) <https://www.ipsos-mori.com/researchpublications/researcharchive/3466/Perceptions-are-not-reality-10-things-the-world-gets-wrong.aspx>

<sup>18</sup> The Economist, "Why, beyond middle age, people get happier as they get older", (Dec 16th 2010) <http://www.economist.com/node/17722567>

<sup>19</sup> Martin Nowak, "Super Co-operators – Evolution, altruism and human behaviour", Cannongate (2011)

<sup>20</sup> Mark Pagel, "Wired for Culture – The natural history of human co-operation", Allen Lane (2012) and Joshua Greene, "Moral Tribes – Emotion, reason and the gap between us and them", Atlantic Books (2013)

<sup>21</sup> Clive Gamble, John Gowlett and Robin Dunbar, "Thinking Big – How the evolution of social life shaped the human mind", Thames and Hudson (2014)

between individuals and groups in society. Equality as to the importance of individuals is therefore crucial. This was recognised by Adam Smith over two centuries ago: “In what constitutes the real happiness of human life, [the poor] are in no respect inferior to those who would seem so much above them.”<sup>22</sup>

Fairer societies tend to be happier, more at ease/settled, with lower crime and better health<sup>23</sup>. Societies that have developed more inclusive political and economic institutions also tend to be the most innovative, productive and prosperous, in contrast to those in which a small elite focus on extracting value in the short term<sup>24</sup>. Aggregate demand tends to be higher in societies where income is more equitably distributed, given the higher propensity to consume of those with lower incomes.<sup>25</sup> The development of social capital has been identified as an important contributor to growing prosperity through, for example, the role it can play in facilitating innovation and the development of trade - as highlighted recently by the Bank of England's Chief Economist<sup>26</sup>. Work by Caesar Hidalgo<sup>27</sup> suggests that societies with stronger social capital are better able to develop the breadth and depth of networks that are more likely to enable the development of sophisticated information based economies. Macro level analysis by the OECD<sup>28</sup> and IMF<sup>29</sup> shows that widening inequality has a detrimental impact on the level and durability of economic development.

### III What influences wellbeing?

The factors that influence and shape the wellbeing of individuals and society at large are complex and multi-faceted. As Carrie Exton of the OECD put it in one of the SUII GLADS seminars<sup>30</sup>, “We have a list of ingredients for wellbeing, but no one set recipe”. There have been many attempts at modelling wellbeing, a number of which were explored in Neil Thin's GLADS presentation<sup>31</sup>. A feature of each of them is the strong interrelationship of the various individual elements.

The elements that influence wellbeing can be summarised under ‘People, Participation and Place’.

- People
  - *Agency* - influence and control over one's life
  - *Purpose* – a sense of direction and meaning
  - *Resources* – sufficient income and wealth to have a reasonable quality of life without undue worry and uncertainty
  - *Health* – physical and mental

<sup>22</sup> “The Theory of Moral Sentiments” (1759)

<sup>23</sup> Richard Wilkinson and Kate Pickett, “The Spirit Level: Why Equality is Better for Everyone”, Penguin (2009)

<sup>24</sup> Daron Acemoglu and James Robinson, “Why Nations Fail – The origins of power, prosperity and poverty”, Profile (2012)

<sup>25</sup> Joseph Stiglitz, “The price of inequality”, Allen Lane (2012)

<sup>26</sup> Andrew Haldane, “Growing fast and slow” (February 2015)

<http://www.bankofengland.co.uk/publications/Documents/speeches/2015/speech797.pdf>

<sup>27</sup> Caesar Hidalgo, “Why Information Grows: The Evolution of Order, from Atoms to Economies” Basic Books (2015)

<sup>28</sup> OECD (2014), “Trends in Income Inequality and its Impact on Economic Growth”, OECD

Social, Employment and Migration Working Papers No. 163, available at:

<http://www.oecd.org/els/soc/trends-in-income-inequality-and-its-impact-on-economic-growth-SEM-WP163.pdf>

<sup>29</sup> <http://www.imf.org/external/pubs/ft/sdn/2014/sdn1402.pdf>

<sup>30</sup> <http://www.scottishinsight.ac.uk/Portals/50/GLADS/GLADS%2025%20February%202014.pdf>

<sup>31</sup> <http://www.scottishinsight.ac.uk/Programmes/Wellbeing2014/GLADSGoodLivesAndDecentSocieties.aspx> For example Wellbeing and Poverty Pathways Briefing No. 1 - An Integrated Model For Assessing Wellbeing [http://www.welldev.org.uk/wed-new/news/briefing\\_1\\_small.pdf](http://www.welldev.org.uk/wed-new/news/briefing_1_small.pdf)

- *Skills/Knowledge* – to benefit from and contribute to the economy and society
- *Sustenance* – physical, cultural and spiritual
- Participation
  - *Community* – being part of a wider group, recognition
  - *Engagement/Voice* – being involved and being listened to
  - *Access* – physical and virtual
  - *Employment* – making a contribution, providing resources and status
  - *Connections* – family, friends and beyond
  - *Giving* – putting something back
- Place
  - *Safety and shelter* – home and neighbourhood
  - *Environment-natural/built* – quality of environment and physical space and accessibility
  - *Fairness* – to help build trust and community
  - *Freedom* – to express oneself and take part without fear or favour
  - *Culture* – the underlying set of social norms which guide and constrain action e.g. low levels of corruption

This is by no means an exhaustive list but it provides a flavour of some of the key elements that have been identified.

The importance of income has been subject to much discussion since the ‘Easterlin Paradox’ was first identified in the mid 1970’s<sup>32</sup>. The paradox in question is that while happiness increases in line with income at lower levels of income, as income rises beyond a certain point happiness levels off and in higher income countries happiness has not increased much in recent years despite significant increases in income. More recent work<sup>33</sup> suggests that the relationship between happiness and income is log-linear suggesting that there is a relationship but it is between increases in income and happiness. It appears that there is a closer relationship between life satisfaction and income than between hedonic measures of happiness and income<sup>34</sup>. We also seem to adapt quite quickly to increases in income and accept them as the norm and develop new wants that need to be satisfied to maintain levels of happiness. Relative income is also a factor in influencing happiness.

A further interesting aspect of the relationship between income and wellbeing is the discovery that losses in income (or anticipated income) appear to have a disproportionate impact on wellbeing

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<sup>32</sup> Richard Easterlin “Does Economic Growth Improve the Human Lot? Some Empirical Evidence”. In Paul A. David and Melvin W. Reder, eds., *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz*, New York: Academic Press (1974)

<sup>33</sup> Betsy Stevenson, and Justin Wolfers “[Economic Growth and Subjective Well-Being: Reassessing the Easterlin Paradox](#)”. *Brookings Papers on Economic Activity* (2008)

<sup>34</sup> Daniel Kahneman and Angus Deaton “High income improves evaluation of life but not emotional wellbeing” *PNAS* (September 2010) <http://www.pnas.org/content/107/38/16489>



compared to gains<sup>35</sup>. This would be consistent with the concept of loss aversion whereby people will generally put greater store on avoiding loss than achieving gains<sup>36</sup>.

Unemployment appears to have a significant impact on happiness on a par with bereavement or separation. Unemployment has been shown to have a more significant impact than other macro-economic factors and “estimates with European data imply that a one percentage point increase in the unemployment rate lowers well-being by more than five times as much as a one percentage point increase in the inflation rate”<sup>37</sup>. It also appears that unemployment is not something that we adapt to; as Carol Graham points out “...while people can experience all sorts of negative events...and adapt back to their equilibrium levels of well-being...long term unemployment is one of the few things that individuals do not adapt back from.”<sup>38</sup> Perhaps not surprisingly, under-employment and uncertainty over employment also have a very negative impact.

Increasing attention is also being given to promoting what are termed ‘good jobs’, which in addition to good terms and conditions also provide training and development and allow scope for greater initiative and control by employees<sup>39</sup>. Not only does this increase employee wellbeing it also improves productivity and company performance<sup>40</sup>. The value of good quality jobs can also be linked to the growing interest in employee-owned businesses in increasing employee wellbeing and company performance, while at the same time strengthening democracy<sup>41</sup>.

The wellbeing of a society is more than the sum of its individual parts, be they individuals, firms, communities or localities. There is a complex web of relationships that influence societal wellbeing from the external costs and benefits of private action to the positive or negative cumulative cycles that can shape the progress of an area or group of people, as identified by Gunnar Myrdal in the 1950’s<sup>42</sup>.

A team at the University of Aberdeen involved in the SUII ‘Path to Wellbeing’ project have developed a “social quality” framework to analyse the happiness of a society<sup>43</sup>. This framework looks at four components:

- socio-economic security (social investment /“social wage”)
- social cohesion (social ties /belonging /common good /trust)
- social inclusion (participation /volunteering)
- social empowerment (control /agency /voice)

<sup>35</sup> Christopher Boyce et al “Money, Well-Being, and Loss Aversion - Does an Income Loss Have a Greater Effect on Well-Being Than an Equivalent Income Gain?” (2013) <http://pss.sagepub.com/content/24/12/2557>

<sup>36</sup> Kahneman, D. and Tversky, A “Choices, Values, and Frames” (1984)

<sup>37</sup> David Blanchflower, David Bell et al “The happiness tradeoff between unemployment and inflation” (2014) [http://www.dartmouth.edu/~blanchflr/papers/jcmb\\_version\\_inflation\\_unemployment\\_%20BBMM.pdf](http://www.dartmouth.edu/~blanchflr/papers/jcmb_version_inflation_unemployment_%20BBMM.pdf)

<sup>38</sup> Carol Graham “Comments on The effects of macro-economic shocks on wellbeing” (2013)

<http://www.brookings.edu/research/speeches/2013/04/12-effects-macroeconomic-well-being-graham>

<sup>39</sup> The Scottish Government has recently set up a Fair Work Convention tasked with promoting a fairer work place <http://news.scotland.gov.uk/News/Scotland-a-fair-work-nation-1851.aspx>

<sup>40</sup> Zeynep Ton “The Good Jobs Strategy” (2014)

<http://cdn.executive.mit.edu/00/000147a915d7fdabc7f93519980000/file/ton-webinarthe-good-jobs-strategy-v7pdf>

<sup>41</sup> This was the subject of an earlier SUII programme

<http://www.scottishinsight.ac.uk/Programmes/Programmes20122013/StrengtheningDemocracy.aspx>. See also David Erdal “Beyond the Corporation”, Bodley Head (2011)

<sup>42</sup> Gunnar Myrdal “Economic Theory and Underdeveloped Regions” Duckworth (1957)

<sup>43</sup> Claire Wallace, “Beyond GDP: happiness is about more than just individuals”, The Conversation (November 2014) <http://theconversation.com/beyond-gdp-happiness-is-about-more-than-just-individuals-33768>



A key feature of healthy and happy societies appears to be the importance of dialogue between different interests, communities etc. To be effective this dialogue must be: inclusive, empathetic, empowering, creative, systemic, multi-generational and focus on the potential of communities.

'Place' often provides the stage where the interrelated influences on wellbeing are played out. As Patrick Geddes put it "a city is more than a place in space, it is a drama in time"<sup>44</sup>. This can be very localised in the home itself, which is generally seen to have a positive influence on wellbeing providing physical shelter, safety and emotional, loving, personal, collective and inter-generational space. The nature of home is also evolving, for example, for some it is also increasingly a place for work. While generally positive in some cases the home can also be a place of torment, which can damage wellbeing. On a wider spatial dimension the neighbourhood can have a profound impact on wellbeing, both negative and positive. It can provide opportunities to make connections and build community, but it can also be a source of fear and disempowerment. One obvious counterweight to this is through the active enablement and engagement of communities in designing and improving housing and their local area.<sup>45</sup>

The wider environment also has a significant influence on wellbeing. For example access to urban greenspace can help improve both physical and mental health by reducing stress and associated damaging cortisol levels<sup>46</sup>. In addition, it also provides the opportunity for increasing social engagement. While not having as big an impact as some other influences it is still significant (10% of the impact of employment). Similar impacts have been found for access to water.<sup>47</sup>

A good physical environment can also help encourage increased physical activity. The increased wellbeing that comes about through increased physical activity in a good environment highlights the importance of considering wider synergies in promoting wellbeing<sup>48</sup>. For example not only can walking and cycling have a direct impact on wellbeing, they can also have an indirect impact via lower carbon emissions and an improved environment, better physical and mental health with lower remedial costs, less sick-leave, higher productivity/incomes, increased tax revenues, greater public investment and so on.<sup>49</sup>

#### IV How can wellbeing best be assessed?

Measurement can help policy makers to better understand what influences wellbeing and the progress that can be made. However given that the influences on individual and societal wellbeing are – as noted above - multi-faceted, complex and interrelated, so too is its measurement. Indeed a key feature of any measurement framework is the need to capture something that is more than the sum of its component parts. There is also a danger that overly focussing on what can be "measured" might distract attention

<sup>44</sup> Patrick Geddes "Civics: as applied sociology" Sociological Papers (1905)

<sup>45</sup> "Home not housing" Final report (2014)

<http://www.scottishinsight.ac.uk/Portals/50/Home%20not%20Housing/Home%20not%20Housing%20Final%20Report.pdf>

<sup>46</sup> Catharine Ward Thompson, "The role of access outdoors for mental health" (2014)

<http://www.scottishinsight.ac.uk/Portals/50/GLADS/CWT%20GLADS%20Seminar%2014%20May.pdf>

<sup>47</sup> Mathew White, "Longitudinal effects of moving to greener urban areas", "Does living by the coast improve health and wellbeing?" <http://www.ecehh.org/people/dr-mathew-white/>

<sup>48</sup> <http://www.theguardian.com/cities/2015/jun/09/cities-physically-active-residents-more-productive-healthier-walking-cycling-economic-benefits>

<sup>49</sup> Rona Gibb "Let's Get Scotland Walking", presentation to Walking for Wellbeing Project

<http://www.scottishinsight.ac.uk/Portals/50/ias%20documents/Walking%20for%20Wellbeing/NWS%20-%20Walking%20for%20Wellbeing%20-%20June%202014.pdf>

from the underlying purpose of adopting a wellbeing framework. As Joseph Stiglitz has remarked “Our metrics will never be a substitute for public dialogue and thinking about what constitutes a good society.”<sup>50</sup>

It is now widely accepted that the assessment of a society’s progress goes beyond the measurement of economic performance and in particular the growth in GDP<sup>51</sup>. At a global level this has been reflected in the UN’s work on sustainable development goals<sup>52</sup>. Many countries and regions are also developing processes to measure progress on a broader front<sup>53</sup>. Analysis of different approaches such as that carried out by the Carnegie UK Trust<sup>54</sup> have identified a number of domains (such as income, employment, housing, health, work-life balance, social connections, civic engagement, environment, security, subjective wellbeing) that are used in many approaches. Trying to take a holistic view is also a common feature. One conclusion that can be drawn is that there is no simple answer as to how it should be done, but it’s generally recognised that Scotland through its Government<sup>55</sup> and NGOs<sup>56</sup> is one of the world leaders in the field.

During the course of the SUIL programme a number of issues were identified that need to be considered in developing a wellbeing measurement framework. These can be summarised as follows:

*How to effectively engage citizens in the development and monitoring of measures?* As the OECD’s Istanbul directive puts it “We need to encourage communities to consider for themselves what progress means in the 21<sup>st</sup> century”<sup>57</sup>. (Oxfam used a survey of around 3000 people to identify priorities in the development of its “Humankind Index”)

*How can the qualitative ‘spirit of wellbeing’ best be captured?* Is there a role for ‘stories’ to add colour to more objective measures?

*What’s the right balance between surveys of subjective wellbeing and objective measures of what influences wellbeing?* What should be the balance between perception and reality?

*How can synergies between different domains best be captured?*

*Are dashboards of indicators a better approach than the construction of a single index?* Dashboards can be complex but can capture nuances. Whereas an index is more straightforward (with the replacement of GDP seen by some as a ‘holy grail’) but the weighting of domains and indicators can be complex and hinder transparency.

*The availability of data sometimes means that proxy measures have to be used, this can sometimes obscure a focus on the desired outcome.*

<sup>50</sup> Keynote address, 4th OECD World Forum, New Delhi (2012) <http://www.oecd.org/site/worldforumindia/OECD-World-Forum-2012-India-proceedings.pdf>

<sup>51</sup> Enrico Giovannini, “Measuring and Fostering Well-being” Presentation in Scottish Parliament (January 2015) <http://www.scottishinsight.ac.uk/Portals/50/ias%20documents/Wellbeing/wellbeing-edimburgo.pdf>

<sup>52</sup> <https://sustainabledevelopment.un.org/sdgsproposal>

<sup>53</sup> For example the Canadian Index of Wellbeing <https://uwaterloo.ca/canadian-index-wellbeing/>

<sup>54</sup> “Shifting the dial in Scotland” (2013) <http://www.carnegieuktrust.org.uk/getattachment/ad9d0fe0-b76f-49b2-b2af-7455dd912b02/Shifting-the-Dial-in-Scotland.aspx>

<sup>55</sup> <http://www.gov.scot/About/Performance/scotPerforms>

<sup>56</sup> <http://policy-practice.oxfam.org.uk/our-work/poverty-in-the-uk/humankind-index>

<sup>57</sup> <http://www.oecd.org/newsroom/38883774.pdf>

One of the aims of the SUII programme was to make an input to the development of the Scottish Government's National Performance Framework (NPF). During the course of the programme a number of suggestions for development of the NPF were made and they are summarised below:

*Reframe the overall purpose statement to provide a more explicit wellbeing focus*

*Give greater emphasis within the NPF to:*

- *measures of distribution,*
  - income & wealth, health, inter-regional, inter-generational
- *measures that focus on a place's assets (as well as deficits)*
- *measuring progress over the life course*
- *unemployment (particularly long term and youth)*
- *qualitative assessment*
  - social quality/quality of relationships
  - home/neighbourhood quality
  - quality/flexibility of work
- *volunteering*
- *access to the natural environment*
- *ethical business practices (e.g. good employment practice)*

It was recognised that it is all too easy to keep on adding measures and there is a danger that the exercise could become too complex and confusing. It was therefore suggested that thought should be given to a 'one in, one out' approach although it was accepted this could also have the problem of appearing to downgrade certain existing NPF 'outcomes'.

During the course of the SUII programme, volunteering was used as a case study for indicator development. Volunteering is a powerful tool for change and brings wellbeing benefits both to those who receive and those who give. It has been estimated by Volunteer Scotland that the economic value of volunteering in Scotland is over £2.6 billion<sup>58</sup>. Volunteering can be both formal (via organisations etc.) and informal (in local communities etc.), it is proposed that both are captured in the NPF. The suggested measures are:

**Formal:** % of adults providing unpaid help to an organisation or group in the last 12 months - baseline 29.4 (2012) – Scottish Household Survey

**Informal:** % of adults providing unpaid help to an individual who was not a relative - baseline 42% (2013) – one off Volunteer Scotland survey (need for regular addition to SHS)

## V Embedding and promoting wellbeing

Using a wellbeing framework to guide policy and practice has a number of important benefits, including:

<sup>58</sup> <http://www.volunteerscotland.net/policy-and-research/resources/assigning-economic-value-to-volunteering/>

*Enabling citizens to actively engage in policy and practice development and evaluation;*

*Providing a focus for assessing and evaluating strategic direction, budgets and specific policies and improving accountability.* This could be in a parliamentary context or it could be more widely in the development of a participatory democracy (e.g. the Oxfam policy assessment tool)<sup>59</sup>

*Supporting policy makers and practitioners* (for example it could play an important role in implementing the recommendations of the Christie Commission<sup>60</sup>). In particular it helps to:

- Stimulate dialogue and engagement
- Identify gaps and pose questions
- Focus on prevention
- Join up action

In addition to focussing attention on those things that were identified as influencing wellbeing in as systematic a way as possible, the one overriding conclusion to emerge from all of the projects in the programme was the importance of actively enabling, empowering and engaging citizens to be more actively involved in setting direction, deciding priorities, developing policies, identifying measures and monitoring progress. This will involve moving away from the more traditional approach of deciding, designing and delivery towards what the Carnegie UK Trust calls an “Enabling State”<sup>61</sup>. As the OECD puts it “Placing people’s lives — their needs, their ambitions and their feelings — at the centre of development policy should be the fundamental goal.”<sup>62</sup>

This will have a double benefit - it will directly enhance wellbeing by making people feel more in control of their own destiny and at the same time it will improve policy and practice by making it more relevant to people’s needs. A recent poll conducted on behalf of the Carnegie UK Trust suggests that there is demand to get more involved<sup>63</sup>. This expressed desire could also be used to develop a stronger more participatory democracy and build on the energy generated, for example, by the recent Scottish referendum campaign.

“The referendum itself was ... acclaimed internationally for the high standard of democratic debate and engagement. It has resulted in the people of Scotland now being more engaged and committed to seeing our country change and grow than at any time. All of us have a duty to harness and encourage that sense of democratic participation – as First Minister I intend to lead by example.”<sup>64</sup>

What’s more there is growing willingness and ability in Scotland in the public, private, third and academic sectors to help enable, empower and embed such an approach<sup>65</sup>.

<sup>59</sup> <http://policytool.humankindindex.org/>

<sup>60</sup> Report on the Future Delivery of Public Services by the Commission (2011)

<http://www.gov.scot/Resource/Doc/352649/0118638.pdf>

<sup>61</sup> <http://www.carnegieuktrust.org.uk/changing-minds/people---place/enabling-state>

<sup>62</sup> Report of 4th OECD World Forum, New Delhi (2012) <http://www.oecd.org/site/worldforumindia/OECD-World-Forum-2012-India-proceedings.pdf>

<sup>63</sup> <http://www.carnegieuktrust.org.uk/news---events/latest/greater-power-for-communities-is-a-general-election>

<sup>64</sup> Scottish Government, “One Scotland – The Government’s Programme for 2014-15” (2014)

<http://www.gov.scot/Resource/0046/00464455.pdf>

<sup>65</sup> As exemplified by the Flourish

[http://www.scottishinsight.ac.uk/Portals/50/ias%20documents/Reports/Flourish\\_Final%20Report.pdf](http://www.scottishinsight.ac.uk/Portals/50/ias%20documents/Reports/Flourish_Final%20Report.pdf) and Path to Wellbeing <http://www.abdn.ac.uk/engage/public/wellbeing-323.php> projects

## VI Conclusions

A wellbeing approach takes a balanced and broad-based approach to understanding, assessing and improving the lives of citizens. The influences on wellbeing at an individual and societal level are many and varied, both tangible and intangible, with the whole often being more than the sum of the parts as different influences interact with each other generating virtuous or vicious cycles of development. A broad conclusion that can be drawn from much of the work relating to wellbeing is that fairer societies tend to be happier, have fewer social problems and are more likely to generate positive self-reinforcement that increases trust, improves cooperation, increases prosperity and reduces remedial social spending.

Measurement can help to increase understanding, assess progress and focus resources, but it must be used carefully. A number of approaches have been adopted worldwide, many with shared domains and interests. Both indexes and dashboards of measures have been used, each with their own pros and cons. While Scotland is considered one of the leading countries in the world in measuring wellbeing, a number of opportunities have been identified to further develop a wellbeing perspective within the National Performance Framework, for example in the use of distributional measures and more qualitative indicators.

The utility of a wellbeing approach to policy making and practice is that it offers a way to actively engage citizens, help join up actions and identify opportunities for often cost-effective preventive investment. The active engagement, enabling and empowerment of citizens increases the likelihood of positive policy and practice outcomes and helps strengthen democracy. It also helps improve wellbeing in itself by giving citizens a greater sense of agency over their lives.

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