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The Scottish economy

Economic perspectives*

Policy section

**Opinions expressed in the policy section and economic perspectives are those of the authors and not necessarily those of the Fraser of Allander Institute*

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Announcement: digitisation of historical issues of the Fraser Economic Commentary

The Fraser of Allander Economic Commentary (formerly known as the Quarterly Economic Commentary) has been published digitally since 2001. The Commentary, however, has an archive stretching back to 1975 and, unlike many journals today, much of this archive still remains in hardcopy only, thereby restricting its accessibility over the Internet.

In 2015 the Commentary will celebrate its 40th year of publication. To celebrate this milestone it is the intention of the Fraser of Allander Institute that all historic issues of the Commentary be digitised and made accessible via the Institute's website and an associated digital repository. These digitised articles will form an important part of the anniversary celebrations whilst simultaneously widening public access to a significant scholarly resource.

Those who have contributed articles to the Commentary over the years may be notified directly about this digitisation activity over coming months; however, owing to difficulties sourcing contact details for historical authors, it may not be possible to contact everyone. If you have not been contacted and are the author of an article(s) that you do not wish to be included in this digitisation activity, please contact openaccesspublications@strath.ac.uk with details of the article(s) in question. To ensure that digitisation can be completed by the anniversary date we would request that all such articles are registered at the above noted email address by Friday 29th August 2014. The Fraser of Allander Institute would also like to take this opportunity to apologise in advance to those authors whom we have been unable to notify and whose work is subsequently digitised.

General queries concerning the planned digitisation work can also be directed to openaccesspublications@strath.ac.uk.

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The Scottish economy

1 Outlook and appraisal

Brian Ashcroft, Economics Editor, Fraser of Allander Institute

Overview

The Scottish and UK economies are now recovering at a reasonable rate from the greatest economic shock since the 1930s. This recovery has taken longer than from the 1930s Depression or any of the three other recessions experienced since the 1970s. The UK Coalition Government's austerity programme slowed the recovery considerably until the pace of fiscal consolidation was paused in 2012 and then slowed thereafter. Recovery picked up in 2013 as the pace of austerity slowed after the UK posted the slowest recovery from the global recession of any advanced country, with the exception of Italy and Greece. The recovery has taken hold as consumers raised their spending and investment picked up.

The jobs market and unemployment recovered more strongly than output, resulting in falling labour productivity and hence little improvement in real wages and real household incomes. The recovery in the labour market has been biased in favour of part-time employment, self-employment and temporary employment. Full-time employment still remains more than -4% below its pre-recession peak and the total numbers of hours worked is still lower in Scotland than before the recession, although that is not the case in the UK. With a growing working age population the growth in jobs has not managed to absorb the increasing labour supply and so Scotland's employment to working population ratio is more than -2% below pre-recession levels, whereas in the UK it is slightly above the pre-recession peak. The implication is that despite better headline unemployment figures in Scotland, there is still more 'slack' in the Scottish labour market than in the UK and so despite jobs growth there is little upward pressure on wages.

We ask: will the recovery continue? We identify several positive and negative influences that will impact on the pace of the recovery. We examine them under four headings: growth in markets; oil prices, inflation and deflation; UK fiscal and monetary policy; and Greece and the Eurozone.

Growth in markets

The key points here are that despite the steady growth in world trade the latest IMF and OECD forecasts suggest a slowing in key countries and Scotland's key export markets. The composition of Scottish and UK growth also continues to be unbalanced with household spending driving growth, and fixed investment making a variable contribution. There is little evidence of the attainment of the UK Government's objective of a rebalancing away from domestic spending on consumption. Consumption or household spending continues to be the principal driver of UK growth. And, as we have stressed in recent Commentaries, household spending is being fuelled by rising debt, which is almost certainly unsustainable. If the economy is to rely on continued growth in household spending it requires a sustained rise in the real wages and incomes of households. However, this is unlikely to occur unless labour productivity improves, which, as we are all now well aware, has been badly hit as a consequence of the Great Recession.

Oil prices, inflation and deflation

Inflation is falling right across the global economy. There is a clearly a risk of deflation – a sustained falling price level, leading to expectations of further price falls, postponed spending and reduced spending as the real value of household and corporate debt rises. However, while the risk is there for the UK and the US, at this stage it is more apparent than real. We are not witnessing a general deflation but a focused fall in oil prices and commodity prices, especially food. When energy and food costs are stripped out core inflation is around 1.6% in the US and close to 2% in the UK. However, the risk of deflation would appear to be greater and more general in the Eurozone prompting the European Central Bank (ECB) to begin a programme of expanding the money stock - quantitative easing or 'QE'.

The fall in oil prices has been large, around 50% at the time of writing, and the potential for a sizable boost to spending is significant with some respected analysts forecasting a 0.5% boost to UK GDP in 2015. The impact on Scottish GDP should be similar on that account. However, Scotland is also an oil producer and activity in the sector has already been hit by the significant fall in the price of oil. Yet, much of the activity in this sector takes place offshore and is assigned statistically to the UK Continental Shelf (UKCS) and not to Scotland's economy. Scottish GDP as currently officially measured and forecast by the Fraser of Allander Institute will only be affected on the production side from the oil price fall through its impact on onshore activities. Overall, we cannot draw a definitive conclusion on the impact on the wider Scottish economy of the fall in the oil price: there are both benefits and costs and the costs particularly are difficult to isolate given the present state of data on links between the UKCS and onshore. What we can say is that the growth of Scottish onshore GDP is unlikely to be seriously harmed in 2015 and in 2016. Indeed, growth might actually benefit if the income effects of a lower oil price on increased household spending, investment and net exports are large. That said, we would expect the Chancellor in his forthcoming Budget to seek to protect production and future exploration in the UKCS, for the period that low oil prices are sustained, by introducing changes to the fiscal regime.

UK fiscal and monetary policy

The base rate set by the Bank of England's Monetary Policy Committee (MPC) is likely to remain at 0.5% for the remainder of this year at least despite the strong growth and falling unemployment. It will not be changed because inflation is close to zero and may turn negative, however briefly. So monetary policy should remain accommodating to growth for the foreseeable future. The same cannot be said for fiscal policy in the UK. The Institute for Fiscal Studies in its IFS Green Budget 2015 highlights the scale of the UK government's recent and planned fiscal consolidation programme. A comparison of IMF forecasts for structural borrowing in 32 advanced economies shows that the UK has the largest planned fiscal consolidation between 2015 and 2019 and the 18th largest (or 15th smallest) planned structural deficit in 2019. A further £92 billion of fiscal tightening is planned. We estimate, that if the economy is to grow at around 2.5% per annum then the underlying growth rate in the face of such anticipated fiscal consolidation – which might change after the UK General Election in May - would need to be about 4% per annum: a big challenge for the private sector.

Greece and the Eurozone

The new Greek Government led by the Syriza party came to power with a mandate to renegotiate the terms of the 2012 bailout, which most analysts agree is imposing a severe burden on the Greek economy and society. The scale of the austerity imposed on Greece is severe with real non-debt interest government spending falling by more than 20% between 2007 and 2014. GDP has fallen by 25% since 2007 and unemployment is currently over 25%, with youth unemployment 50%! No other democratic country has endured austerity of such size and pace. If by June 2015 there is not agreement on a reduction in the pace of austerity, then there is a real risk of 'Grexit', that is a Greek exit from the Eurozone. This would have significant economic and political consequences for the Eurozone itself and for the global economy, including the Scottish economy. When the threat of Grexit was last posed in 2012, the Fraser of Allander Institute undertook a modelling exercise which estimated that a Greek exit would lower Scottish GDP by -1.2% and reduce employment by 49,000 and this is before estimating the potentially greater impact of a wider contagion of bank runs and possible further withdrawals of other peripheral countries from the Eurozone.

Notwithstanding the developments above, we are forecasting growth of 2.8% in 2014, 2.6% in 2015, and 2.4% in 2016; an upward revision to our November 2014 forecasts. These reflect our view of a strengthening of the recovery. We have also raised our forecasts for employee job creation compared to our November forecasts. On the central forecast, we are now forecasting that net jobs will increase by 53,850 in 2014, 51,350 in 2015 and 57,600 in 2016. Our unemployment forecasts have been revised down further again from November, reflecting higher economic activity. Our projection for unemployment on the ILO measure at the end of 2015 is 136,600 (5.0%), falling further to 125,250 (4.6%) by the end of 2016.

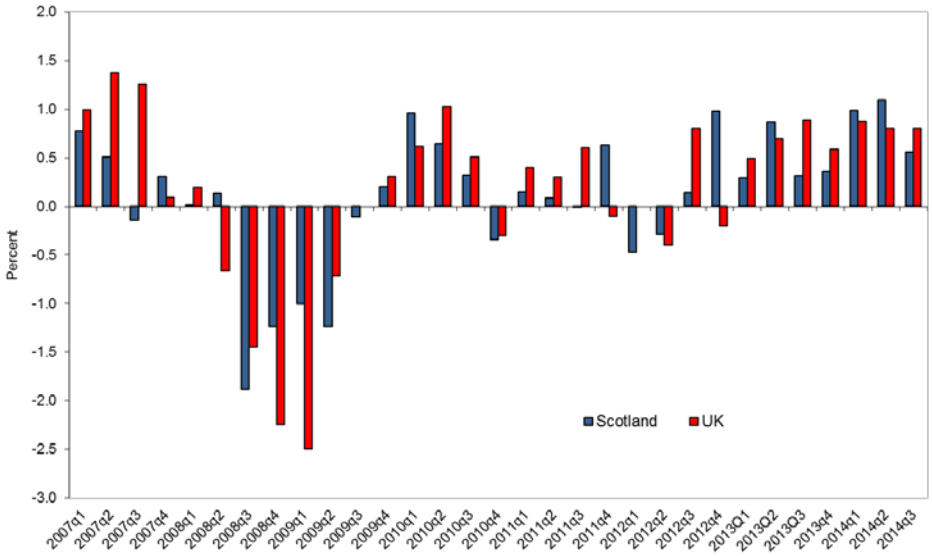
Recent GDP performance

The latest Scottish GDP data for the third quarter of last year (2014q3) show that GDP rose by 0.6% in Scotland in the quarter. This represents a reasonable growth performance but a further weakening from the 1.1% GDP growth recorded - on revised figures - in the second quarter and the 1% in the first quarter. However, it is worth noting that in 2014q3 Scotland played host to two major sporting events: the Glasgow 2014 Commonwealth Games and the 2014 Ryder Cup. Other services and accommodation & food services displayed stronger growth in the quarter, of 2.8% and 6.8% respectively, which is a likely reflection of the impact of these two major sporting events. So, while we do not have a specific figure to adjust for these events it is likely that Scotland's underlying growth would have been a little weaker in their absence.

Figure 1 charts Scottish and UK quarterly GDP growth to 2014q3. As we noted in the previous Commentary (Vol. 38, No. 2), we do not have strictly comparable GDP growth figures for Scotland and the UK for 2014q2 and 2014q3. This is because the ONS have from the 2014q2 introduced changes to the UK National Accounts to comply with the European System of Accounts 2010. The key changes relevant to the estimation of aggregate GDP include the treatment of some activities (such as research and development and military expenditure) as outputs alongside the inclusion of previously uncounted ones (such as illegal activities). It follows that the two series - GDP for Scotland and the UK - will not be strictly comparable for the Scottish GDP releases of October 2014 and January 2015) because the

Scottish series will continue to be estimated on the old basis until the transition of the Scottish National Accounts system is complete. However, the Scottish Government's advice to users is that the Quarterly GDP series remains a valid measure of short-term growth of the Scottish economy and in particular short-term comparisons over the quarter and the year between Scotland and the UK are still meaningful despite these methodological differences. It is not valid for longer-term comparisons. In the light of this, we have applied the UK aggregate and sector growth rates computed under the new system to the base indices for each sector in 2014q1, which is estimated under the old system. This allows us to continue to compare Scottish and UK performance to 2014q3 but the reader is warned that the method used is crude and may not accurately represent the actual comparative path of the two economies.

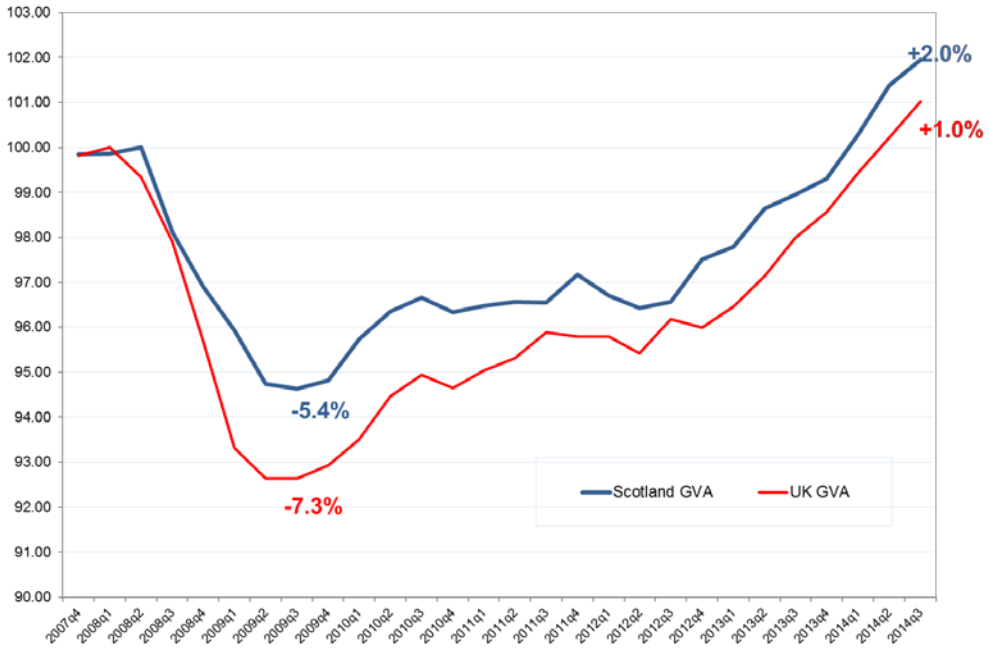
Figure 1: Scottish and UK Quarterly GDP Growth, 2007q1 - 2014q3



Source: Scottish Government GROSS DOMESTIC PRODUCT 3nd QUARTER 2014, UK GDP data sourced from http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-327798 and Fraser of Allander Institute (FAI) calculations

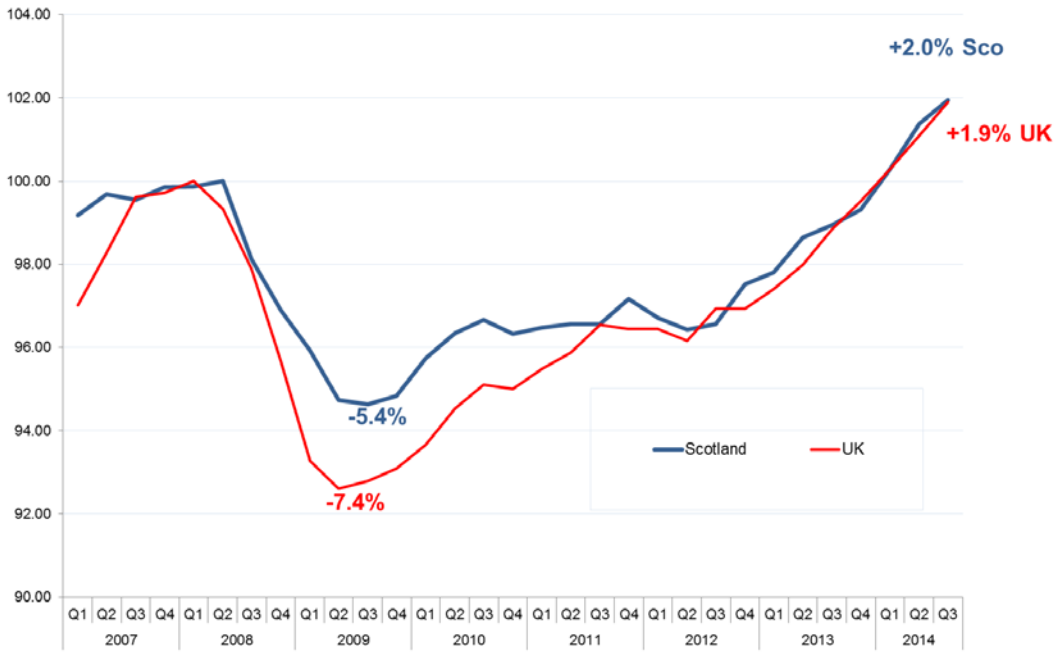
Under the new system, UK GDP rose by 0.8% in the third quarter a little faster than the 0.6% estimate for Scotland on the old basis. Over the year to the fourth quarter - four quarters on the previous four quarters - Scottish GDP grew at 2.5%, a growth rate that is above trend. We only have UK data under the new system for growth of GDP at constant market prices not the constant *basic* prices of the Scottish data but for the UK this shows growth over the year of 2.5%, identical to Scotland. These data provide a further indication that the recovery continued strongly into the third quarter of the year but with a hint of a slight easing in the momentum of growth. The effect of the latest data on Scotland and the UK's recovery from recession is shown in Figure 2.

Figure 2: GVA in recession and recovery Scotland and UK to 2014q3 (Relative to pre-recession peak)



Source: Scottish Government GROSS DOMESTIC PRODUCT 3nd QUARTER 2014, UK GDP data sourced from http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-327798 and FAI calculations

Figure 3: GVA ex oil & gas, recession and recovery to 2014q3



Source: Scottish Government GROSS DOMESTIC PRODUCT 3nd QUARTER 2014, UK GDP data sourced from http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-327798 and FAI calculations

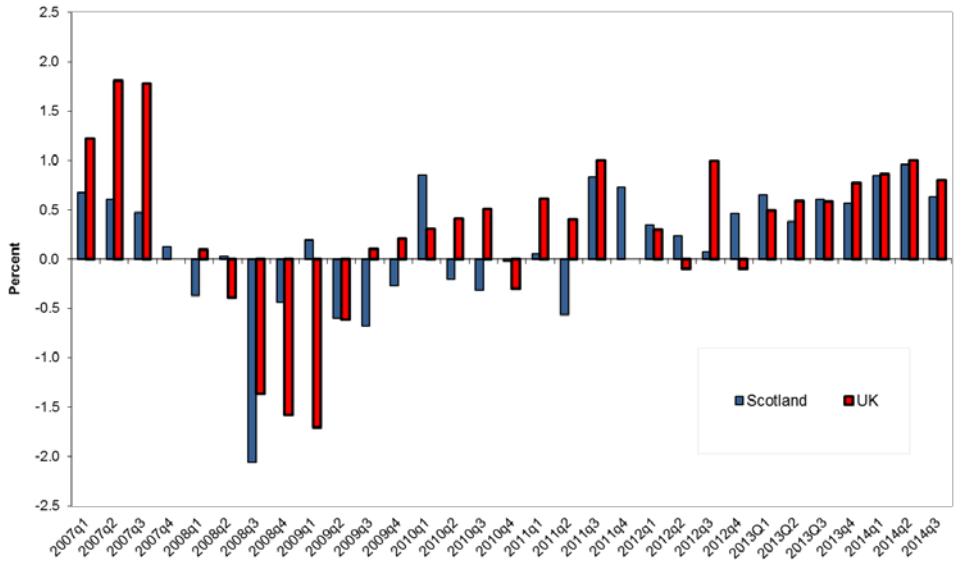
In the third quarter, GDP in Scotland was +2.0% above the pre-recession peak, while the UK was +1.0% above its pre-recession peak using the old accounts system as the base. It is likely that when the new accounts system is introduced for Scotland in the release for the fourth quarter of 2014 and compared with the UK under the new system, both GDP in Scotland and the UK will be much further above their pre-recession peaks. As noted in previous *Commentaries* there is, however, 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 both Scottish and UK GDP were about 2% above their pre-recession peaks. The long period of weak UKCS oil and gas production has slowed the recovery of UK GDP from recession. UK GDP - ex oil & gas - has had a stronger recovery from recession than Scottish GDP. Scottish GDP has recovered by around 8% since the trough of recession while UK GDP - ex oil & gas - recovered by around 10% from its trough by the previous quarter 2014q1. Again, the reader is reminded that these figures may change when the new system of accounts is introduced and a more accurate like-for-like comparison is possible within the UK.

Sectoral Components of GVA growth

Turning now to individual sectors of the economy. The Scottish service sector, which accounts for 72% of GDP in Scotland and 78% in the UK, grew by 0.6% in Scotland in the third quarter. Under the new system of accounting UK services output grew somewhat more quickly at 0.8% - see Figure 4.

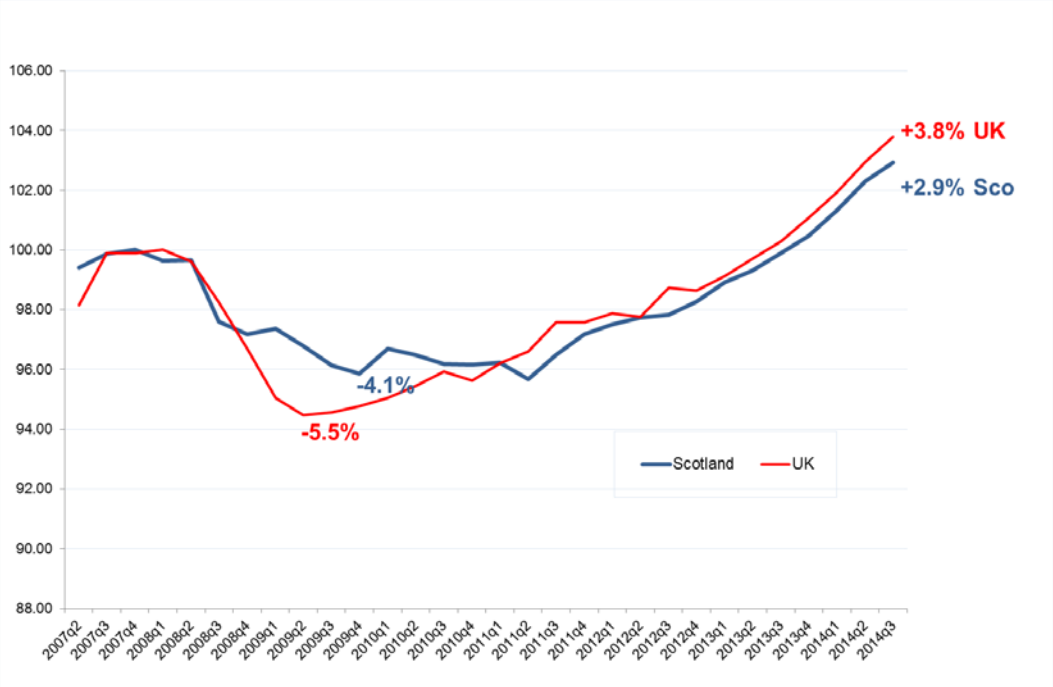
Figure 4: Scottish and UK Services GVA Growth 2007q1 to 2014q3



Source: Scottish Government GROSS DOMESTIC PRODUCT 3nd QUARTER 2014, UK GDP data sourced from http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-327798 and FAI calculations

Over the year to the third quarter - that is four quarters over the previous four quarters - the service sector in Scotland grew by 2.7% compared to 2.8% in the UK. The state of the recovery in Scottish and UK services is presented in Figure 5.

Figure 5: Services GVA in recession and recovery Scotland and UK to 2014q3



Source: Scottish Government GROSS DOMESTIC PRODUCT 3nd QUARTER 2014, UK GDP data sourced from http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-327798 and FAI calculations

Services sector

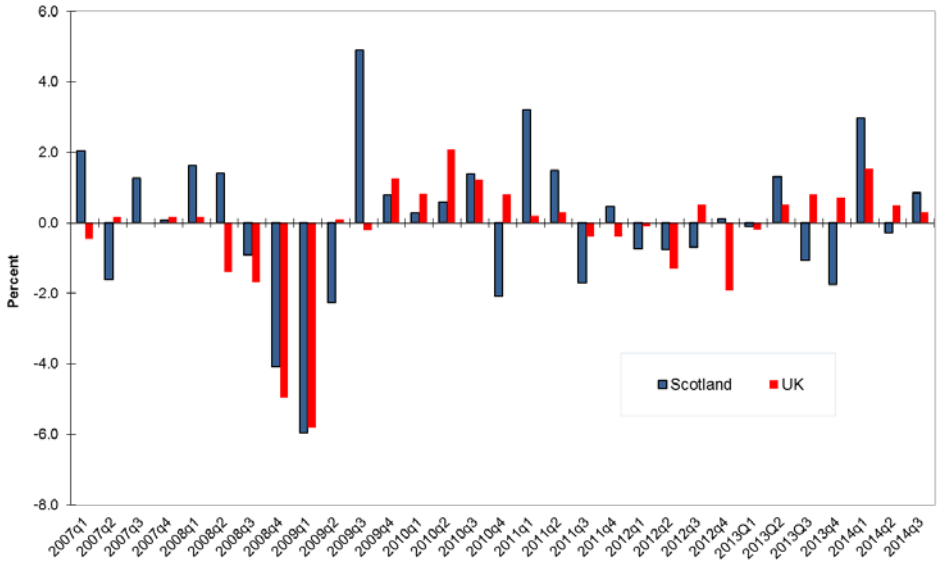
Figure 5 indicates that by the third quarter output in Scottish services stood at 2.9% above its previous peak, while output in UK services was 3.8% above. The data suggest that up to the third quarter the recovery in Scottish services continued to be weaker than in the UK with growth of just over 7% since the trough of the recession compared to just under 10% for UK services. The data for the third quarter reveals that the recovery in Scottish services is continuing to strengthen but the recovery is still slightly weaker than for GDP in the economy as a whole. In contrast, the service sector recovery in the UK still continues to outstrip, to some degree, the overall recovery in GDP but is broadly similar to UK GDP as a whole when oil and gas extraction is excluded.

Production / Manufacturing sector

The production sector in Scotland continues to boost Scottish growth, growing by nearly 11% over the recovery, while the sector remains a significant drag on the recovery in the UK with growth of 1.3% to 2014q3 since the trough of the recession. Nevertheless, Scottish production output fell in the third quarter by -0.7% while UK production output grew by 0.2%. Over the year - four quarters on four quarters – Scottish production GVA rose by 0.9%, while UK production output rose by 1.8% to the third quarter. Within production, Mining & quarrying GVA grew by 1% in the third quarter and rose by 5.8%

over the year (UK mining & quarrying changed by -1.6% and +2.3%, respectively). Electricity & gas supply GVA fell by -10% in the third quarter and also fell by -3.7% over the year (UK electricity & gas supply +2.8% and -5.2%, respectively). In the third quarter, GVA in Scottish manufacturing rose by 0.9% and by 0.3% over the year. Figure 6 charts the quarterly percentage changes in GVA in Scottish and UK manufacturing.

Figure 6: Scottish and UK Manufacturing GVA Growth at constant basic prices 2007q1 to 2014q3



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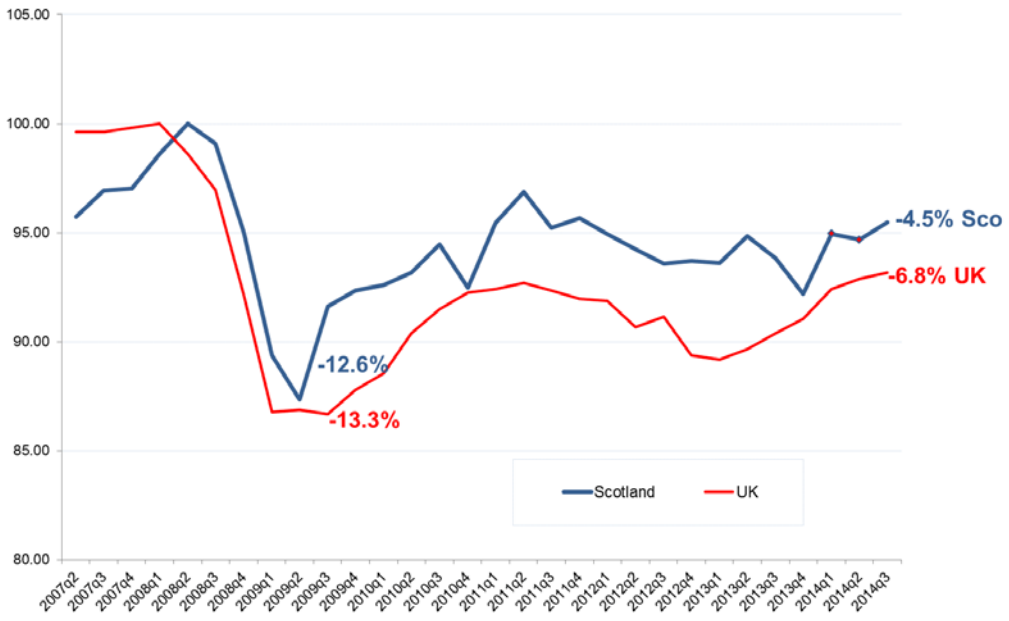
By the third quarter Scottish manufacturing GVA was still -4.6% below its pre-recession peak, compared to -6.8% for manufacturing in the UK. UK manufacturing has enjoyed a more sustained recovery since the first quarter of 2013, while the recent performance of Scottish manufacturing has been more erratic, no doubt in part influenced by the shutdown and reopening of the Grangemouth refinery in the final quarter of 2013 and the first quarter of 2014.

Within manufacturing, four of the seven principal sectors experienced growth in the third quarter: metals, metal products & machinery n.e.c. (which accounts for 17% of manufacturing GVA) grew by 2.2% in the quarter and by 5.6% over the year; food & drink (accounting for 28% of manufacturing GVA) grew by 1.7% in the quarter but contracted by -2.3% over the year; other manufacturing industries, repair & installation (accounting for 20% of manufacturing GVA) grew by 1.7% in the quarter and by 2.1% over the year; and computer, electrical and optical products (electronics) (accounting for 8% of manufacturing GVA), grew by 0.9% in the quarter but contracted by -6.0% over the year.

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

Figure 7: Manufacturing GVA in recession and recovery Scotland to 2014q3



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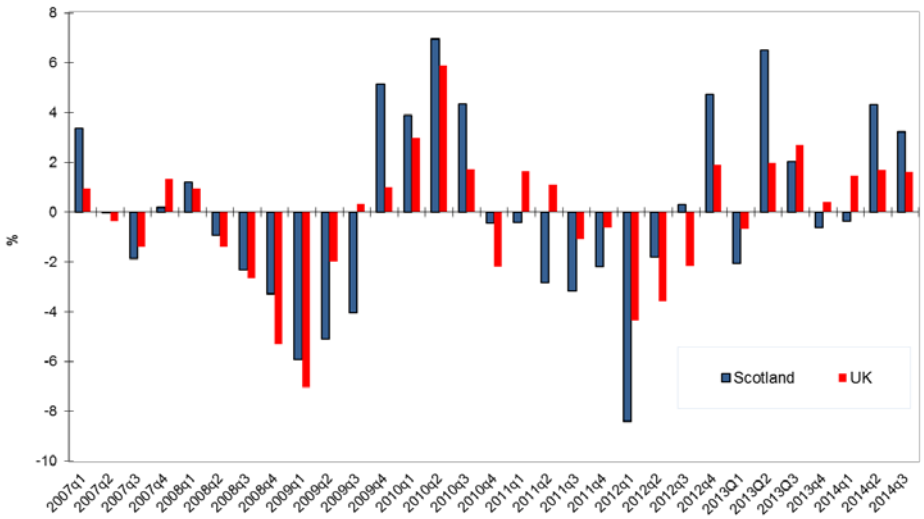
The three manufacturing sub-sectors that contracted in the quarter were: refined petroleum, chemical & pharmaceutical products (accounting for 15% of manufacturing GVA) which contracted by -2.0 in the quarter and by -0.9% over the year; transport equipment (accounting for 7% of manufacturing GVA) which contracted by -1.4% in the quarter but grew by 0.6% over the year; and finally textiles, clothing & leather products (accounting for only 3% of manufacturing GVA) which suffered a slight loss of output of -0.3% in the quarter but grew by 2.0% over the year.

Construction sector

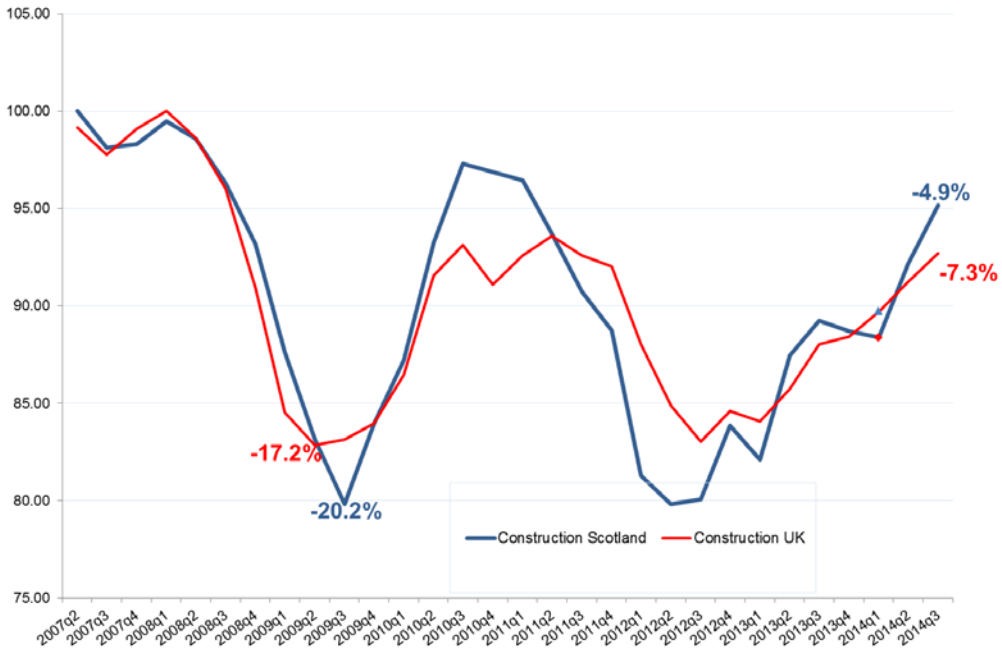
Scottish construction GVA picked up considerably in the second and third quarters of 2014 growing – on revised figures - by 4.3% in the second quarter after falling by -0.4% in the first quarter and then rising further by 3.2% in the third quarter of 2014. UK construction GVA also experienced positive but weaker growth with GVA rising by 1.7% in the second quarter and by 1.6% in the third quarter. Over the year – four quarters on four quarters - Scottish construction grew by 6.3%, almost identical to the 6.4% growth in UK construction output. Figure 9 displays the recession and recovery performance of both the Scottish and UK construction sectors. Turning now to construction, the latest data are presented in Figure 8.

Figure 8: Scottish & UK Construction GVA Volume Growth 2007q1 - 2014q3



Source: Scottish Government GROSS DOMESTIC PRODUCT 3nd QUARTER 2014, UK GDP data sourced from http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-327798 and FAI calculations

Figure 9: Construction, Recession and Recovery to 2014q3



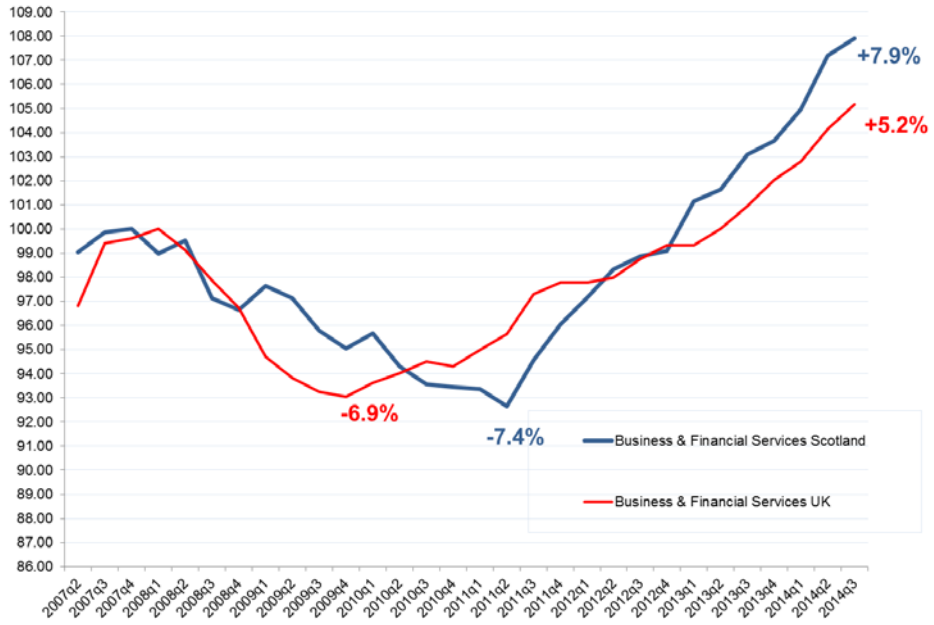
Source: Scottish Government GROSS DOMESTIC PRODUCT 3nd QUARTER 2014, UK GDP data sourced from http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-327798 and FAI calculations

Figure 9 highlights the recent recovery in Scottish construction after the downturn for two quarters in Q4 2013 and Q1 2014. By the Q3 2014 Scottish construction had moved to -4.9% below its pre-recession peak compared to UK construction, which was -7.3% below its pre-recession level.

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 grew by 0.7% in the quarter and by 4.6% over the year. Figure 10 shows the growth of the sector in Scotland and UK during the recession and recovery.

Figure 10: Business & Financial Services: Recession and Recovery to 2014q3



Source: Scottish Government GROSS DOMESTIC PRODUCT 3nd QUARTER 2014, UK GDP data sourced from http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-327798 and FAI calculations

By the third quarter, output or GVA in the sector had moved to +7.9% above its pre-recession peak in Scotland compared to +5.2% in the UK further underlying the stronger recovery of this sector in Scotland compared to the UK. As noted in previous Commentaries, the aggregate GVA data for business and financial services in Scotland have recently masked significant differences between the performance 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 2008.

The chart shows that the recovery in the sector appears to be continuing but somewhat erratically with quarterly increases followed by smaller quarterly falls in output. By the third quarter of last year GVA in the sector was -7.8% below the pre-recession peak compared to the trough of -16.0% in 2012q4. The continuation of the recovery in financial services, all be it erratically, offers some hope that despite the structural change that occurred in the banking sector in particular after the Great Recession, output is continuing to move back closer towards pre-recession levels – see Jeremy Peat's article on Scottish financial services in the *Economic Perspectives* section of this Commentary.

Figure 11: Financial Services, Recession and Recovery 2007q2 to 2014q3

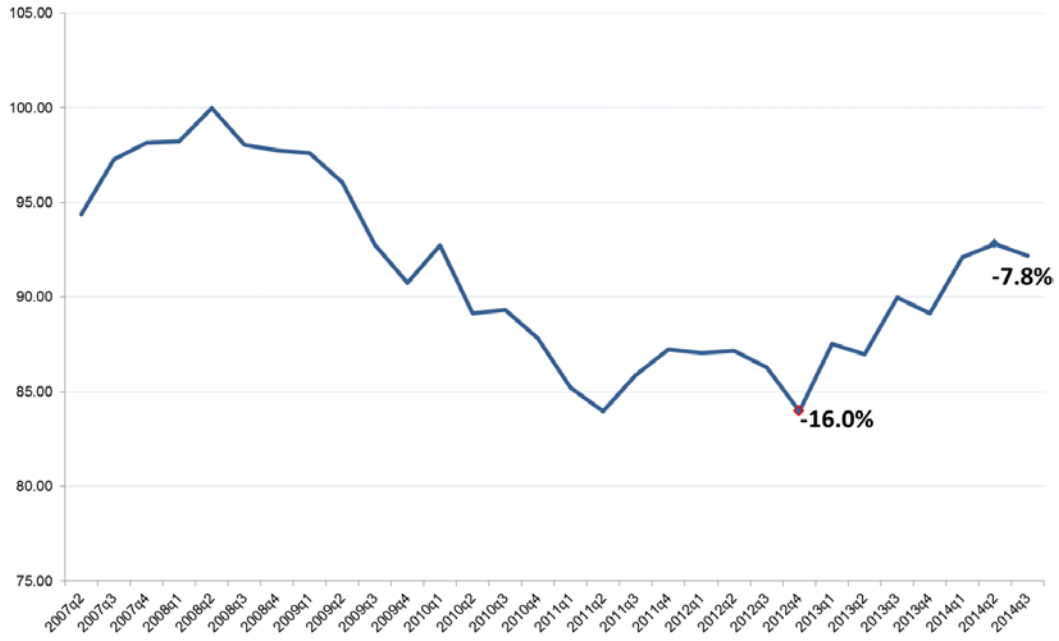


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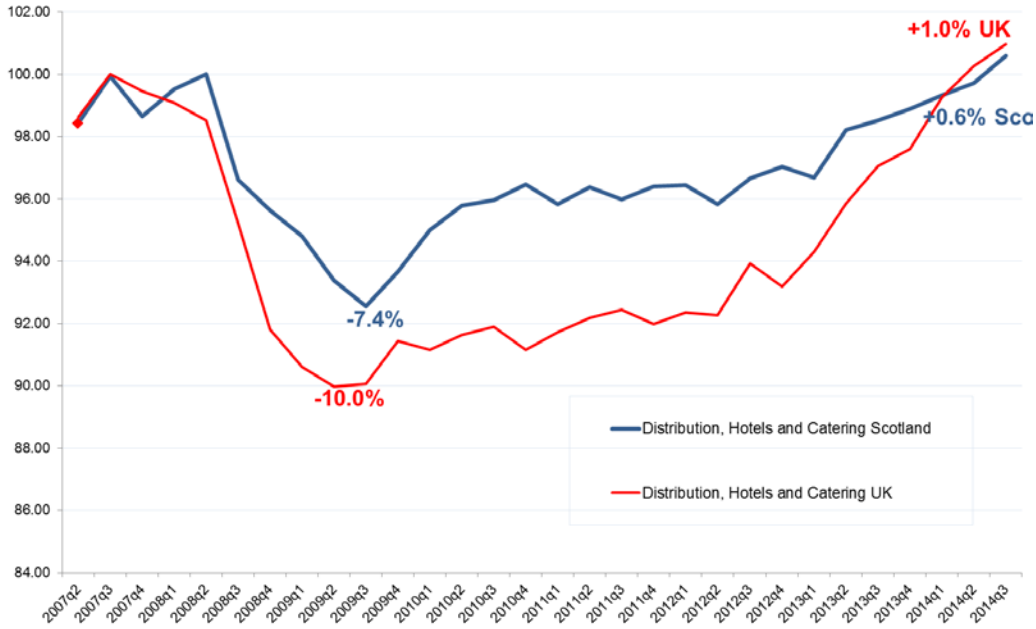
Figure 12: Distribution, Hotels & Catering: Recession and Recovery to 2014q3



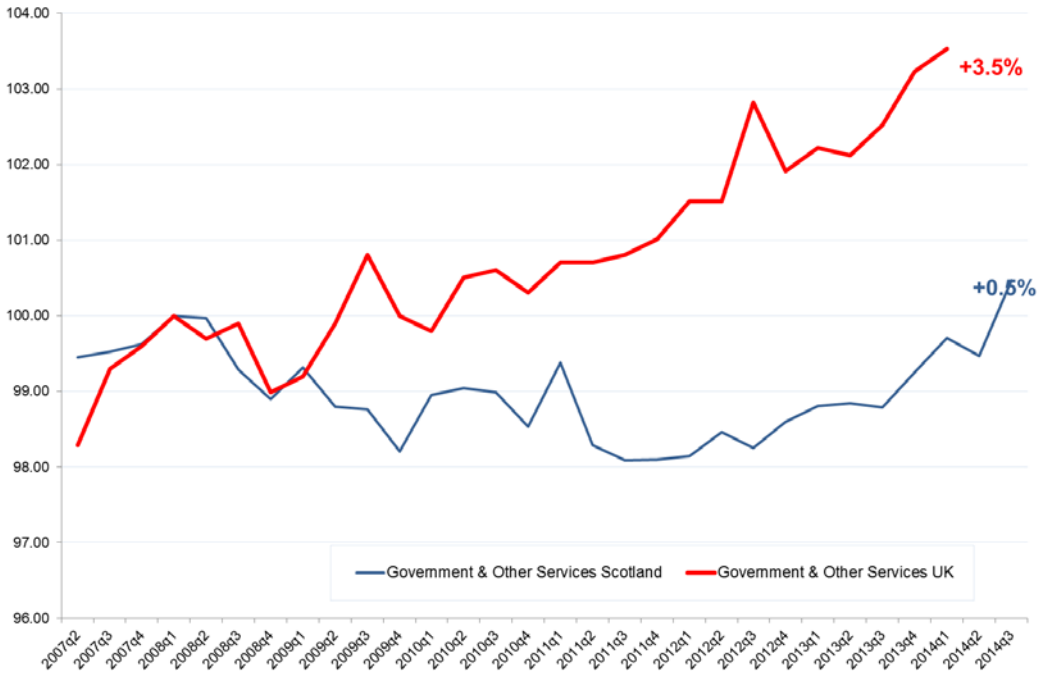
Source: Scottish Government GROSS DOMESTIC PRODUCT 3nd QUARTER 2014, UK GDP data sourced from http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-327798 and FAI calculations

The other principal sub-sector in private services displaying positive growth in the third quarter was distribution, hotels and catering (accounting for 18% of services sector output in Scotland), which grew by 0.9%. Over the year, the sector grew by 2.1%. Figure 12 shows the performance of the sector during recession and recovery.

Figure 12 reveals that by the third quarter the sector in the UK was +1% above its peak, while the sector in Scotland was doing a little worse at just +0.6% above. It should again be noted that the sector had a less serious recession in Scotland than in the UK with output falling by -7.4% here compared to -10.0% in the UK. The track of the recovery in the sector picked up strongly during 2013 and 2014 in both Scotland and the UK, but more strongly in the UK.

Output in Government & Other Services rose in Scotland in the third quarter by 1%. Over the year, output in the sector also grew by 1%, In the UK the public sector grew by 0.3% in the quarter and by 1.1% over the year. Figure 13 shows the performance of GVA in the sector in recession and recovery.

Figure 13: Government & Other Services: Recession and Recovery to 2014q3

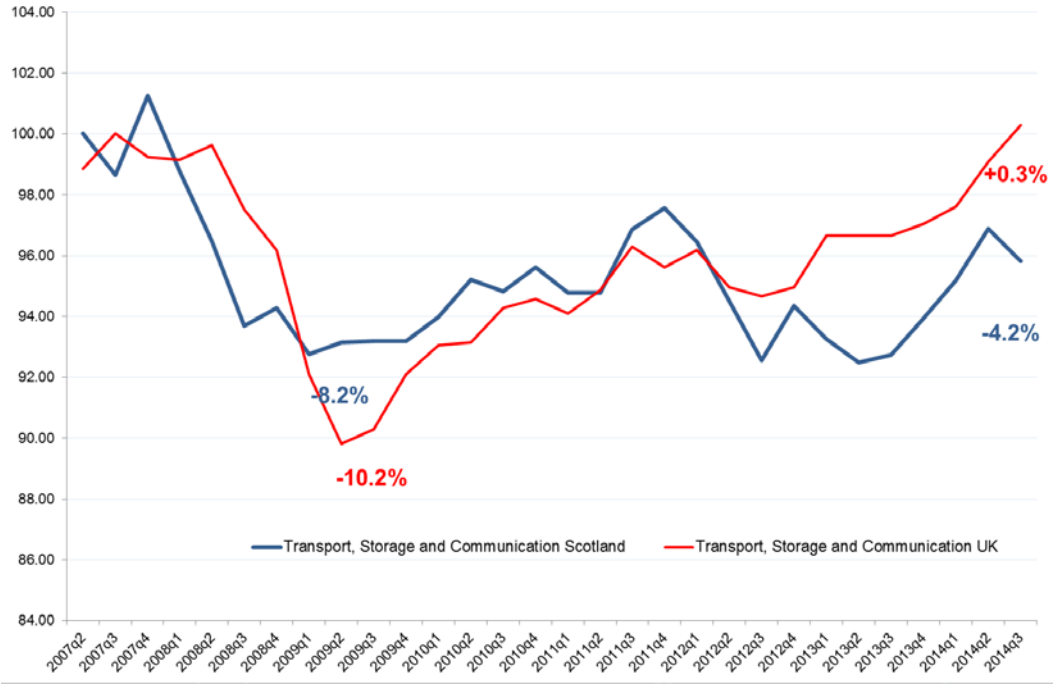


Source: Scottish Government GROSS DOMESTIC PRODUCT 3nd QUARTER 2014, UK GDP data sourced from http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-327798 and FAI calculations

By the third quarter GVA in the sector in the UK was 3.5% 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 only 0.5% 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: Recession & Recovery to 2014q3



Source: Scottish Government GROSS DOMESTIC PRODUCT 3nd QUARTER 2014, UK GDP data sourced from http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-327798 and FAI calculations

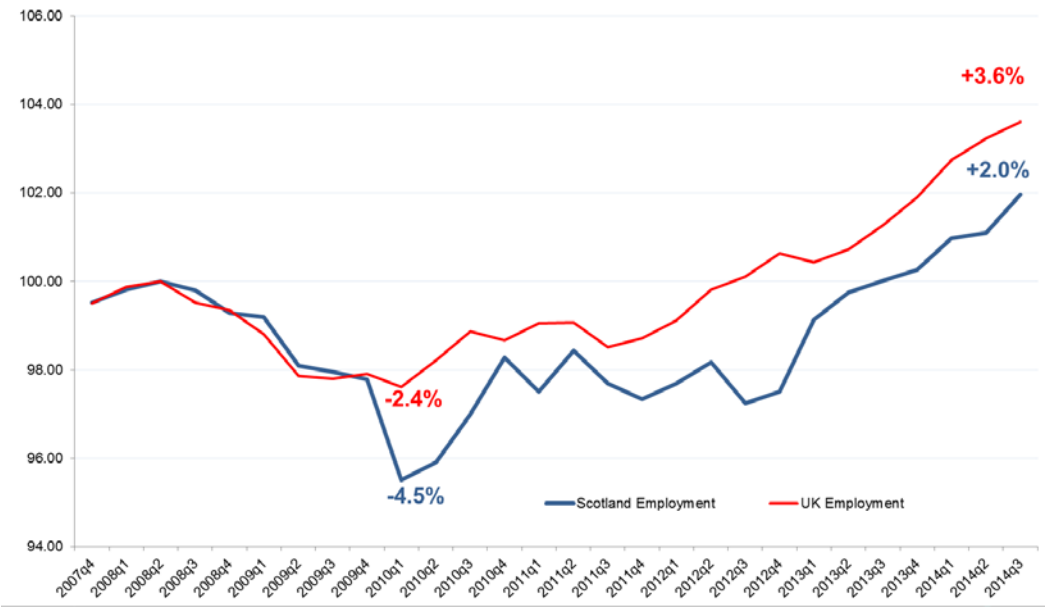
The pick-up in the performance of the sector in Scotland ceased in the third quarter with GVA falling by -1.1%. Over the year, the sector grew by 2.4% in Scotland and by 1.9% in the UK. By the end of the third quarter GVA in the Scottish sector was -4.2% below its pre-recession peak compared to +0.3% above in the UK.

The Labour Market

The latest labour market data (see *Scottish Labour Market* section below) show that the recovery continues strongly. In the quarter October – December 2014, employment rose by 0.8% in Scotland and by 0.3% in the UK. In terms of numbers, jobs in Scotland rose by 20,160 in the quarter, compared to an increase of 103,440 in the UK as a whole. Over the year, Scottish jobs rose by 63,000, a rise of 2.5%, while UK jobs rose 608,000, or 2.0%. As employment continued to rise during the quarter, unemployment in Scotland fell, by -15,000, or -9.3%, to 149,000, or a rate of 5.4%, while in the UK, unemployment fell less rapidly by -97,000, or -5.0%, to a rate of 5.7%. Over the year, unemployment in Scotland fell strongly by -48,000, or -24.4%, while in the UK unemployment also fell strongly but a little more slowly by -486,000, or -20.7%.

Figure 15 shows the performance employment in Scotland and the UK during recession and recovery to 2014q3.

Fig 15: Total Employment: Scotland and UK Pre-recession peak to 2014q3



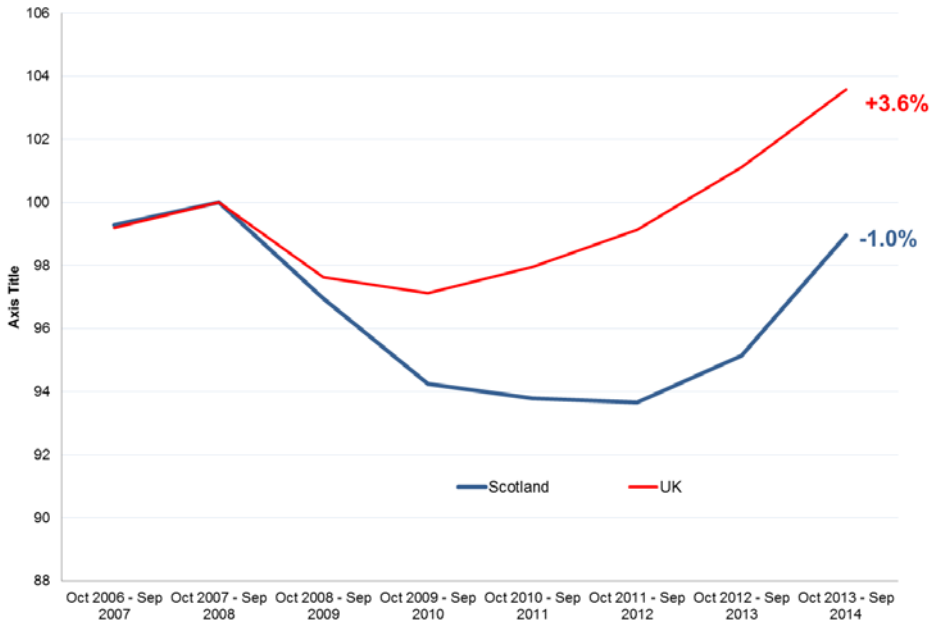
Source, ONS Regional Labour Statistics and FAI calculations

By the end of the third quarter, Scottish jobs as reported in the LFS household surveys were 2.0% *above* the pre-recession peak, while UK jobs were 3.6% higher than the peak. So, despite the good recent performance of the labour market in Scotland, its overall performance in the recovery continues to lag that of the UK and as we note below, there appears to be more 'slack' in the labour market in Scotland compared with the UK.

An indication that there is still a deficiency of demand in the Scottish labour market in relation to the situation before the recession is provided by data on the number of weekly hours worked. Figure 16 charts this statistic from 2007 for the total weekly hours worked compared to the pre-recession peak for Scotland and the UK.

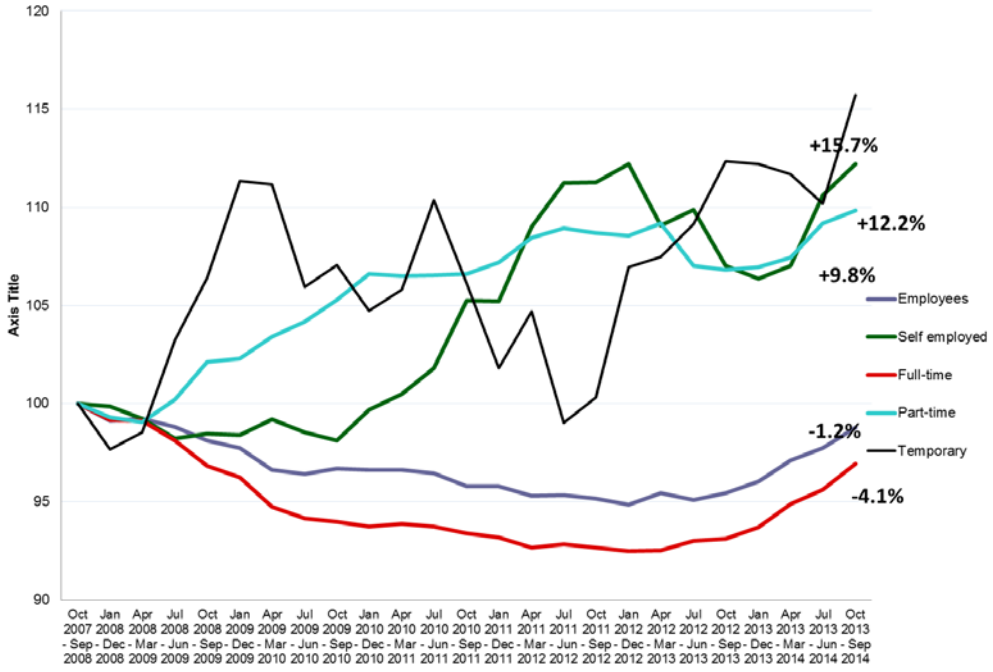
By the period October 2013 – September 2014, the number of total weekly hours worked in Scotland was still -1.0% below the pre-recession peak. So despite the number of jobs being higher than before the recession, the demand for labour as measured by hours worked is still lower. This is also a reflection, as the *Scottish Labour Market* section below notes, of the recovery in the labour market continuing to be driven by a shift - since the recession - away from full-time, permanent, employees towards part-time, temporary, and self-employment, as Figure 17 shows.

Figure 16 LFS Total weekly hours worked: Scotland-UK in recession & recovery (Compared to Pre-recession peak)



Source, ONS Regional Labour Statistics and FAI calculations

Figure 17 Scotland's Recession and Recovery by Type of Employment

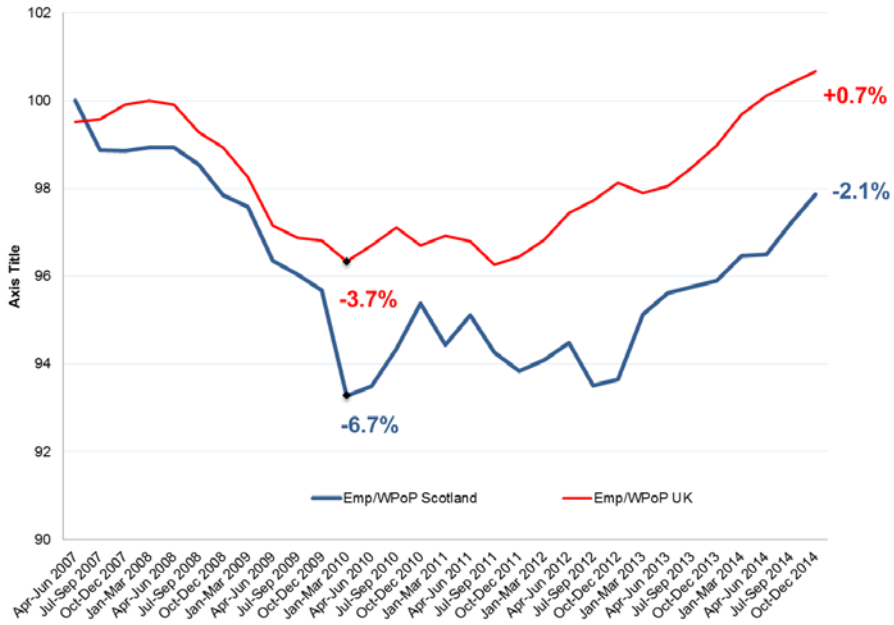


Source, ONS Regional Labour Statistics and FAI calculations

By the middle of last year total employment in Scotland was back to its pre-recession peak, yet the above labour market shifts appear to be continuing. However, this is not the whole picture as it is also clear that full-time employment is recovering. But we cannot be certain whether the labour market will automatically move back to its pre-recession state. The growth in temporary and self-employment is large in percentage terms but small in absolute numbers: an increase of 19,000 and 33,000 respectively since the start of the recession. While some might argue that the growth in self-employment is an indication of greater entrepreneurship in Scotland, this has still to be proved. Many of these self-employed jobs appear likely to be more 'needs must' for people who have lost full-time jobs. The growth of temporary jobs suggest that high levels of uncertainty exists amongst employers but it may also be something of a reflection of a developing 'zero hours' culture.

Finally, as we noted in the previous Commentary, not only is the demand for labour still lower than pre-recession but demand – as measured in terms of jobs – is still considerably deficient when compared to the supply of labour. Figure 18 charts the employment to population (aged 16 and over) ratio relative to pre-recession peak for Scotland and the UK to October - December 2014.

Figure 18 Employment to population (16 & over) Scotland-UK in recession & recovery (Compared to Pre-recession peak)



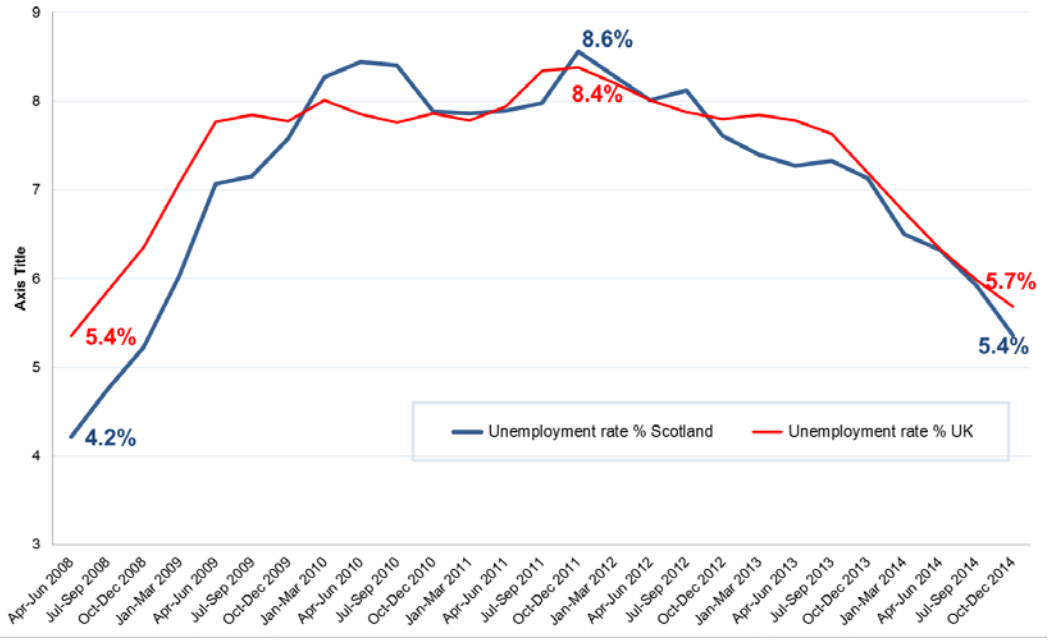
Source, ONS Regional Labour Statistics and FAI calculations

By October - December 2014, the ratio stood at -2.1% below the pre-recession peak, compared to -6.7% at the trough of the recession. In the UK as a whole, in contrast the ratio is only 0.7% above its pre-recession peak. All of this suggests that while the jobs market has recovered substantially, the recovery has been weaker in Scotland both in relation to the situation before the recession and in relation to the growth of labour supply. In the UK, in contrast, a strong jobs recovery is evident compared to the situation before the recession and the recovery has just managed to keep pace with the growth of the

labour supply. We might venture to suggest from the data in Figure 17 that sustained pressures on wages to rise should be starting to occur in the UK, but not so in Scotland.

The conclusion that there is still spare capacity in the Scottish labour market is also echoed in the unemployment rate data as shown in Figure 19.

Figure 19: LFS Unemployment rate % in Scotland and UK: Recession and Recovery



Source, ONS Regional Labour Statistics and FAI calculations

While the unemployment rate is currently lower in Scotland, at 5.4% compared to 5.7% in the UK, the UK rate is approaching its pre-recession rate of 5.4%, whereas there is still some 1.2% points to go before that situation is reached in Scotland.

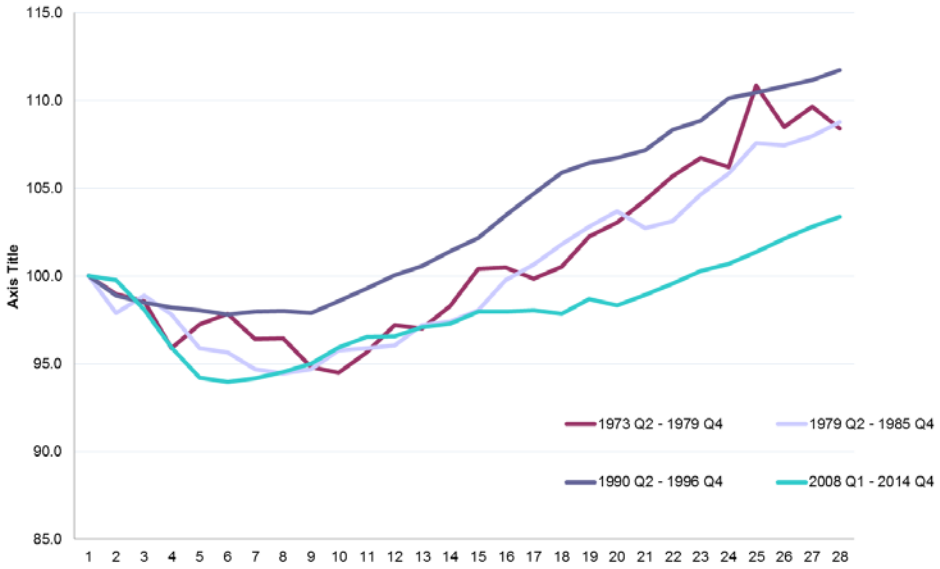
Forecasts

Will the recovery continue?

There are now reasonably strong indications that the recovery of GDP, jobs and unemployment in Scotland and the UK is set fair. However, we must be cautious: the latest data for UK GDP growth in the fourth quarter of last year indicates growth of 0.5% which represents a clear slowing of the growth momentum evident in the first three quarters of 2014. We noted above that in the third quarter Scottish GDP growth was weaker than in the first two quarters and this cooling of the recovery is likely to have continued into the fourth quarter if the latest UK data can be taken as a guide. Moreover, data from the latest business surveys for the fourth quarter and into 2015 – see *Review of Scottish Business Surveys* section - in Scotland support the impression of some slowing in the rate of recovery but expectations for 2015, while cautious, remain fairly robust.

Alongside the latest UK GDP figures the ONS has published data comparing the present recovery with those from earlier UK recessions. These data are graphed in Figure 20.

Figure 20: GDP quarter-on-quarter growth from peak for previous and latest UK economic downturns (Chained volume measure, seasonally adjusted)

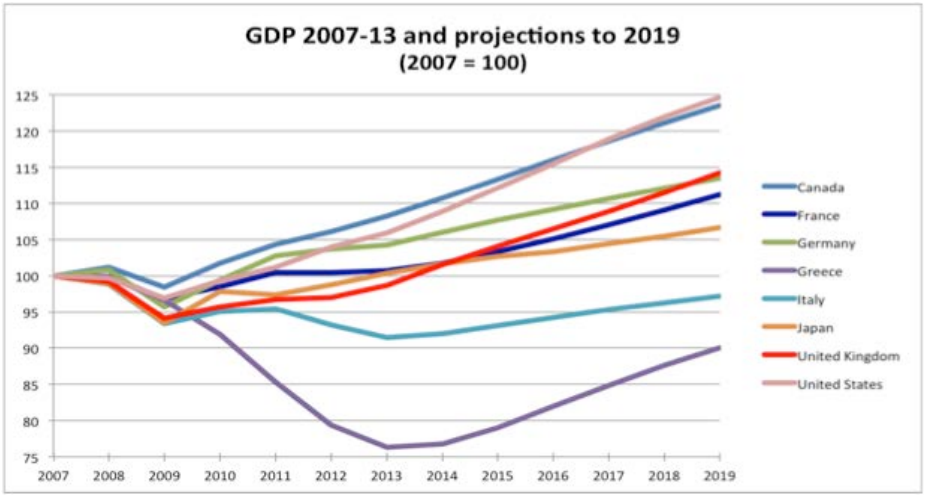


Source, ONS http://www.ons.gov.uk/ons/dcp171778_394742.pdf

Figure 20 clearly shows the scale of the recent UK recession to have been greater than the three previous recessions. The Figure also shows that the pace of recovery from the recession began to slow after 10 quarters (2010q3) and only began to pick up after 20 quarters (2013q1), with the result that the pre-recession peak level of GDP was only reached after 22 quarters compared to 11, 15 and 16 quarters in the previous three recessions shown in Figure 20. We have argued in previous Commentaries that this was a direct result of the UK Government's austerity programme. One corollary of this is that the UK recovery from this global recession was slower than most of the advanced countries with the exception of Italy and Greece. This is clearly shown in Figure 21, which draws on data from the IMF and includes projections to 2019.

The IMF projections show the level of UK GDP in relation to peak beginning to pass several of the other countries so that by 2019 only Canada and the United States are ahead of the UK. However, to get to that position in 2019 the IMF has, it would appear, simply extrapolated recent growth rates. Whether such an outturn will occur depends crucially on the factors influencing UK and Scottish growth both positively and negatively. We list these positive and negative influences and then deal with some of them in more detail below.

Figure 21 GDP 2007-2013 and projections to 2019



Source: IMF World Economic Outlook

Positive influences:

- Currently strong and above trend growth in Scotland and UK
- Growth in the US is strong and improving.
- Inflation is falling, helped by a sharp fall in the price of oil and some other commodity prices, with the fall in the oil price being key.

Negative influences:

- Growth is unbalanced both domestically and across the globe, raising the risk that the recovery might falter.
- The fall in the price of oil will have a negative impact on the Scottish economy as an oil producer as well as a favourable impact
- Further planned austerity will, if implemented, act to slow growth unless the private sector grows more quickly to compensate.
- The continuing problems in the Eurozone, with the risks of deflation and a Greek exit (Grexit).
- A small downside risk of deflation of prices in the UK economy.

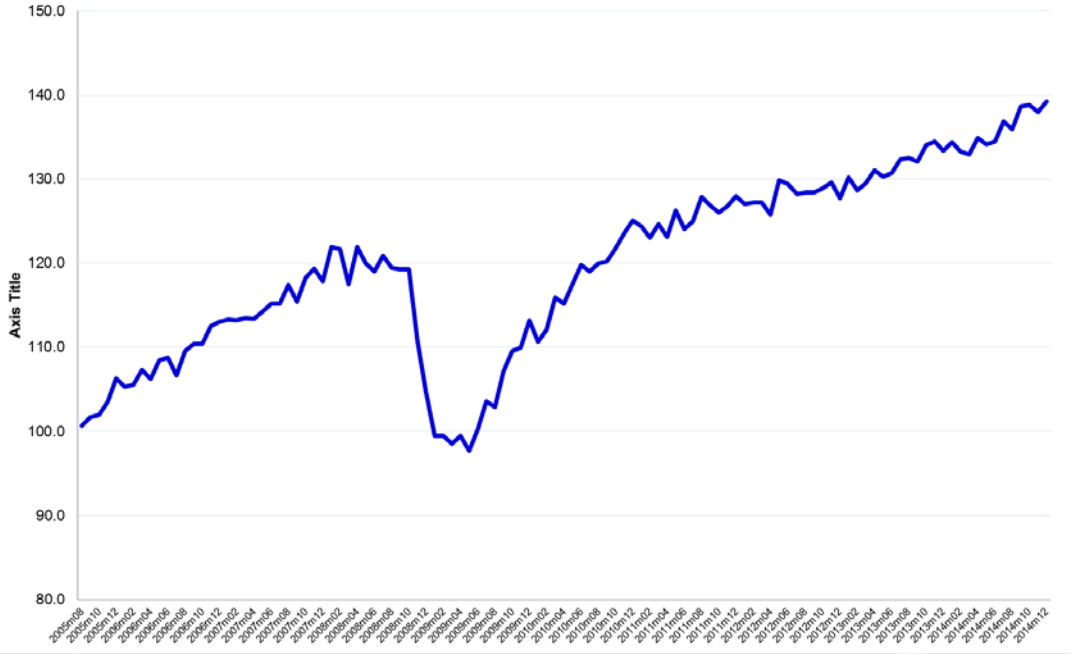
We discuss these positive and negative influences under 4 headings:

- growth in markets;
- oil prices, inflation and deflation;
- UK fiscal and monetary policy
- Greece and the Eurozone

Growth in markets

Independent forecasts for the growth of UK GDP in 2015 suggest a range of between 2.1% to 3% and an average of 2.6%. For 2016, growth is predicted to slow to a range of 1.2% to 3% with an average of 2.3%. For the global economy, the monthly *World Trade Monitor* produced by the Netherlands Bureau for Economic Policy Analysis (CPB) shows in Figure 22 that world trade has been growing at a steady but fairly slow pace since late 2009 when it began to recover from the slump caused by the Great Recession.

Figure 22: Merchandise world trade 2005 - 2014, (Monthly volumes, seasonally adjusted, 2005=100)

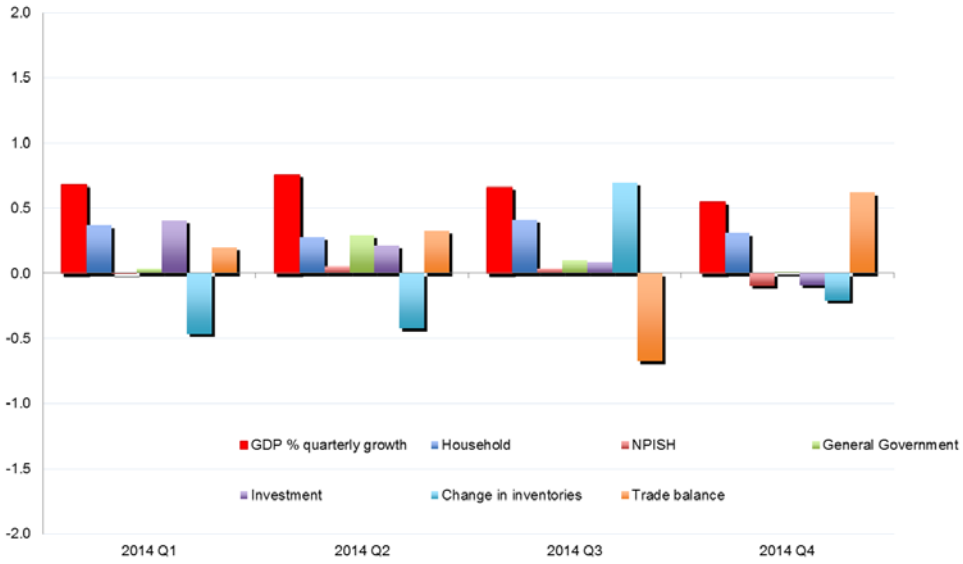


Source: CPB, World Trade Monitor

However, the latest forecasts by the IMF and the OECD – see *Forecasts of the Scottish Economy* section – suggest a slowing in the growth of GDP in key countries and Scotland's key export markets. In the IMF's January forecast only the forecast for the growth of US GDP was raised. The forecasts for China, Japan and the Eurozone were cut back. The composition of Scottish and UK growth also continues to be unbalanced. Figure 1 in the *Forecasts of the Scottish Economy* section highlights the dominating importance of household spending to nominal GDP growth in Scotland, with fixed investment being the next most important but with a contribution only around half as much. Moreover, the contribution from investment was negative in the third quarter of last year, while net trade has made a

consistently negative contribution to growth apart from the odd quarter. The position at the UK level is similar as Figure 23 indicates.

Figure 23: Expenditure components percent contribution to UK GDP growth, quarter-on- quarter (Chained volume measure, seasonally adjusted)



Source, ONS http://www.ons.gov.uk/ons/dcp171778_394742.pdf

Net trade makes a stronger contribution at the UK level and investment a lesser contribution. Moreover, the contribution of investment to real GDP growth declined during 2014. So, from these data there is little evidence of a rebalancing away from domestic spending on consumption and, consumption or household spending continues to be the principal driver of growth. And, as we have stressed in recent Commentaries household spending is being fuelled by rising debt, which is almost certainly unsustainable. If the economy is to rely on continued growth in household spending it requires a sustained rise in the real wages and incomes of households. However, this is unlikely to occur sustainably unless labour productivity improves, which as we are all now well aware has been badly hit as a consequence of the Great recession.

Oil prices, inflation and deflation

Inflation is falling right across the global economy. Indeed, the latest data show prices actually to be falling both the US and the Eurozone and, as the *Forecasts of the Scottish Economy* section notes, the Governor of the Bank of England, Mark Carney, has recently suggested that UK inflation might soon turn negative but only for a brief period. There is a clearly a risk of deflation – a sustained falling price level, leading to expectations of further price falls, postponed spending and reduced spending as the real value of household and corporate debt rises. However, while the risk is there for the UK and the US, at this stage it is more apparent than real. We are not witnessing a general deflation but a focused fall in oil prices and commodity prices, especially food. When energy and food costs are stripped out *core* inflation is around 1.6% in the US and close to 2% in the UK. However, the risk of deflation would

appear to be greater and more general in the Eurozone prompting the ECB to begin a programme of expanding the money stock – via quantitative easing or QE.

Box 1 Estimates of the impact of fall in oil price on GDP and jobs, Scotland and UK

1. The income effect

- The fall in the price of oil will raise disposable incomes; lower production costs and lead to increased spending on UK and Scottish produced goods and services, thus raising GDP.
- Oxford Economics estimate that UK GDP will rise by a further 0.5% as a result of the price fall – see *IFS Green Budget 2015*[1].
- If we assume that a) the % GDP change from the income effect is same in Scotland as UK; b) employment rises in the same proportion, or c) that the impact on jobs stands in the ratio of OE's estimate of overall 2015 jobs growth to GDP growth: 1.3%/2.8% = 0.46. Then to get percent jobs change: 0.46 x 0.5 = 0.23% jobs growth impact of oil price fall.
- Given UK employment of 30,896,000 this gives a range of 154,000 to 71,000.
- Given Scottish employment 2,625,000 this gives a range of 13,000 to 6,000.

2. The oil industry effect

- This will be negative.
- The impact in Scotland would have to be greater than 13,000 to 6,000 jobs in 2015 for the effect on the Scottish economy to be negative.
- Unlikely that the impact on UK would be greater than 154,000 to 71,000, so can say oil price impact on UK will be positive.
- 1,435 job losses announced in the sector could mean – with multiplier[1] of 7.5 from Oil and Gas UK (2014) - the loss of more than 10,000 jobs across the UK as a whole, taking account of direct and indirect effects.
- For Scotland, we have a Type II multiplier for oil and gas extraction from the 2011 Scottish I-O tables[1] of 2.3, which would give a job loss of 3,300 jobs.
- If in 2015 the job losses doubled to 2,870 the total negative effect on Scottish economy jobs would be 6,600.
- These job losses are unlikely to occur completely in 2015, while job gains, in contrast, are estimated to occur in 2015.

3. Conclusion

- The (crudely) estimated net impact of the fall in the price of oil in 2015 on the Scottish economy ranges, *in employment terms,* from *plus 9,700 jobs to minus 600 jobs in the best and worst case scenarios.*

[1] *Oxford Economics assume an oil price of $55/barrel in 2015 and $67/barrel in 2016; on 28th February 2015 the price was $62.58/barrel*
[1] *The employment multiplier is the ratio of direct plus indirect (plus induced if Type II multipliers are used) employment changes to the direct employment change.*
[1] *http://www.gov.scot/Topics/Statistics/Browse/Economy/Input-Output/Downloads/IO1998-2011L2*

Falling food, and especially oil, prices will raise the real disposable income of energy and food users, almost everyone! Rising real incomes will promote increased spending and hence provide a boost to growth. Moreover, the fall in oil prices has been large, around 50% at the time of writing, and since household spending on energy and transport is around 4% of income, the potential for a sizable boost to spending is significant. In addition, companies input costs will also be lower as fuel is cheaper. Oxford Economics' model-based analysis for the *IFS Green Budget 2015* suggests that UK GDP will rise by a further 0.5% in 2015 at an assumed oil price of $55 a barrel. They assume that oil prices will average $67 in 2016, so the impact on GDP growth would be a little less.

Scottish household spending and company input costs will get much the same boost as the UK and so, other things equal, GDP should also rise by an additional 0.5% in 2015 as a result of the fall in the oil price. However, for Scotland, other things are not equal. Scotland is an oil producer and activity in the sector has already been hit by the significant fall in the price of oil. Yet, much of the activity in this sector takes place offshore and is assigned statistically to the UK Continental Shelf (UKCS). Scottish GDP as currently officially measured and forecast by this Institute will only be affected on the production side from the oil price fall through its impact on onshore activities. As Grant Allan makes clear in his note on: *The price of oil and the Scottish economy*, the economic links – supply chain, foreign import content, employees resident in Scotland and spending from value added - from the UKCS to the onshore Scottish economy need to be more researched and better understood. Furthermore, it is difficult to establish with certainty what the direct effects on the UKCS will be over the forecast horizon to 2016 because that will depend on producers' expectations of the price of oil in the future.

So, we cannot make a definitive conclusion on the impact on the wider Scottish economy of the fall in the oil price: there are both benefits and costs and the costs particularly are difficult to isolate given present data. What we can say is that the growth of Scottish onshore GDP is unlikely to be seriously harmed in 2015 in 2016 and may actually benefit if the income effects of household spending, investment and net exports are large. That said, we would expect the Chancellor in his forthcoming Budget to seek to protect production and future exploration in the UKCS for the period that low oil prices are sustained by introducing changes to the fiscal regime.

UK fiscal and monetary policy

The base rate set by the Bank of England's Monetary Policy Committee (MPC) is likely to remain at 0.5% for the remainder of this year at least despite strong growth and falling unemployment. It will not be changed because inflation is close to zero and may turn negative, however briefly. Indeed, if inflation turns negative and price falls begin to affect core inflation then the rate could be cut to zero, or a negative value following the Swedish and Swiss examples. In such circumstances further QE is also possible. So monetary policy should remain accommodating to growth for the foreseeable future. The same cannot be said for fiscal policy in the UK. The Institute for Fiscal Studies in their *IFS Green Budget 2015* highlight the scale of the UK government's recent and planned fiscal consolidation programme. The IFS analysis shows that by 2014 £110bn of fiscal tightening measures had been implemented. A further £92bn of fiscal tightening is currently planned. So, on this measure 55% of planned fiscal consolidation has been completed with 45% still to come. Of the further planned fiscal tightening, a comparison of IMF forecasts for structural borrowing in 32 advanced economies shows that the UK has the largest planned fiscal consolidation between 2015 and 2019 and the 18th largest (or 15th smallest) planned structural deficit in 2019. Some £200 billion of fiscal tightening is nearly 13% of GDP. If we assume a multiplier of 1.5 – not unreasonable when interest rates are close to zero and there is no scope for countervailing monetary policy - the policy would have served to have reduced GDP by 10% up to 2014 and by a further 9% by 2019. This doesn't mean that GDP will fall by 9% between now and 2019 but does imply that private sector output must rise by a substantial amount if GDP growth is to remain in positive territory. Specifically, if the economy is to grow at around 2.5% per annum then the underlying growth rate of the private sector in the face of such anticipated fiscal consolidation would need to be of the order of 4% per annum: a big challenge for the private sector. The outcome will also be

dependent on the result of the General Election in May 2105 because the Labour and Liberal Democrat parties are planning a slower pace of fiscal consolidation and a Conservative or indeed an unspecified Coalition government might alter the scale and pace of current plans or bias any consolidation more towards tax rises than via spending cuts, which could have a different impact on growth.

Greece and the Eurozone

The new Greek Government led by the Syriza party came to power with a mandate to renegotiate the terms of the 2012 bailout, which most analysts agree is posing a severe burden on the Greek economy and society. The scale of the austerity imposed on Greece is severe with real non-debt interest government spending having fallen by more than 20% between 2007 and 2014. GDP has fallen by 25%, since 2007, unemployment is currently over 25% and youth unemployment 50%! No other democratic country has endured austerity of that size and at such a pace. The Syriza government wants the pace of austerity to be relaxed so that they do not have to deliver a primary surplus as high as 4.5% required by the Troika (IMF, EC, ECB) – after debt interest payments – which they rightly contend will twist the screw of austerity to impossible levels. A slower pace of austerity and a smaller required primary surplus would allow the Greek Government to boost growth in the economy through increased spending on reform measures and infrastructure investment.

Despite the recent agreement for the bailout to continue while Greece firms up its programme of internal reforms, the issue of a relaxation in the scale and pace of austerity has effectively been postponed from consideration until June 2015. If there is no agreement on this issue then there is a real risk of Grexit, that is a Greek exit from the Eurozone. This would have difficult to predict consequences for the Eurozone itself and the global economy, including the Scottish economy. When the threat of Grexit was last posed in 2012, the Fraser of Allander Institute undertook a modelling exercise which estimated that a Greek exit would lower Scottish GDP by -1.2% and reduce employment by 49,000 and such an estimate ignores the potentially greater impact of wider contagion of bank runs and further possible exits of other peripheral euro countries.

GVA Forecasts

Table 1: Forecast Scottish GVA Growth, 2014-2016

GVA Growth (% per annum)	2014	2015	2016
Central forecast	**2.8**	**2.6**	**2.4**
November forecast	*2.7*	*2.2*	*2.1*
UK mean independent new forecasts (February)	2.6	2.6	2.3
Mean Absolute Error % points	+/- 0.18	+/- 0.52	+/- 1.12

Source: Fraser of Allander Institute 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 that the true first estimate of the growth of Scottish GVA will lie between.

Table 1 presents our forecasts for Scottish GVA - GDP at basic prices - for 2014 to 2016. 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 2014 is 2.8%, which is revised up from our forecast of 2.7% in November 2014. (Official outturn data for 2014 will not be available until mid-April this year.) The upward revision is again due to the strong growth performance exhibited in the first half of the year. For 2015, we have raised our forecast to 2.6% from 2.2% in November, which is largely the result of evidence signalled in business surveys, for example, that investment in 2015 is picking up faster than anticipated last November. This is more than sufficient to offset any negative effects on the oil production and services, or more generally the supply-side, from the lower price of oil. We have also revised up our forecast for 2016 from 2.1% back to our June 2014 prediction of 2.4%. This reflects *inter alia* some of the demand-side benefits of a lower price of oil helping to boost exports and domestic consumption.

Table 1, also compares our GVA forecasts with the median of latest independent forecasts for the UK as published by the UK Treasury in February 2015. These show that we now expect Scottish growth to be broadly similar to UK growth over the forecast period. So, we are now forecasting growth of 2.8% in 2014, 2.6% in 2015, and 2.4% in 2016. Given our previous forecast errors the lower and upper bounds for growth in 2014 are expected to be 2.6% and 3.0%, for 2015, 2.1% to 3.1%, and for 2016, 1.3% to 3.5%.

Production and manufacturing continue to be the major sectors exhibiting the fastest growth in 2014, 2015 and 2016. Last year production is projected to have grown by 3.4%, with services and construction displaying positive growth of 2.7% and 2.2%, respectively. This relative performance continues in both 2015 and 2016 even though forecast growth diminishes across all sectors in 2015 and 2016. Production grows by 2.9% and 2.8% in 2015 and 2016, while service growth is projected to be 2.5% in 2015 and 2.3% in 2016. The construction sector continues to lag with growth of 1.5% in 2015 and 1.4% in 2016.

Employment Forecasts

Table 2 presents our forecasts for net employee jobs for the years 2014 to 2016 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. Moreover, employee jobs can differ from the self-reported employment in the monthly Labour Force Survey.

Our forecasts for employee job creation have been raised compared to our November forecasts. On the central forecast, we are now forecasting that net jobs will increase by 53,850 in 2014, 51,350 in 2015 and 57,600 in 2016. This year, 2015, we expect nearly 40,650 service sector jobs to be created, with around 5,150 added in production given the stronger growth in output, and growth of 3,400 in agriculture. Construction jobs are now forecast to rise this year by 2,100. In 2016, the bulk of the jobs created are again expected to be in the service sector with an additional 45,450 jobs forecast, while 6,100 are added in production, 3,550 in agriculture and 2,450 in construction.

Table 2: Forecast Scottish Net Jobs Growth in Three Scenarios, 2014-2016

	2014	2015	2016
Upper	57,000	64,215	85,790
November forecast	*53,000*	*53,450*	*76,750*
Central	**53,850**	**51,350**	**57,600**
November forecast	*46,560*	*41,600*	*48,900*
Lower	50,600	38,500	30,750
November forecast	*33,400*	*19,900*	*29,900.*

Source: Fraser of Allander Institute forecasts ©

Unemployment Forecasts

The key unemployment forecasts are summarised in Table 3 below.

Table 3: Forecasts ILO unemployment 2014-2016

	2014	2015	2016
ILO unemployment			
Rate (ILO un/TEA 16+)	**5.5%**	**5.0%**	**4.6%**
November forecast	6.0%	5.8%	5.6%.
Numbers	**149,000**	**136,600**	**125,250**

Source: Fraser of Allander Institute forecasts ©

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. Our unemployment forecasts have been revised down further again from November, reflecting higher economic activity. Our projection for unemployment on the ILO measure at the end of 2015 is 136,600 (5.0%), falling further to 125,250 (4.6%) by the end of 2016.

Brian Ashcroft
27 February 2015

2 Forecasts of the Scottish economy

Grant Allan, Fraser of Allander Institute

Abstract

Despite growth slowing in the final half of 2014, it still appears likely that the Scottish economy grew in 2014 at a faster rate than in any year since 2007. The outlook for continued growth remains mixed however, though survey indicators indicate relatively strong investment signals. It is likely that household spending and investment will contribute positively to growth through 2015 as real incomes rise due to a combination of falling energy prices, some signs of wage increases and increasing employment. For these reasons, we have revised up our forecasts for growth in 2015 and 2016 to 2.6% and 2.4% respectively (from 2.2% and 2.1%). There remain significant downside risks including a likely (perhaps brief) period of deflation in the first half of 2015, continued slow growth in Scotland's major European trading markets and the existential possibility of Greece exiting the Euro – which while not likely to have a direct impact on the Scottish economy, e.g. through exports, would have implications through Scottish banks and wider exposure to European markets.

Fiscal and monetary outlook

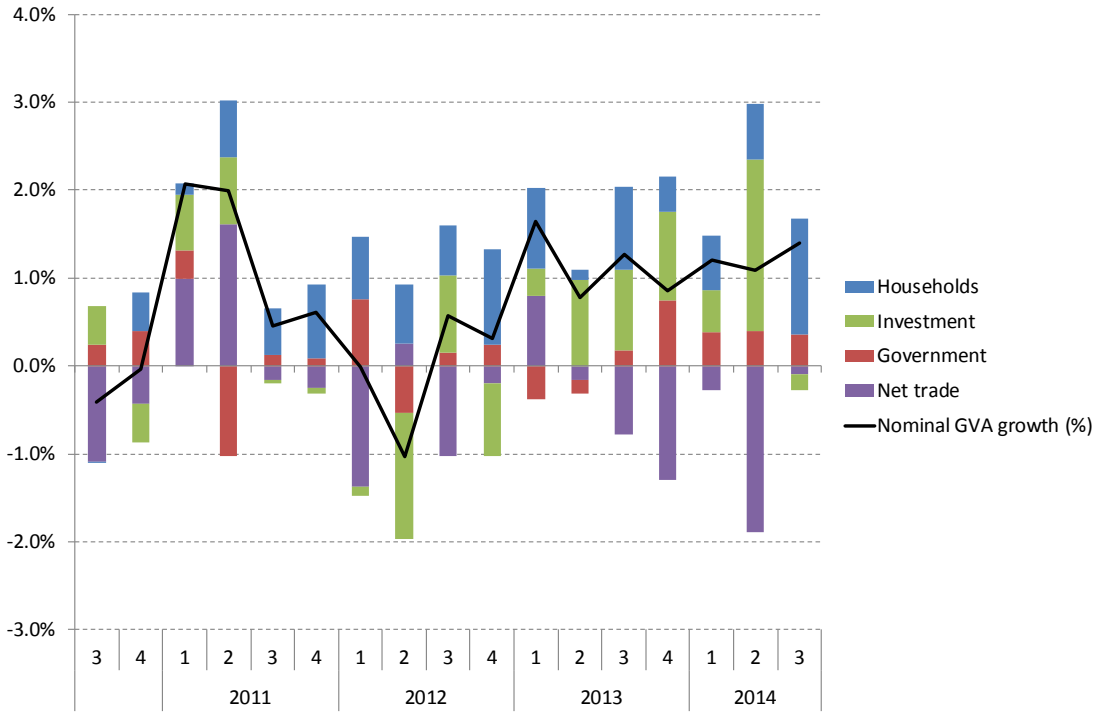
On the 4th of February 2015, John Swinney MSP set out the Scottish Government's final budget plans for year 2015-6 when total spending will about 1.6% less in real terms than 2014-5. Fiscal Affairs Scotland has examined the long-term projections to the Scottish budget over the coming years, and concluded that 20016-16 is likely to be one of the "milder" years for the Scottish budget which will see three years of accelerated real terms reductions from 2016-17 (Fiscal Affairs Scotland, 2014).

After almost six months of disagreement within the Bank of England's Monetary Policy Committee (MPC) at its February 2015 meeting, the Committee unanimously agreed to leave interest rates unchanged at 0.5%. The minutes of this meeting (Bank of England, 2015) reveal that the Bank discussed its options in the face of continuing low rates of inflation (with CPI at 0.5% in December 2014) – below the Bank's target of 2%; these included: expanding its QE programme (beyond £375 billion) and making reductions (from 0.5%) to the Bank base rate. The same minutes show that all members of the Committee expect interest rates to increase over the next three years, though one member thought it equally likely that interest rates would be lowered as increased. The Bank is closely watching inflation expectations, in particular to see how low inflation becomes over the first half of 2015 and the extent of any deflation. In his presentation, the Bank's Governor, Mark Carney, was keen to emphasise the Bank's expectation that CPI inflation is likely to turn negative, but that this will be "brief" and will be localised to the impacts of food and fuel prices, largely affected by the reduction in the oil price. A prolonged period of deflation across many categories of prices, which feeds into inflation expectations, could be very damaging for a recovery which has seen the recent quarters' of growth driven largely by indebted household demand.

Households

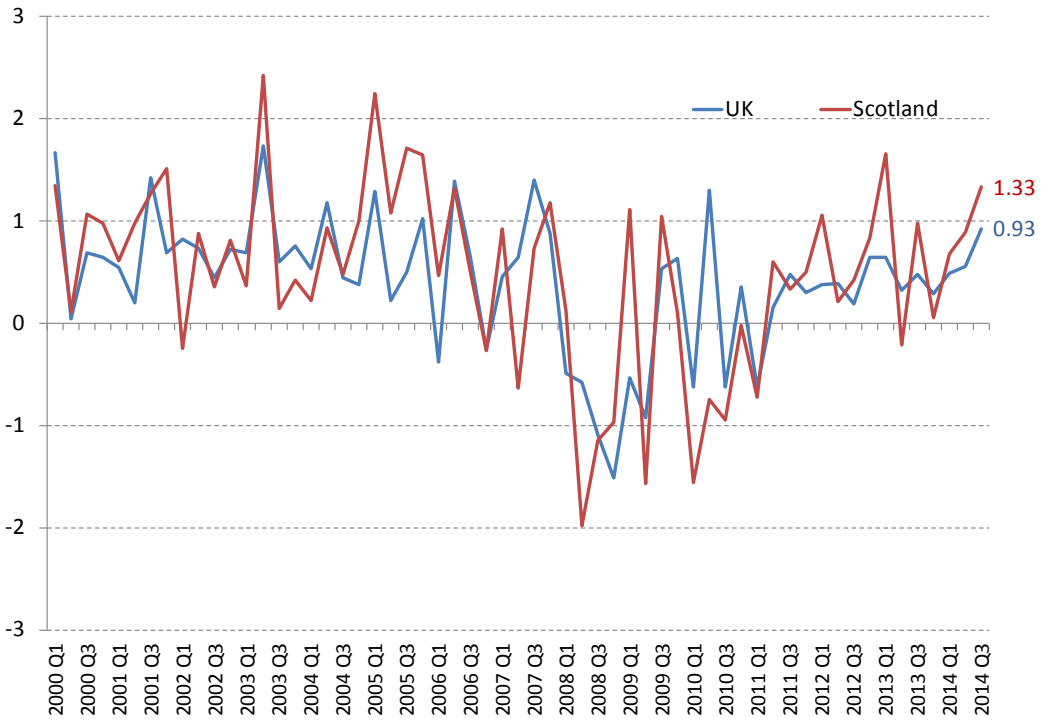
It is evident from Figure 1 that household spending has driven a considerably portion of economic activity in Scotland. On average, between Q1 2011 and Q3 2014, household consumption has contributed 0.7 percentage points to nominal quarterly growth, with Gross Fixed Capital Formation and Government (only) contributing 0.4 and 0.1 points respectively). Net trade has contributed an average of *minus* 0.3 percentage points over the same period indicating issues both of Scotland's narrow export base and the economic health particularly of Eurozone economies. What is also clear from Figure 2 is that the volatility of (real) consumption spending growth continues to be greater in Scotland that the UK as a whole, and that consumption expenditure since the start of 2011 has grown reasonably strongly. In the most recent quarter for which data is available (Q3 2014) consumer spending grew by 1.3% in Scotland and 1.0% in the UK as a whole. The household savings ratio for the UK has continued to be around 7% and about 2.5 percentage points below its pre-recession average. In Scotland, the savings ratio was 5.9% in Q3 2014, which is actually slightly higher than its long term average.

Figure 1: Contribution to nominal quarterly growth, Scotland, Q3 2010 to Q3 2014, % points q-on-q



Sources: *Scottish National Accounts Project (SNAP) data (Scottish Government) and Fraser of Allander Institute (FAI) calculations. The columns shows the percentage point contribution of each element to quarterly Scottish (nominal) GVA growth, while the solid black line shows nominal GVA growth for Scotland for each quarter, e.g. in Q3 2014, household and government spending contributed positively to GVA growth, while there were small negative contributions from investment (for the first quarter since Q4 2012 and net trade (for the six successive quarter).*

Figure 2: Household real consumption spending growth, Scotland and UK, Q1 2000 to Q3 2014, % q-on-q

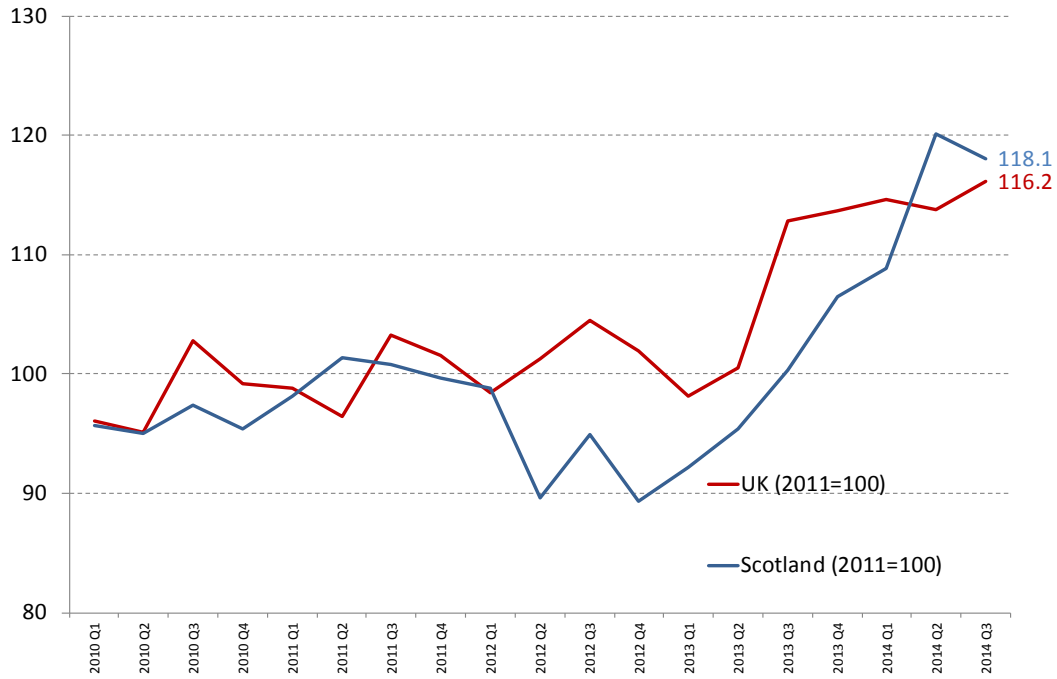


Sources: *Scottish National Accounts Project (SNAP) data (Scottish Government) and UK Quarterly National Accounts (National Statistics) and FAI calculations.*

Investment

Figure 3 shows comparable figures for Scotland and the UK for investment spending between Q1 2010 and Q3 2014. These suggest that investment spending in Scotland and UK are both about 17% above its average from 2011. The contribution made by investment spending through 2013 and the first half of 2014 is clear also from Figure 1 (before a small nominal decline in investment spending in Q3 2014). Over a longer time horizon, real current investment spending is broadly at the same level as previous highs in 2007. Recent survey evidence – covered in the *Review of Business Surveys* section – suggests that a number of sectors are bullish about investment plans for 2015. The Bank of England's November Inflation Report (Bank of England, 2014, p. 20) noted that the outlook for business investment was robust, supported by "conducive financing decisions and expanding domestic demand". Though demand uncertainty was again important, it appeared to have "receded" over 2014. The Bank had previously warned of the chance that excess capital in firms was potentially holding back new investment. Recent survey results however suggest that this fear is not restraining investment.

Figure 3: Real gross fixed capital formation, Scotland and the UK, Q1 2010 to Q3 2014



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

Trade

Exports from Scotland were reported on the 26th of January 2015 in the Global Connections Survey. These are not timely nor robust data in that the latest figures relate to 2013 and are denominated in nominal terms, however they do provide a good breakdown of the sectoral composition of Scotland's exports (i.e. what industries export in Scotland) and the destination markets for Scottish products. The headline numbers showed a nominal increase in international (i.e. ex-UK) exports of £1,860 million (7.2%) between 2012 and 2013. While there were reductions in some sectors (including a small reduction of £15 million in the value of whisky exports), there were strong performances in refined petrol and chemical products, computer, transport and machinery equipment, as well as in transportation. The top two export sectors remain dominantly food and drink and refined petroleum, which jointly are responsible for over 30% of Scotland's international exports. The five top destinations for Scotland's international exports are, by value, respectively the USA, Netherlands, Germany, France and Denmark. In all, over 55% of Scotland's international exports are to European markets. Encouragingly exports to European Union countries increased strongly (12.4%), while there were actual reductions in the value of exports to Asia (down £45 million, or 1.5%). Scotland's exports to the rest of the UK rose more slowly than its international exports, increasing by 2.7% (£1,200 million).

The most recent statistics on Scottish exports to the rest of the world – covering manufacturing exports alone (roughly 60% of Scottish exports outside of the UK) – show that there was quarterly growth of 1.8% in the final quarter of 2014, the third such consecutive quarterly increase. Exports were helped by

a continuing rebound of exports from refined petroleum activities (up 8.9% in Q4, following 14.4% and 4.4% increases in Q1 and Q32 respectively). The export figures remain affected by the shutdown of the Grangemouth facilities through the end of 2013; however the level of exports for this sector has now almost returned to the levels of Q3 2013. Data for the drinks sector – which saw a decline in 2013 as reported above – suggests more positive news through 2014 with (small) positive growth in the first three quarters of the year.

In terms of key markets for Scottish products, the latest figures suggest little room for optimism about the short-term trajectory of Scottish exports. Markit's PMI for the Eurozone in February 2015 (20th February) suggested a further improvement in activity – three consecutive months of improving business activity measures – and it noted that the Eurozone economy as a whole appeared to be gaining some growth momentum, in part driven by the strongest growth fin France in almost four years. Growth in the US is forecast to strengthen, though it is the only one of Scotland's major international export markets to have its growth forecasts for 2015 and 2016 revised up by the International Monetary Fund (IMF) since its October 2014's forecasts. Indeed, it appears that without growth in US markets, Scotland's export performance would be significantly worse. Table 1 shows the forecasts for growth in key global markets for Scottish products through 2015 and 2016. Since our last forecasts in November 2014, economic forecasts for the UK as a whole have been revised down slightly for 2014. The average of 2015 forecasts in February 2015 is 2.6%, and range between 2.1% and 3.0% - a very small range given how early in the year we are currently. Forecasts for 2016 average 2.3%, and range between 1.2% and 3.0% (HM Treasury, 2015).

Table 1: Economic growth forecasts for 2014 and 2015 for Scotland's major export markets, plus UK, China, Japan and the Euro area, % p.a.

		2015			2016		
	Share of total (i.e. international and rest of the UK) exports, % 2013	IMF (January 2015)	Revision since October 2014	OECD (November 2014)	IMF (January 2015)	Revision since October 2014	OECD (November 2014)
USA	5.3	3.6	+0.5	3.1	3.3	+0.3	3.0
Netherlands	2.8	-	-	1.4	-	-	1.6
Germany	2.6	1.3	-0.2	1.1	1.5	-0.3	1.8
France	2.5	0.9	-0.1	0.8	1.3	-0.2	1.5
Denmark	1.9	-	-	1.4	-	-	1.8
Norway	1.5	-	-	1.8	-	-	2.5
United Kingdom	62.4	2.7	0.0	2.7	2.4	-0.1	2.5
China	0.8	6.8	-0.3	-	6.3	-0.5	-
Japan	0.4	0.6	-0.2	0.8	0.8	-0.1	1.0
Euro area	-	1.2	-0.2	1.1	1.4	-0.3	1.7

Sources: *World Economic Outlook Update (International Monetary Fund, IMF, January 2015) and Economic Outlook (Organisation for Economic Cooperation and Development, OECD, November 2014) Notes: "-" indicates a country forecast is not produced.*

Forecasts for the Scottish economy: Detail

In June 2014 we identified that there was an apparent cooling of the Scottish economy as it entered the second half of the year. This has been borne out by the data we have currently, and it is likely that the Scottish economy as a whole grew by around 0.6% in the final quarter of 2014 – broadly similar to its growth in Q3 but down from growth of 1.0% and 1.1% seen in Q1 and Q2 2014 respectively. This growth outturn would suggest that 2014 saw growth of around 2.9%, the highest annual growth since 2007. While there are a number of positives from most recent surveys of the Scottish economy, it is likely that growth in the first quarter of 2015 will be in line with the performance of the second half of 2014, rather than the preceding six months.

Looking to the longer term, it appears (again) that household spending is likely to continue to drive much of the developing economic recovery. Wage growth for the UK as a whole increased by 1.7% in the final three months of 2014, and with the low rate of CPI inflation, real incomes are likely to rise further as wage growth increases through 2015. Business investment intentions remain in growth territory and there appears to be some stability to the recovery in the rest of the UK – Scotland's largest trading market.

Additionally, the recent fall in the oil price, and subsequent rapid fall in CPI inflation would be expected to reduce input costs to business and act as an effective wage increase to households (in particular where energy prices reflect these significant falls (for example in petrol/diesel prices, and domestic electricity and gas bills). The Bank of England (2015b) notes that while businesses may see a fall in their costs, the impact on business investment is unclear: some investment could be encouraged by the lower oil price but there may also be reductions in investment in the UK Continental Shelf (UKCS). This is clearly not positive news for all parts and sectors of the Scottish economy, however it is too early to say what the impact could be over the medium or longer term on the oil and gas sector and activity in the UKCS and the North East of Scotland economy. In the absence of the oil price rebounding significantly, many have speculated that there could be a period of low oil prices over the next couple of years or so. In the absence of a period of deflation for the UK – which the Bank of England has suggested could arise, but is likely to be only brief – a relatively brief period of low oil prices could be likely to have a *net positive impact* on Scotland's onshore economy (i.e. the basis on which quarterly figures on Scottish GDP is calculated and reported, which does not directly include activity in the UKCS).

However we would anticipate there remain significant risks to the downside on these forecasts, and that these are not solely related to the uncertainty around the future oil price. It is clear that downside risks to Eurozone economic activity cannot be ignored – indeed, the Quantitative Easing ("bazooka") announced by the European Central Bank (ECB) on 22nd January 2015 with a larger than expected scale of €1.1 trillion– is an explicit attempt to boost struggling economic conditions and prevent the Eurozone entering deflation. The success of this policy, and the existential threat from Greek debt negotiations and possible Euro-exit, reveal some of the significant downside risk that remains to these major markets for Scotland. The Institute for Fiscal Studies notes that half the Government's fiscal consolidation relative to 2008 remains to be implemented after 2014/15, and that it is likely to be made through further government expenditure reductions.

Results

In this section of the *Commentary*, we forecast year-on-year real growth in Scotland's key economic and labour market variables. In this issue, we forecast all variables for 2014, 2015 and 2016. (The growth of the Scottish economy in the final quarter is published in mid-April 2015 which will complete our first understanding of Scottish economic performance during 2014). 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 GVA growth in the Scottish economy. The growth performance of Scotland between 2010 and 2013 and our forecasts for the period to 2016 are shown in Figure 4. This also includes our upper and lower forecasts 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.

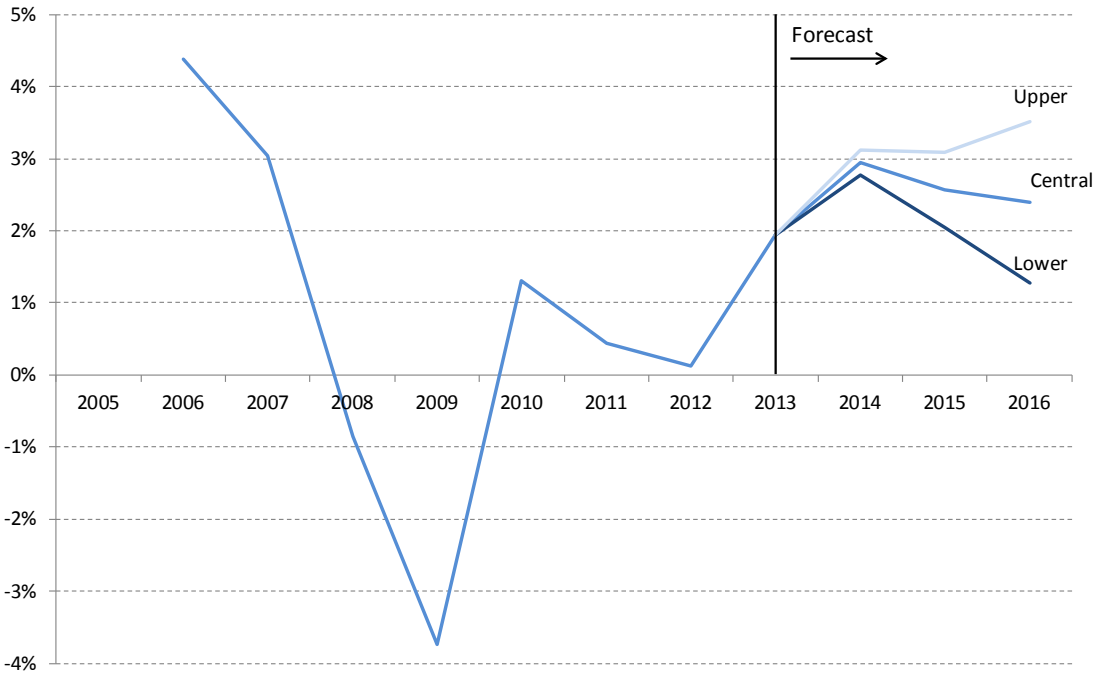
Based on earlier forecasts since 2000, the mean absolute error of forecasts in the spring period and growth in the year previous (i.e. 2014 in this forecast) is 0.18 percentage points. Growth forecast errors made in spring for the year currently in progress are 0.52 percentage points. This gives the range for the upper and lower bands in 2014 and 2015. Some recent forecast evaluations for the OECD found that that organisations average absolute error for current year UK growth forecasts, made in May of the year in progress, was 0.5 percentage points (Pain *et al*, 2014). Our past forecast errors for the longest forecast horizon is 1.120 percentage points, so this is used to give the range around our central forecast for 2016.

Relative to our November 2014 forecasts we have now revised up our central forecast for GVA growth in 2014 from 2.7% to 2.8% (i.e. an upward revision of 0.1 percentage points) and largely driven by better than expected growth outcomes through the first half of 2014, in particular the stronger than expected performance in the second quarter. Our forecast for 2015 has been revised up from 2.2% to 2.6%, largely as a result of upward improvements in investment signals at the start of 2015. Our new forecast for 2016 is 2.4%, revised up from 2.1% in November 2014, and the same as our initial estimate for 2016 made in the June 2014 Commentary.

For comparison purposes, the UK's Office for Budgetary Responsibility (OBR) forecast for growth in 2015 (made in December 2014) and the median of new independent growth forecasts for the UK in 2015 are 2.4% and 2.6% respectively, while for 2016 the respective figures are of 2.2% and 2.4% respectively.

In addition to the aggregate growth forecasts in our central scenario, Table 2 presents our forecasts for GVA growth in 2014, 2015 and 2016 for three broad sectoral groupings: the "production", "construction" and "services" sectors of the Scottish economy.

Figure 4: Forecasts of annual real GVA (%) growth for Scotland, 2010 to 2016



Sources: Fraser of Allander Institute forecasts, March 2015

Table 2: Scottish GVA growth (%) by sector, 2014 to 2016

	2014	2015	2016
GVA	2.9%	2.6%	2.4%
Production	3.4%	2.9%	2.8%
Construction	2.2%	1.5%	1.4%
Services	2.7%	2.5%	2.3%

Source: Fraser of Allander Institute forecasts, March 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 2014, 2015 and 2016 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 2,403,000 employee jobs in Scotland in the third quarter of 2014, an increase of 46,000 jobs from the end of 2013. This level of

employee jobs is now 78,000 jobs short of the peak of employee jobs in Scotland in Q3 2008 (2,480,000).

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 increase in each year, and they have been revised up slightly since our November 2014 forecasts. The number of jobs at the end of 2014 is now forecast to be 2,409,850, an increase of 2.3% in 2014 (up from 2.0%) with an upward revision of just over 7,000 jobs since November's forecast. Our new forecast is that the Scottish economy will add 51,350 jobs in 2015, up by 10,000 from our November forecast, and 57,600 jobs in 2016, up by almost 9,000 from our November forecast. We now forecast the number of employee jobs in Scotland will be about 1.6% above its previous peak by the end of 2016. The net change in employee jobs, consistent with our upper, central and lower forecasts, is shown in Table 5.

Table 3: Forecasts of Scottish employee jobs ('000s, except where stated) and net change in employee jobs in central forecast, 2014 to 2016

	2014	2015	2016
Total employee jobs, Dec	2,409,850	2,461,200	2,518,800
Net annual change (jobs)	53,850	51,350	57,600
% change from previous year	2.3%	2.1%	2.3%
Agriculture (jobs, 000s)	39	42	46
Annual change	3,750	3,400	3,550
Production (jobs, 000s)	243	248	254
Annual change	2,900	5,150	6,100
Construction (jobs, 000s)	133	135	138
Annual change	2,050	2,100	2,450
Services (jobs, 000s)	1,995	2,036	2,081
Annual change	45,150	40,650	45,450

Note: Absolute job numbers are rounded to the nearest 50.
***Source:** Fraser of Allander Institute forecasts, March 2015*

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

	2014	2015	2016
Upper	57,000	64,215	85,790
Central	53,850	51,350	57,600
Lower	50,600	38,500	30,750

Note: Absolute job numbers are rounded to the nearest 50.
Source: Fraser of Allander Institute forecasts, March 2015

We present out forecasts for unemployment at the end 2015 and 2016 in our central scenario in our central forecasts in Table 5. In line with the forecasts produced since June 2013, we report the forecast

number (and rate) of those unemployed using the International Labour Organisation 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.

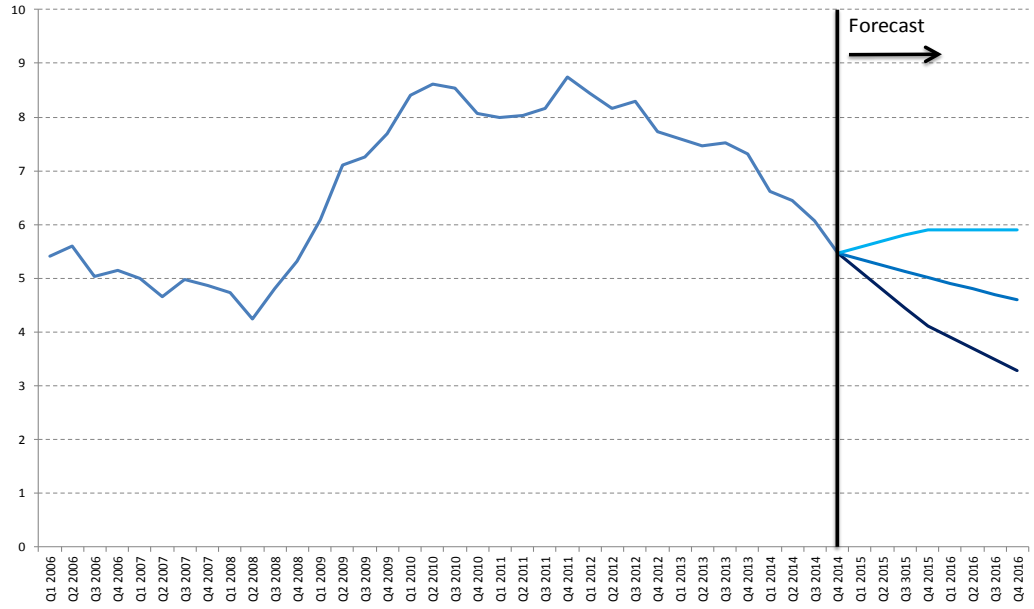
In November 2014 we forecast that the unemployment rate would fall to 5.3% by the end of 2014. The recent labour market data at time of writing (22nd February) indicates that the ILO unemployment rate in the final quarter was 5.5%. Our new forecasts for the unemployment rate in Scotland at the end of 2015 and 2016 are 5.0% and 4.6% respectively. Figure 4 shows both the performance of ILO Scottish unemployment rate since 2006 as well as our ILO unemployment rate central, upper and lower forecasts to 2016.

Table 5: Forecasts of Scottish unemployment in central forecasts, 2014 to 2016

	2014	2015	2016
ILO unemployment	149,000	136,600	125,250
Rate (%)[1]	5.5	5.0	4.6

Note: Absolute numbers are rounded to the nearest 50. 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, March 2015

Figure 4: Scottish ILO unemployment rate, 2006 to 2016 including forecasts from 2014



Sources: ONS and Fraser of Allander Institute forecasts, March 2015

Grant Allan
22nd February 2015

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3 The price of oil and the Scottish economy

Grant Allan, Fraser of Allander Institute

There were days in the latter half of 2014 when it seemed as if the price of oil was declining faster than newspapers were able to report it. Published prices were out of date almost before the ink was dry, superseded by successively lower prices, eventually falling to just over $45/barrel. So, we know that as soon as we note that the price of oil today (13th February 2015) is $55.73/barrel, that this will likely be wrong in the very near future *[Update: as of 28rd February 2015 it is $62.58/barrel – a rise of over 12% in just ten days]*. As an indication of how much the price of oil has fallen, and the rapid pace of this decline, prices in June 2014 were above $110.00/barrel. The decline appeared to have two distinct phases; first, the period to the start of October 2014 when the price fell by just over $10/barrel in three months, prior to a second phase – lasting slightly more than three months - when prices fell by over 50% to $50/barrel. The last time there was such a rapid decline in price was in final half of 2008, at the start of the Great Recession.

Figure 1 – Price of Brent crude ($ per barrel), January 2005 to January 2015 (daily average price)

Source: Thomson Reuters

Whatever the factors that are causing this recent and significant price fall – and plausible explanations include: the slower-than-expected forecast for global economic growth and hence lower growth in demand for energy; increased shale oil production in North America (adding about 4.5% to global supply); and critically the – ongoing - decision of Saudi Arabia (and the wider OPEC group) *not* to

defend the former oil price by decreasing production in the face of falling prices – they are having and will continue to impact significantly on the global economy as well as on the UK, Scottish and sub-Scotland economies – in addition to having serious structural impacts on the oil and gas and wider energy sectors.

When faced with the global dynamics of oil prices, what is not lost on economists and policymakers is that the changing oil price could have serious economic impacts for Scotland and parts of the Scottish economy. What is less clear however is the extent to which this price reduction will impact on the Scottish economy *as a whole*. We consider several factors, before attempting to draw some conclusions. We begin by looking at oil prices, before considering what might be termed the 'good' and 'bad' news, and before considering items for which it is difficult to attach either a positive or negative label.

Prices in the future

What is different between the recent price fall and that of 2008 is the extent to which price forecasts have moved. Markets which failed to predict the spectacular price fall are relatively confident that prices will remain below / around $70 a barrel through to 2017, however as shale gas production begins to slow and as demand recovers slightly over the coming years this could mean a faster-than-expected return to higher prices. The stance of OPEC and Saudi Arabia remains critical. If their current policy of maintaining production levels were to change – and output to be sharply curtailed – the price could soon rise. It is certainly true however that various plausible scenarios for coming weeks and months are feeding through to uncertainty and hence volatility in forward oil markets. Price volatility – measured by using futures contracts – has increased sharply over the last six months, and now stands at its highest levels for over five years (i.e. 2010). It would be interesting to better understand the separate, but linked, effects on production and exploration of low oil prices and high (forward) price volatility.

Employment and the UK Continental Shelf (UKCS)

Four figures need to borne in mind when talking about employment in the UKCS. The first two are measured, while the latter two are estimated using economic techniques (and are partly based on the first two). First, the **core workforce** – i.e. those workers spending more than 100 nights offshore – totalled almost **28,000** in 2013 (Oil and Gas UK, 2014). Second, is the total **offshore workforce** – i.e. all those who travel offshore for any length of time – was almost **62,000** in 2013 and has risen by about 10,000 between 2010 and 2013. Oil and Gas UK (2014) note that this increase is attributable to maintenance programmes and investment projects linked to recent capital spending.

Oil and Gas UK also produce a figure for the **total employment in the UK which is supported by UKCS activities**. This is the sum of three elements: the number of "direct" jobs, i.e. those in the sector itself, multiplied by a jobs multiplier, which shows the number of jobs supported by each direct job. This multiplier takes into account the linkages which exist between offshore activities and onshore employment in supporting sectors "indirect jobs", i.e. those employed in the production of goods and services, etc. to the offshore activities (and in the production of parts required for the production of those goods and services, and so on). In this methodology, these indirect jobs are attributed to the UKCS activity. Oil and Gas UK take direct employment of 32,000 and a job multiplier of 7.5 (Oil and Gas UK, 2012) to estimate **direct and indirect** employment in the UK of **240,000**.

The final figure is the **total employment supported by the UK oil and gas sector**, which Oil and Gas UK estimate as **440,000** Oil and Gas UK (2012). This is produced by adding an additional two additional elements with 100,000 jobs each to the direct and indirect figure above. The first of these is the induced effect (i.e. the spending by UK households of wages earned) while the second is the number of jobs in the UK supported by oil and gas activities in the rest of the world, i.e. producing goods for export to international markets.

It is also useful to examine where those who work offshore on the UKCS actually reside, as this gives a geographical distribution of the offshore workforce and indication of the geographical / regional impact of any significant changes in workforce numbers. Fortunately, figures for the residential location of the offshore workforce are available for as recent as 2013 (Oil and Gas UK, 2014). These show that 28% of offshore workers live in the North East of Scotland, with a further 21% living in the rest of Scotland. Put another way, more than 50% of the UKCS workforce live outwith Scotland (with 16% of the total offshore workforce living in the north east of England, for example).

The good news?

1. Low energy prices = higher real incomes (for households) and lower input costs (for businesses)

A number of news outlets have reported that a 10% fall in oil prices, could lead to a 0.1% increase in economic output. This would likely come from lower prices, stimulating household incomes – through reducing the costs of energy – and increasing the purchasing power of household incomes. In this way, the fall in prices would be equivalent to a wage increase. The most recent economic accounts suggest that household expenditure on energy, including gas, electricity and transport, is around 4% of all household spending. Any reductions in fuel prices could also have positive impacts for those on lower incomes, for whom energy comprise a higher portion of their expenditures. What is fundamentally important for the scale of the stimulus to household incomes is the extent to which the fall in price is passed on to consumers.

Furthermore, industries which are energy-intensive will benefit particularly from lower production costs – and all sectors will benefit from lower input prices. Domestic energy costs – oil, gas, and electricity – broadly comprise around 12% of all intermediate input costs for the Scottish economy as a whole, while all energy costs are around 15%. There are particularly sectors for whom energy are a larger portion of all intermediate inputs, such as parts of manufacturing. This being true, however, it would only improve the competitiveness of Scottish products, e.g. for exports, were Scottish exporting firms to be particularly more energy intensive than their counterparts in other regions and nations (as all regions and economies would benefit from lower input prices).

The bad news?

1. Oil and gas production activity likely to reduce in the short to medium term

To the extent that production is related to a high and stable oil price, the recent large falls might be expected to lower production. Indeed, many major operators in the North Sea are actively seeking to reduce their employment in the UKCS. Chevron was the first to announce job reductions, announcing plans to reduce its employment in Aberdeen by 255 (BBC News, 2014) in July 2014. Shell announced 250 onshore job losses in August 2014 (BBC News, 2014) while in January 2015 there were four further

announcements: BP announced a total of 300 job losses (BBC News, 2015), Schlumberger announced a reduction in its North Sea jobs of 100 (Scotsman, 2015),Talisman-Sinopec said it would cut around 300 jobs, broadly split across permanent and contract staff (Telegraph, 2015) and Conoco-Phillips announced plans to reduce its UK employment by 230 (by roughly 14%) (Reuters, 2015).

Two points should be made here. First, these announced job changes are only those in the operators themselves, and take no account of the possible impact on suppliers and the wider jobs supported by the sector. Using the same jobs multiplier as Oil and Gas UK – which is higher than for many sectors - the announced 1,435 job losses detailed above could mean the loss of more than 10,000 jobs across the UK as a whole, taking account of direct and indirect effects. Given the figures reported above on the residences of offshore workers, it is likely that any *indirect* job losses could be concentrated in the North East of Scotland, while the induced effects would have a far wider geographic spread across the UK.

2. Drilling activity in the UKCS will weaken, without any countervailing tax policy

In addition to exploration success, a major predictor of exploration and drilling activity has typically been (expectations of) a high and stable oil price. It is highly likely that one of the direct consequences of a sustained period of low prices will be lower exploration activity. However it should be noted that the level of exploration has been falling for the past few years, and current expectations are that between 8 and 10 exploration wells will be drilled in 2015. There were 15 wells drilled in 2013, which was well below the average for the previous decade. The expected oil price is a critical determinant of future drilling activity expectations, however the data shows that the last few years have seen significant declines in exploration activity, so high prices *per se* (such as existed before mid-2014) are a necessary but not sufficient condition for drilling activity. Part of this is explained by the scale of firms undertaking appraisal and exploration work, which Oil and Gas UK identify as being smaller than in the past – and so they are less able to accommodate non-successful exploration drilling – particularly when the cost of appraisal wells has increased significantly (i.e. from £20million per well in 2010 to £70 per well in 2013) (Oil and Gas UK, 2014b).

The good / bad news?

1. Decommissioning activity – up?

Shell announced plans at the start of February 2015 for the decommissioning of the Brent Delta platform. Decommissioning of the UKCS oil and gas facilities has been estimated to cost be a £30 to £35 billion market, with a large number of jobs to be sustained over many years through these activities. Although certain to occur for all projects at some point, the specific dates as to when individual projects and pipelines will be decommissioned is highly uncertain; however many factors other than the current oil price impact on decommissioning. Decom North Sea, for instance, identify, among other things, future prices, improved production technologies, fiscal and regulatory changes and alternative uses for the structures as all playing a part in determining the date at which fields will be decommissioned.

2. Renewable energy

Some have argued that the low oil price could make renewable electricity technologies less competitive against fossil technologies, and so limit the development of renewable energy capacity. On a “levelised cost” basis, this is almost certainly the case. However, it is worth noting – as others have for other

countries - that from the perspective of the electricity system as a whole that renewable electricity, for instance, does not typically directly compete with fossil technologies. Hence such support mechanisms for renewable electricity technologies however are likely to be the critical factor in developments over the short and medium run. Renewable heat, on the other hand, may be affected by lower (oil) prices as its cost competitiveness suffers, while the fall in the price of petrol and diesel reduces the incentives for drivers to move to electric cars.

Assessment

In summary, despite the increased uncertainty, the future oil price remains critical for activity in the UKCS and – through a range of transmission channels described above – will have a direct impact on the Scottish and UK economies. To the extent that low prices are a feature not only of the first half of 2015 but into the medium term, activities in the UKCS will likely change quite significantly, particularly in the absence of increased exploration activity or any countervailing tax / fiscal regime change. The outcome for the Scottish economy as a whole however is difficult to predict, particularly as it is likely to be positive for the UK as a whole (and this is Scotland's largest export market).

The reduction in energy prices and commensurate effective wage increases (for households) and input cost reduction (for businesses) could plausibly have some positive consequences for the Scottish economy. However, there are likely to be negative and significant consequences for particular parts and sectors of Scotland, in particular the North East of Scotland, from a sustained low oil price and via production, labour and supply chains to other locations both in Scotland and the UK. For an outline assessment of the range of potential impacts on the Scottish economy, please see the Box 1 'Estimates of the impact of fall in oil price on GDP and jobs, Scotland and UK', page 25).

From a purely data perspective, as UKCS activities are not counted as part of Scottish GDP figures (only the onshore and supply chain activity is) any direct effect on UKCS production will be felt in the UK GDP series, and not in Scottish GDP figures. For this reason, we are unconvinced by the assessment of the Governor of the Bank of England that the (short term) impact of the low oil price will be negative on Scotland as a whole. Clearly however the duration over which prices remain low will be important for the longer term economic impacts from changes to UKCS production, exploration, and energy production and prices.

As to the future, policy in Scotland requires better data on how activities in the UKCS connect to the rest of the Scottish (and UK) economy. This should take into account not only tax revenues and employment, but to the direct activities and supply chain linkages of all different aspects of UKCS activities to manufacturing and other sectors across Scotland and the UK. This will allow better understanding of what the changing profile of UKCS activity could mean for the Scottish and UK economy and developments in the major economic centres linked to the oil and gas sectors.

Were the oil price to stabilise over the medium term somewhere between $70-$100/barrel, it would be interesting to see what this may mean for the activities in the UKCS. With costs increasing as the UKCS is a maturing basin with low exploration activity ("one of the world's most mature basins" (OGA, 2015)), the newly-established Oil and Gas Authority (OGA) has an intriguing challenge to deliver a strategy – as formalised in the recently confirmed Infrastructure Act – to maximise economic recovery from the UKCS.

Major questions include: what should be the immediate fiscal actions – as it appears likely that the UK Budget in March 2015 will take steps to reduce the Supplementary Charge and investment allowances; and into the longer term, what specific actions will the OGA, acting with the industry and government in a new "tripartite" approach to regulation, take to reducing the costs of exploration, improving the efficiency of production, encouraging investment and ensuring the sustainability of activities in UKCS for the longer term?

[Update: On 25th February 2015, the Oil and Gas Authority published "Call to action" (OGA, 2015) identifying the two key risks facing the industry in the UK from the sharp fall in the oil price as 1) reduced profitability failing to attract investment, "leading to premature decommissioning of assets" and 2) a lack of long-term investment due to a decline in the "confidence in the future potential of the UKCS", and additionally highlighting priority actions for the regulator, Government and industry to take forward in 2015 and over the next two years in key areas.]

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4 Review of Scottish Business Surveys

Eleanor Malloy, Fraser of Allander Institute

Abstract

Business surveys are a useful tool and provide accurate and timely data that are extremely helpful in pinpointing subtle movements in the economy. Business surveys collect information on a wide range of topics such as business confidence, orders, turnover, exports, investment, employment etc. and when analysed provide a view of the overall economy. They are also useful for short term forecasting and pinpointing turning points. Many business surveys use net balances, determined by subtracting the percentage reporting declines from the percentages reporting increases. A number of recent surveys show that more and more businesses report that net trends, although remaining positive, have eased somewhat (with a growing number of respondents reporting 'no change') nevertheless most remain above pre-recession levels.

Bank of Scotland Purchasing Managers' Index (PMI)

The Purchasing Managers Index (PMI) for Scotland (a single-figure measure of the month-on-month change in combined manufacturing and services output) in January 2015 saw output fall for the first time in 28 months from 52.8 in December to 47.7. This was the first sub-50 reading since September 2012, indicating a contraction, with output declines recorded for both manufacturers and services firms. The December PMI showed that Scotland's private sector economy ended 2014 in a fairly strong position with the index unchanged in December from November's 52.8. The November index indicated weakening growth, with the index easing from 54.2 in October to 52.8.

Bank of Scotland Business Monitor

The latest Bank of Scotland Business Monitor, September, October and November 2014 (with expectations to May 2015) shows that the Scottish economy continued to grow at pre-recession rates although the speed of the recovery has eased. However, expectations for the next six months remain strong.

Turnover improved in the three months to the end of November 2014 for a net balance of +16%, although this was down from the +30% of the previous quarter, it remains higher than recent historic averages. The net balance of turnover has been positive for six consecutive quarters and according to the Bank of Scotland this therefore indicates growth.

In this Commentary we track the net balance in the total volume of business as reported in the Bank of Scotland Business Monitor, from 2004 Q2 to present (2014 Q4) – refer Figure 1. This clearly shows declines in the pre-crisis period (from 2007 Q2), moving into negative territory from 2008 Q3 and remaining in negative territory 2013 Q2Though there was an improvement up until early 2010 the next two and a half years saw the Monitor indicate that the Scottish economy was largely stagnating. During mid-2013 the Business Monitor showed that the economy was beginning to grow again. This recovery continued into 2014 and respondents are forecasting good prospects for growth in 2015.

Thought growth continued during 2014, the rate of increase eased. The net balance of turnover for production firms during the three months to end November 2014 was +12%; down from +35% the previous quarter - but is identical to the +12% of the same quarter one year ago. Services businesses reported a net balance of turnover for the three months ending November of +19%, down on the +27% of the previous quarter and up on the +17% of the same quarter one year ago.

Source: Bank of Scotland Business Monitor

Exporting is proving a challenge in the face of stagnant Eurozone economies and the Business Monitor reported a recovery in export activity over the previous three Business Monitors. However more - a net of -4% of - firms reported a decline in export orders in the three months to the end of November 2014.

The trend in firms' own expectations rose through 2013 and into the first part of 2014 and although these expectations have been slightly tempered they are still above pre-recession levels. Indeed the latest Monitor was the eighth successive Business Monitor to show a positive net balance for turnover expectations – the most optimistic sequence of results for seven years, since 2008. A net balance of 19% expect turnover to rise in the six months to the end of May 2015, marginally lower than the +21% of the previous quarter but up on the +16% of the same quarter one year ago. On balance service firms are more than twice as optimistic as production companies, with a net balance of +24% of service firms expecting their turnover to increase compared to only +11% of production firms. In the summer 2014 Business Monitor, expectations for future export activity improved to its second highest level in almost seventeen year history of the survey. However the latest net balance for export activity for the next six months has significantly eased (from +32% to +5%).

Capital investment had been on a rising trend in previous quarters rising from +3% in the summer 2014 Monitor to +7% however a net of -6% expect a decline in the six months to May 2015.

The main findings from the latest Monitor are that economic activity continues to improve although expectations have fallen slightly but remain close to pre-recession levels. This suggests therefore that the recovery will continue into 2015 but the rate of growth will ease.

Manufacturing

There was an increase in business optimism among Scottish Chamber Quarterly Business Survey (QBS) firms for the 9th consecutive quarter with a small net balance of 5% reporting a rise. Total orders rose for a net balance of 13% of firms. The survey also reported that export orders from within the EU were more subdued than those outwith the EU, as shown by a net balance of 4.3% of firms achieving increased EU orders compared with an increase of 13.1% for ex-EU export orders. A net balance of 14.3% firms expect export revenue to increase further in Q1 2015. Fewer than 10% of QBS manufacturing firms reported that levels of total employment had declined and fewer than 5% expect a reduction in total employment levels in 2015.

Scottish Engineering Review respondents in Q4 2014 reported that optimism, in general terms, continued to be positive for small and medium sized companies (SMEs) but large companies reported a decline. The trend in total order intake improved in Q4 with small companies remaining as being the most positive. The net trend in UK orders was positive and across economic sectors, electronics, oil and gas and mechanical equipment were positive whereas fabricators and metal manufacturing reported negative net balances. Forecasts for the next quarter of UK orders in general predict a further improvement. Electronics and metal manufacturing are predicting negative growth but fabricators and mechanical equipment are looking at growth in the future. The trend in export orders remained negative, though the rate of decline has eased. Predictions for the next three months in general are upbeat with SMEs expecting the trend in export orders to rise. Both capital and training investment trends remained positive and are expected to remain so. Trends in total employee numbers improved in Q4 and a further rise is forecast.

Construction

Business confidence among QBS construction firms improved in Q4 compared to Q3, with a net balance of 23% of firms reporting increased optimism. A net balance of 38% reported a rise in total contracts, and the net balance of public sector contracts was at its highest level (+15.2%) for almost 8 years. Investment levels among QBS firms were at the highest level in 10 years as a net of 15% reported an increase in capital investment. Almost 40% of firms increased wages over the quarter and average wage increases continue to be above inflation, at 5.5%.

The latest Scottish Construction Monitor, a quarterly survey of the membership of the leading trade body, the Scottish Building Federation reported that business confidence rose by 15 points to +26% in Q4 2014. The Scottish Construction Monitor survey asked a number of questions focusing of skills shortages asking firms to pinpoint the region or regions where their business operates in order to build a profile of skills requirements across the country. Some of the key findings were that carpentry and

joinery skills were generally in short supply, notably with firms in the North East particularly and there is also a general shortage of bricklayers across Scotland as a whole.

Retail

The Scottish Retail Sales Monitor conducted by The Scottish Retail Consortium and KPMG reported that total Scottish sales decreased by 2.3% in January 2015 compared to January 2014 when they had increased by 4.3%. This followed the decline of 1.8% in December 2014 compared with December 2013, when they had decreased by 1.1%. The report indicated that like-for-like sales decreased by 3.1% in January 2015 compared to January 2014 and by 2.6% in December 2014 compared to December 2013.

The Scottish Chambers Quarterly Business Survey reported a decline in business optimism in Q4 with a net balance of 4% reporting a fall in confidence. Sales, however improved for a net balance of 8% and a net of 10% expect a further rise in Q1 2015. Sales are expected to improve in the longer term with a net balance of 19% of firms expecting sales revenue to increase over the next year. However, these improving sales trends are not expected to lead to an increase in profits.

Tourism

QBS firms continued to report a net rise in tourism optimism (+12%). 80% of hotels reported that the number of guests / customers was up compared to the same period in 2013. Almost half of hotels reported an increase in customers from the EU compared with Q3, with only 3% reporting a decline in visitors from outside the UK over the same period. A net balance of 18% of QBS respondents reported an increase in profits during Q4 2014 and more than one third expect profits to rise in Q1 2015; 56% expect an increase in profits over the coming year. Although fewer firms are recruiting, compared to the same quarter of the previous year, fewer than 5% expect to reduce their overall employment over the coming year.

Outlook

Taken together these latest set of Scottish business surveys show a more cautious outlook that suggest that the Scottish economy may struggle to build upon its earlier momentum, with many trends falling from near record highs but still remaining well above long-run averages. Many expectations suggest that economic activity will continue albeit at a more modest pace in the first half of 2015. Expectations for 2015 are generally higher than their pre-recession levels but more and more firms are expressing a degree of caution and increasing uncertainty.

Fewer businesses are as confident about their prospects as they were last quarter. There is widespread uncertainly surrounding the Scottish economy at the moment and these results should be seen in the context of a largely unpredictable UK General Election, coupled with uncertainties across the Eurozone and the UK's relationship with the EU. This uncertainly and the slow growth seen in the Eurozone, plus restrained growth in the global economy, has clearly affected Scottish exports However on a more

positive note, the fall in oil and other commodity prices should help ease businesses' cost pressures and, by boosting consumer incomes, help boost economic growth.

In conclusion, recent Scottish business surveys show that firms remain broadly upbeat about recent and near future business prospects with many trends still rising albeit perhaps slightly below comparable surveys in 2014. Scottish business surveys continue to indicate that growth in output and jobs remains fairly robust and many trends remain broadly favourable, although early indications are that the pace of recovery may be slowing and the degree of uncertainly in both the UK and the rest of the global economy is having an effect on Scottish businesses.

Lloyds TSB Business Monitor Issue 67, November 2014 – February 2015
Scottish Chambers' Quarterly Business Survey, Q4 2014
Scottish Engineering Quarterly Review, Q4 2014
The Bank of Scotland Markit Economics Regional Monthly Purchasing Managers' Indices (PMI), November 2014 – January 2015
The Scottish Retail Consortium's KPMG Monthly Scottish Retail Sales Monitor, January 2015

5 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 December 2014. The Scottish unemployment rate stands at 5.4%, below the UK rate of 5.7%. The employment rate in Scotland is 74.4%, with the UK figure 73.2%. In 2014 the number of people in employment in Scotland reached the highest on record. Growth in employment, however, is still sustained by part-time workers 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 December 2014 the level of employment in Scotland rose by 20 thousand, to 2,625 thousand and over the year by 63 thousand. For the same period, UK employment rose by 103 thousand and 608 thousand respectively. The Scottish employment rate (16 – 64) – i.e. those in employment as a percentage of the working age population – was 74.4%, up 1.7% from one year earlier. For the same period the UK employment rate was 73.2%, up 1.2% compared to a year earlier. Scottish unemployment, in the quarter to December 2014, fell by 15 thousand to 149 thousand, a fall of 48 thousand over the year. The unemployment rate fell in the months to December 2014 and now stands at 5.4%. The comparable unemployment rate for the UK stands at 5.7%.

Table 1: Headline indicators of the Scottish and UK labour markets, October – December 2014

		Scotland	Change on quarter	Change on year	United Kingdom	Change on quarter	Change on year
Employment*	Level (000s)	2,625	20	63	30,896	103	608
	Rate (%)	*74.4*	*0.6*	*1.7*	*73.2*	*0.2*	*1.2*
Unemployment**	Level (000s)	149	-15	-48	1,812	-97	-486
	Rate (%)	*5.4*	*-0.6*	*-1.8*	*5.7*	*-0.3*	*-1.5*
Inactivity***	Level (000s)	727	-5	-9	9,052	22	6
	Rate (%)	*21.3*	*-0.1*	*-0.2*	*22.3*	*0.0*	*0.0*

Source: *ONS Labour Market Statistics, Scotland and UK, February 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, in the total economically active and economically inactive – but reduces the economic activity rates and unemployment rates, but at the same time increases the economically inactive rate. Conversely the second measure (all aged 16 to 59/64) leads to lower numbers economically active, in employment and economically inactive – but leads to a higher economically active, employment and unemployment rates but lower economically inactive rates. See Scottish Parliament Information Centre briefing on Scottish labour market statistics:

https://www.scottish.parliament.uk/parliamentarybusiness/70894.aspx

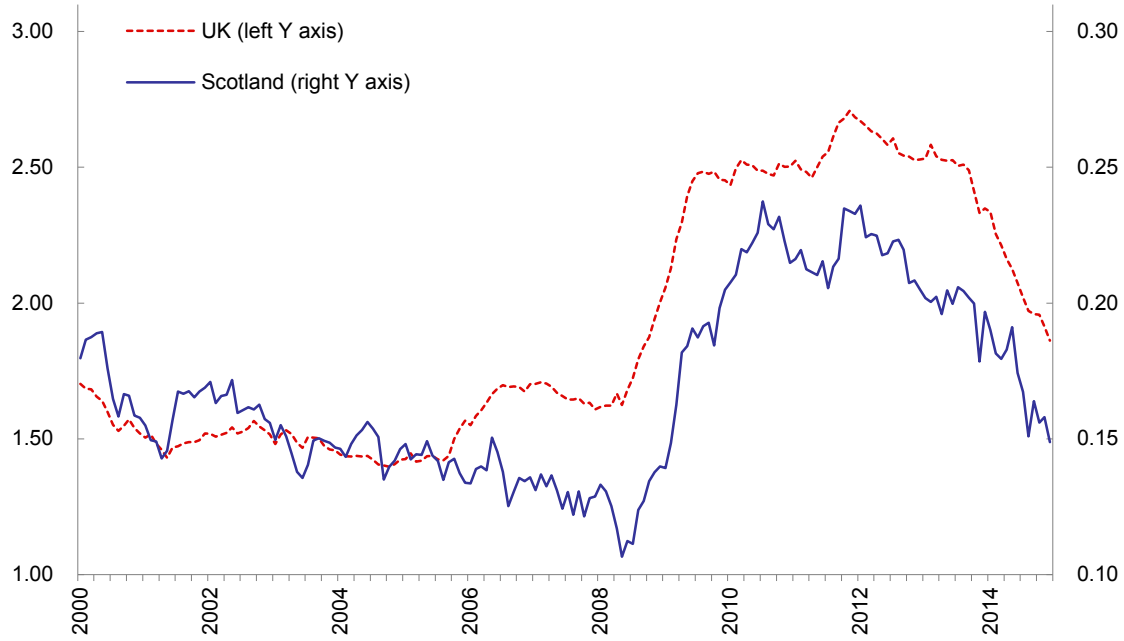
The relationships between employment, unemployment, total economically active and inactive are important in discerning the reaction of the labour market to overall economic conditions. It is important to appreciate that changing levels of employment and unemployment, and changes in employment rates should 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 reacting to the 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 2014 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 more 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 (see Boyd, Fraser Economic Commentary, Vol. 38 No.2, pp 63-88).

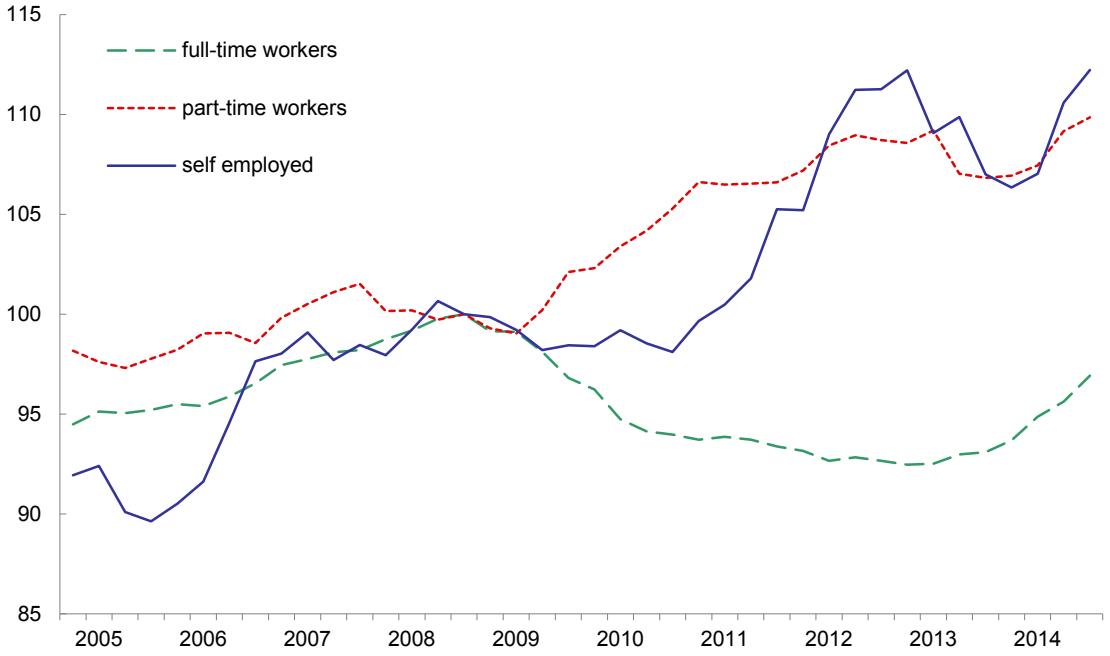
Figure 2 illustrates how the employment ‘recovery’ continues to be driven by an increase in part time work and self-employment. Growth in full-time workers remains subdued but has started to gain some momentum over the past year. A strong, sustained, and balanced recovery in the labour market would require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

Figure 1: Unemployment (in millions) in Scotland and the UK 2000 – December 2014



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

Figure 2: Index of full, part time and self-employment in Scotland, January 2004 – September 2014



Source: *ONS Labour Market Statistics, Scotland, February 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 October – December 2014 the number of economically active (16+) in Scotland increased by 5 thousand, and the activity rate remained unchanged at 63.4%. There were 2,773 thousand economically active in Scotland during October – December 2014. This comprised 2,625 thousand in employment (2,687 thousand aged 16–64) and 149 thousand ILO unemployed. The level for those of working age but economically inactive remained unchanged over the latest quarter, and increased by 3 thousand (0.2%) over the year to 1,600 thousand.

Economic inactivity for men aged 16 – 64 increased by 0.8% over the year, and decreased by 2.5% for women over the year to December 2014. In the year from October 2013 to September 2014 the key components of change in inactivity were more students, up by 11 thousand; fewer people looking after family members and/or home, down 4 thousand; retirees, down 7 thousand; long-term sick, down 17 thousand; those temporarily sick down 1 thousand. Though the majority of the inactive (571 thousand) did not want a job, 195 thousand wanted employment.

Data on employment by age, derived from the Annual Population Survey, is available up to October 2013 – September 2014. Table 2 illustrates the changing employment rates by age group form July 2005 onwards. In the year to September 2014, employment rates fell for the age groups 16-17 (-4.7%) and 16-24 (-0.7%). All other age groups saw an increase in employment. The largest increase in employment was in the age group 50-64 (+3.1%). The employment rate for all workers aged 16 and over increased by 1.4 % over the year to September 2014 to 59%.

Table 2: Employment rates (%) by age, Scotland October 2005 – September 2014

(In %) Oct-Sep.	Sep-06	Sep-07	Sep-08	Sep-09	Sep-10	Sep-11	Sep-12	Sep-13	Sep-14
All 16+	59.9	60.6	60.9	59.5	58.3	58.0	57.9	57.6	59.0
16 - 64	73.0	74.0	74.2	72.3	71.0	70.7	70.8	70.7	72.5
16 - 17	43.3	40.6	40.1	37.1	31.1	31.0	28.8	29.0	24.3
18 - 24	68.3	68.6	67.9	64.4	62.7	61.1	58.4	59.8	60.0
16-24	62.9	62.6	61.9	58.6	56.2	55.0	52.5	53.6	52.9
25 - 34	79.7	81.5	81.6	80.1	77.9	79.3	79.7	79.0	80.7
35 - 49	82.9	83.8	83.7	82.1	81.1	80.7	81.5	81.4	83.3
50 - 64	62.9	64.5	66.0	64.6	64.2	63.6	64.1	63.9	67.0
65+	5.3	5.4	6.0	6.8	6.6	6.7	7.5	8.0	8.8

Source: *ONS Labour Market Statistics, Scotland, February 2015.*
Note: *Denominator = all persons in the relevant age group.*

Table 3 provides some indications of the changing pattern of employment since October 2006 to September 2014 for different occupational groups (SOC2010).

Table 3: Percentage in employment in Scotland, by occupation, October 2006 – September 2014

(In %) Oct-Sep.	Sep-07	Sep-08	Sep-09	Sep-10	Sep-11	Sep-12	Sep-13	Sep-14
Managers and directors	8	9	9	9	9	8	9	9
Professional occupations	18	18	19	18	18	20	20	20
Associate prof & tech	12	13	13	13	13	13	13	13
Administrative & secretarial	12	12	11	11	11	11	11	11
Skilled trades occupations	12	12	12	12	11	11	11	12
Caring, leisure and service	9	9	9	10	10	10	9	9
Sales and customer service	9	9	9	9	10	9	9	9
Process, plant and machine	7	7	7	7	7	7	6	6
Elementary occupations	12	11	11	12	11	12	11	11

Source: *Annual Population Survey, NOMIS, February 2015.*
Notes: *Occupation in Standard Occupational Classification (SOC).*
Rounding means totals may not total to 100.

Total workforce job figures are a measure of jobs rather than people. Total seasonally adjusted workforce jobs in Scotland for September 2014 (the latest available figures) stood at 2,721 thousand, (i.e. 2,403 thousand employee jobs, 304 thousand self-employed jobs, HM forces and supported trainees 14 thousand). Table 4 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 and are subject to extensive revision.

Table 5 outlines the changing patterns of full time and part time employment. The latest data indicates that from October 2013 to September 2014, the number of employees increased by 76 thousand (3.5%), and the numbers of self-employed increased by 14 thousand (4.9%). The number of part-time workers increased by 19 thousand (2.8%) over the year, and the number of temporary employees increased by 4 thousand (3.0%).

Table 5 also indicates that the numbers of full-time workers in Scotland increased by 74 thousand (4.1%) over the year from October 2013 – September 2014. Part-time employment numbers have grown through the recession, and have increased by 19 thousand over the year to September 2014.

The number of those working part-time because they could not find a full time job is 115 thousand, suggesting that increasing numbers of workers are taking part-time employment in the absence of available full time work. 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.

Table 4: Total workforce jobs by industry, Scotland, September 2009 – September 2014

Industry (in thousands, SIC07)	Sep-09	Sep-10	Sep-11	Sep-12	Sep-13	Sep-14
All jobs	2,648	2,581	2,624	2,601	2,650	2,721
Agriculture, forestry & fishing	63	59	50	53	60	62
Mining & quarrying	32	33	30	37	35	34
Manufacturing	201	182	189	192	190	192
Electricity & gas	17	19	19	16	17	19
Water supply, sewerage, waste	15	14	16	17	16	17
Construction	181	173	170	170	183	176
Wholesale & retail trade	394	377	375	371	369	383
Transport & storage	119	108	115	114	111	117
Accommodation & food service	187	183	182	174	195	193
Information & communication	71	72	65	71	75	68
Financial & insurance activities	94	91	89	89	93	93
Real estate activities	31	29	33	37	39	36
Professional scientific & technical	182	160	209	179	193	191
Administrative & support service	196	191	194	223	198	208
Public admin & defence	163	159	153	153	153	150
Education	196	212	207	195	198	211
Human health & social work	374	375	384	369	375	401
Arts, entertainment & recreation	70	73	80	79	83	88
Other service activities	60	65	60	60	64	77
People employed by households	2	5	3	2	3	3

Source: *ONS Labour Market Statistics, Scotland, February 2015.*
Notes: ** Workforce jobs are a measure of jobs rather than people. There are extensive revisions from previous figures*

Table 5: Trends in Scottish employment statuses, October 2006 – September 2014

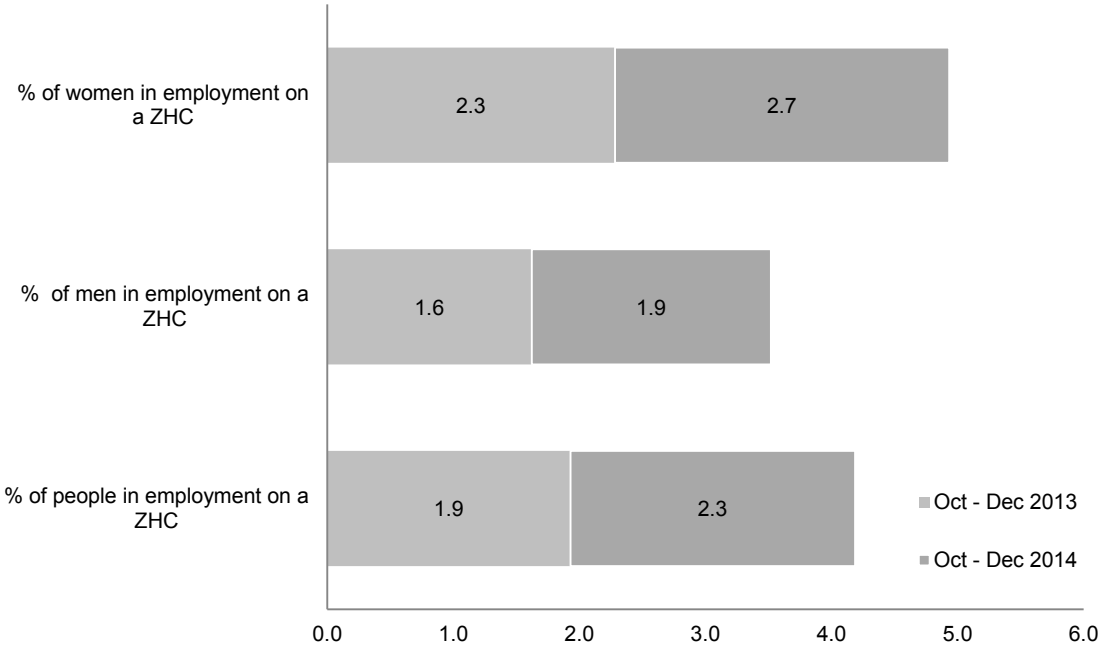
All in employment (in thousands) Oct-Sep.	Sep-07	Sep -08	Sep -09	Sep-10	Sep-11	Sep-12	Sep-13	Sep-14
Employees *	2,242	2,262	2,219	2,187	2,167	2,153	2,159	2,234
Self-employed *	265	269	265	264	283	299	288	302
Full-time workers **	1,882	1,916	1,855	1,801	1,789	1,776	1,784	1,857
Part-time workers **	640	631	644	664	672	685	673	693
Workers with 2nd job	94	98	101	98	96	98	99	100
Temporary employees	131	119	127	127	126	119	134	138
Could not find full-time job	62	61	81	99	114	116	116	115
Total *	2,524	2,550	2,502	2,469	2,464	2,469	2,470	2,559

Source: *ONS Labour Market Statistics, Scotland, February 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*

The latest estimate of the number of people in the UK who are employed on zero-hours contracts (ZHC) in their main employment (from the LFS, which is a survey of individuals in households) is 697 thousand for October – December 2014, representing 2.3% of people in employment. This figure is higher than that for October – December 2013 (586 thousand or 1.9% of people in employment). Figure 3 shows the rate of people on ZHC in the UK from October – December 2013/2014.

People on ZHC are more likely to be women, in full-time education or in younger or older age groups when compared with other people in employment. On average, someone on a ZHC typically works 25 hours a week. Around a third of people on a ZHC want more hours, with most wanting them in their current job.

Figure 3: Rates of people on ZHC in the UK, by gender and total October – December 2013 and 2014

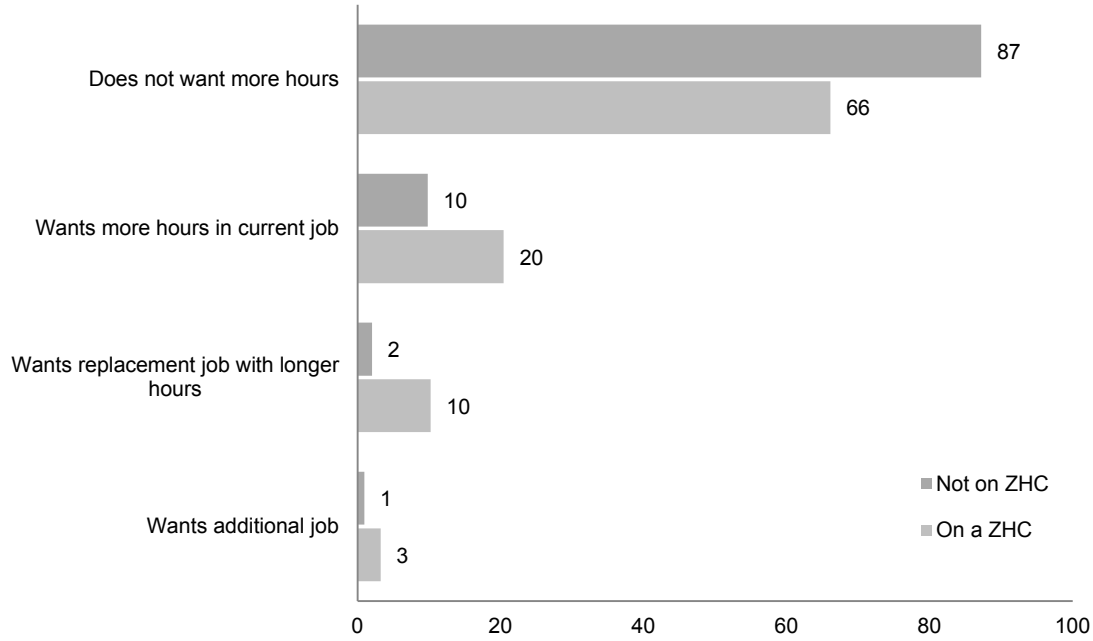


Source: ONS Labour Market Statistics, UK, February 2015.

Figure 4 shows the percentage of people in the UK on ZHC and noon ZHC who want either an additional job; a replacement job with longer hours; more hours in their current job; or do not want more hours, as surveyed in October – December 2014. The data show that a large proportion (66%) of workers on ZHC do *not* want more hours (i.e. 66% of people on ZHC are satisfied with the amount of hours worked).

Table 6 details the number and the percent of people on a ZHC at regional level for October – December 2014. The region with the highest percent of people in a ZHC is the South West with 2.8% and the region with the lowest is London at 1.8%. The percent of people on a ZHC in the UK stands on a par with Scotland at 2.3%.

Figure 4: Workers looking for more hours, UK, October – December 2014



Source: *ONS Labour Market Statistics, UK, February 2015.*

Table 6: Level and rate of people on ZHC, by region, October – December 2014

	In employment on a ZHC (thousands)	Percent of people in employment on a ZHC
UK	697	2.3
England	598	2.3
North East	28	2.3
North West	77	2.3
Yorkshire and The Humber	59	2.4
East Midlands	48	2.1
West Midlands	67	2.6
East of England	70	2.4
London	77	1.8
South East	97	2.2
South West	73	2.8
Wales	35	2.5
Scotland	60	2.3

Source: *ONS Labour Market Statistics, UK, February 2015.*
Notes: *Estimates for North East, Wales and Northern Ireland are considered too unreliable and cannot be shown. Not seasonally adjusted*

FRASER OF ALLANDER INSTITUTE

Editorial Introduction

Celebrating 40 years of the 'Fraser Economic Commentary'

2015 is the 40th anniversary of the **Fraser of Allander Institute** and the **Fraser Economic Commentary**. Established by a private charitable bequest by Sir Hugh Fraser, one of Scotland's leading businessmen, the Fraser of Allander Institute first published Vol. 1, No.1 of its path-breaking 'Quarterly Economic Commentary' in July 1975. Ever since the Fraser Economic Commentary has provided an independent running commentary on the progress, prospects and economic policy issues facing Scotland and the Scottish economy.

To mark our 40th anniversary, 2015 will see the creation of the **Fraser Economic Commentary Digital Archive.** This massive undertaking by the **University of Strathclyde Andersonian Library** recognises the national importance of the Fraser archive as quite simply the single most complete, publically accessible archive of detailed analyses and commentary on Scotland's economic development from 1975 to the present. The aim is to make the archive not only freely available to all online but to make it as *accessible* as possible to users; hence every outlook, review and article has an abstract and a 'key words' search. The Fraser Archive is available at ***Strathprints*** *(http://strathprints.strath.ac.uk/)*, the digital repository of research publications of the University of Strathclyde. Of course, the ultimate aim is to encourage its active *use* by researchers, students, journalists and the wider global public to help answer the many questions concerning Scotland's economic transformation over the past forty years.

In this Commentary **Isobel Sheppard** and **George Macgregor** publish Part One of the Fraser Economic Commentary catalogue for 1975 and 1990. This provides a fascinating overview of articles, topics and issues that drew the attention of Fraser economists and others interested in Scotland's economy. Articles range from 'The Demand for Energy in Scotland' (1976) to 'The Effects of Iraq on the Scottish Economy' (1990). The catalogue for 1991-2000 and 2001-present will be published in subsequent Commentaries.

Alf Young, Visiting Professor with the International Public Policy Institute (**IPPI**) at the University of Strathclyde and a leading commentator on Scottish industry and the economy presents the first of a three-part series of articles on Scotland's economy, using the Fraser Economic Commentary as a guide to the past 40 years. He charts Scotland's remarkable economic transformation from 1975 to 1990. Parts Two and Three will appear in subsequent Commentaries.

The global, UK and Scottish economies are reeling from the impacts of the global financial crisis, as of course is the financial sector. It is timely therefore that the Fraser Economic Commentary casts it eye over Scotland's distinctive financial services sector. **Jeremy Peat**, former (pre-crisis) Chief Economist at RBS and a Visiting Professor at IPPI uses analysis from the Fraser of Allander Institute, to outline the economic scale of the sector and some key strategic and policy issues that it faces if it is to ensure that it continues to play a significant and positive role in the Scottish - and UK - economy.

Finally, behavioural economics is a relatively new branch of economics and it is having interesting and important impacts on policy debates and issues. **Alex Dickson** and **Marco Fongoni** of the Department of Economics at Strathclyde Business School introduce three key concepts in behavioural economics that have profound implications for how policy makers might use its approaches to analyse policy issues and indeed propose new solutions - in areas as diverse as pensions' policy and wage setting.

Kevin D Kane
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Fraser of Allander Institute
March 2015
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Economic perspectives

Fraser Economic Commentary: Catalogue of all reviews, outlooks and articles, Part 1 1975 - 1990

George Macgregor and Isobel Sheppard, University of Strathclyde

To coincide with the 40th anniversary of the Fraser of Allander Institute and the Fraser Economic Commentary, the University of Strathclyde Andersonian Library will complete the necessary work to create a fully annotated and accessible Fraser Economic Commentary Digital Archive. 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 day. The archive is available at ***StrathPrints*** *(http://strathprints.strath.ac.uk/)*, the digital repository of research publications of the University of Strathclyde.

The following is Part 1 of a three-part catalogue of the entire Archive. This catalogue covers the period from Vol. 1 No. 1 (1975) to Vol. 16 No. 2 (1990). 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.

At the time of writing *all* articles (1975-1990) are available on **Strathprints,** and over the next few months all other items such as international, UK and Scottish outlooks and analyses will be added. In addition all items have full abstracts and identify key words to better enable them to be located by researchers.

Parts 2 and 3 of the Fraser Economic Commentary catalogue, for items from 1991-2000 and then 2001- to the present, will be published in the forthcoming editions of the Commentary in 2015.

Title	Author	Year	Vol	Issue
Problems of regional forecasting	Bell, David N. F. et al	1975	1	1
Regional unemployment in Scotland	Bell, David N. F.	1975	1	2
An analysis of inflation in Scotland and the UK	Oswald, Andrew J.	1976	1	3
The demand for energy in Scotland	Bell, David N. F. et al	1976	1	4
Computer based mapping techniques	Bell, David N. F. et al	1976	2	1
Computer based maps	Bell, David N. F. et al	1976	2	2
The debate on public expenditure	McGilvray, James W.	1976	2	2
Scottish migration : some thoughts on a human capital approach	Bell, David N. F. et al	1977	2	3
Local authority expenditure and public attitudes	Tait, Alan A.	1977	2	4
Population, employment and labour force projections	Bell, David N. F. et al	1977	3	1
Forecasting industrial performance	Bell, D. N. F. et al	1977	3	2
Land use in the Highlands	Bell, David N. F. et al	1977	3	2
Towards Full Employment and Price Stability?	Bell, David N. F. et al	1977	3	2
Aspects of migration between Scotland and the research of Great Britain 1966-71	Kirwan, F. X.	1978	3	3
Econometric forecasts for Scotland	Bell, David N. F. et al	1978	3	4
Social indicators	Danson, Michael et al	1978	3	4

Determinants of house prices	Cooper, John C. B.	1978	4	1
Occupational shifts in the Scottish working population 1851-1971	Bell, David N. F. et al	1978	4	1
The CBI Industrial Trends Survey in Scotland : a quantitative appraisal	Bell, David N. F.	1978	4	1
The industrial investment policy of the SDA	Davies, John	1978	4	2
Wages and earnings	Bell, David N. F. et al	1978	4	2
The European Monetary System	Stewart, William J.	1979	4	3
The industrial development authority in the Irish economy	McAleese, Dermot	1979	4	3
Aspects of the impact of major employment loss: the case of the Singer Company, Clydebank	Stone, Timothy	1979	4	4
North Sea oil - a brief outline	Bell, David N. F. et al	1979	4	4
The new Scottish input-output tables : the importance of UK and foreign trade for Scotland	Draper, P. R.; McNicoll, I. H.	1979	4	4
Foreign investment in Scotland	Bell, David N. F. et al	1979	5	1
Population, employment and labour force projections	Bell, David N. F.; Kirwan, F.X.	1979	5	1
The efficient use of non-renewable resources	Simpson, David R. F.	1979	5	1
A medium term model for Scotland	McGilvray, James W.	1979	5	2
Scotland from the Census of Production	Bell, David N. F. et al	1979	5	2
The tax and price index	Bell, David N. F. et al	1979	5	2
Is public sector borrowing too high?	Bell, David N. F. et al	1980	5	3
Tourism in Scotland	Bell, David N. F. et al	1980	5	3
Retail and distributive trades in Scotland	Bell, David N. F. et al	1980	5	4
The attraction of inward investment to Scotland : submission to the Select Committee on Scottish Affairs	Bell, David N. F.	1980	5	4
Unemployment forecasts	Bell, David N. F. et al	1980	5	4
Regional development grants : the Scottish experience 1975-1979	Fraser, Neil; Orton, Ian	1980	6	1
The development of the Scottish clearing banks	Bell, David N. F. et al	1980	6	1
Scottish Index of Production	Bell, David N. F. et al	1980	6	2
Trade and employment in Scotland	Simpson, D; Walker, J	1980	6	2
Job generation in Scottish manufacturing industry	Hamilton, Douglas et al	1981	6	3
The Scottish fishing industry : a survey of the catching sector	Bell, David N. F. et al	1981	6	3
Government policy and inward investment attraction in Scotland	Hood, N.; Young, S.	1981	6	4
Housing in Scotland	Bell, David N. F. et al	1981	6	4
First impressions on the 1981 census in Scotland	Fraser, N. A.	1981	7	1
Memorandum to the Monopolies and Mergers Commission	McGilvray J.W; Simpson D.	1981	7	1
National insurance : how to get rid of a bad tax	Bell, D. N. F.; Kirwan, F. X.	1981	7	1
The tobacco industry in Scotland	Cooper, John	1981	7	1
Gas gathering or penny-pinching?	McNicoll, I.; Orton, I.	1981	7	2
The political economy of Mrs Thatcher's monetarism	Foster, J.; Fraser, N.	1981	7	2
The textiles, leather, clothing and footwear sector in Scotland	Jowett A; O'Donnell N; Tait E.	1981	7	2
Projections of the Scottish economy to 1984	Fraser, N. et al	1982	7	3
Scotland's relationship with the European Economic Community (EEC)	Fraser, N	1982	7	3
The lessons of Invergordon	Simpson, David	1982	7	3
Whatever happened to GEAR?	Orton, Ian	1982	7	3
Defence expenditure in Scotland	Kennedy, Gavin	1982	7	4
Energy issues and forecasts for Scotland	Fraser, Neil; Gloyne, Tony	1982	7	4
Subsidise the price of labour, not the price of energy	Simpson, David	1982	7	4
The car price con?	Bell, David	1982	7	4
Area initiatives and the SDA : the rise of the urban project	Boyle, Robert M.; Wannop, U	1982	8	1
Civil service dispersal - a long time coming	Swales, Kim	1982	8	1
Review - The costs and benefits of multinationals in Scotland	Malley, Jim	1982	8	1

Scotland's craft industry : quality not quantity	Moar, Lyle	1982	8	1
The chemical industry	Cooper, J. C. B.	1982	8	2
The international perspective of the alternative economic strategy	Hamilton, Douglas	1982	8	2
The political economy of local government finance	Bailey, S. J.	1982	8	2
The Scottish economy to 1990	McNicoll, I. H.	1982	8	2
Scottish trade : winds of change	Walker, Jim	1983	8	3
The industrial destinations of Scottish school leavers, 1977-81	Main, Brian G. M.; Raffe, D	1983	8	3
The new unemployment statistics	Bell, David	1983	8	3
John Maynard Keynes, 1883-1946 : the man behind the name	Grieve, R. H.	1983	8	4
The government's wage strategy, 1979-1983	Gennard, John	1983	8	4
The price of oil	Simpson, David	1983	8	4
The retail industry in Scotland	McNicoll, Iain	1983	8	4
The Scottish Abstract of Statistics 1983	Walker, Jim	1983	8	4
The Scottish lobby : Ravenscraig and Hunterston	Love, Jim; Stevens, Jim	1983	8	4
'Rich man, poor man...' (distribution of income)	Hancock, Karen	1983	9	1
Scotland in the UK economy	Ingham, Keith P. D.; Love, J.	1983	9	1
Sombre reflections on the North Sea oil tax system	Clunies-Ross, Anthony	1983	9	1
UK membership of the EMS : time for another look?	Stewart, Bill	1983	9	1
Unofficial unemployment estimates - a comment	Tait, Elizabeth	1983	9	1
GEAR : comprehensive redevelopment or confidence trick?	Nairn, Alasdair G. M.	1983	9	2
Tackling long term unemployment : a proposal	Kirwan, Frank	1983	9	2
The European Monetary System : progress and prospects	Stewart, Bill	1983	9	2
"Regional Industrial Development" (CMND 9111, December 1983)	Ashcroft, Brian	1984	9	3
Freeport Prestwick : behind the decision	Walker, Jim	1984	9	3
Privatisation	Simpson, David	1984	9	3
Regional policy in Scotland : a comment on the white paper	Lloyd M. G.; McDougall B. D.	1984	9	3
Scottish investment trusts : prospect and retrospect	Draper, P.; Stevens, J.	1984	9	3
Did Scotland lose when Nissan went to England?	Sims, David; Wood, Michael	1984	9	4
Output and employment in the Scottish service sector	Dewhurst, J; Lythe, C	1984	9	4
Ravenscraig : in the melting pot	Love, Jim; Stevens, Jim	1984	9	4
Scotland and the Common Agricultural Policy : 1984 and beyond	Scanlan, Simon	1984	9	4
The budget and the Scottish financial institutions	Baird, Grant	1984	9	4
The cost of coal	Simpson, David	1984	9	4
The electronics industry in Scotland	Crawford, Robert	1984	9	4
Competition or control? The Green Paper on building societies	Draper, Paul	1984	10	1
Full banking status for TSB?	Stewart, Bill	1984	10	1
Privatisation	Stevens, Jim	1984	10	1
Scottish bus services and the 'Buses' White Paper	Hart, Tom	1984	10	1
Scottish railway policy : past, present - and future?	Lapsley, Irvine	1984	10	1
The changing face of Scotch	Love, J. H.	1984	10	1
The failure of Beveridge	Miller, Anne	1984	10	1
Closures : should the government subsidise loss-making enterprises	Williams, David	1984	10	2
Scottish input-output tables for 1979	McGilvray J. W; McNicoll I. H.	1984	10	2
The 1980's Scottish productivity boom : good news or bad?	Kirwan, F; McGregor, P	1984	10	2
The coal dispute and the new employment legislation	Gennard, John	1984	10	2
The Thatcher government's economic ideology - must intervention be precluded?	Stephen, Frank H.	1984	10	2
Tourism in public policy in Scotland	McVey, M; Heeley, J	1984	10	2

Financing higher education : grants or loans?	Williams, David	1985	10	3
Overseas tourism to Scotland : patterns, problems and prospects	Heeley, J.; McVey, M.	1985	10	3
The new framework for investor protection : CMND 9432	Draper, Paul	1985	10	3
The new regional policy and the Scottish economy	Ashcroft, B. K.	1985	10	3
The offshore supplies industry : can Scotland win the ninth round?	McNicoll, Iain H.	1985	10	3
The Trustee Savings Bank - the ownership question	Stewart, W. J.	1985	10	3
Local government spending and central control	Keating, Michael	1985	10	4
Reflections on the miners' dispute	Lockyer, Cliff; Baldry, Chris	1985	10	4
The cost of pit closures : some unresolved issues	Williams, David	1985	10	4
Tourism : a highland stramash	Heeley, John	1985	10	4
Wages and employment : issues and evidence	Bell, David N. F. et al	1985	10	4
Guinness v Arthur Bell : what are the issues?	Love, J. H.	1985	11	1
Prospects for lowland airports and air services	Stevens, Jim	1985	11	1
Royal Dockyards : time for action	Kennedy, G; Love, J	1985	11	1
The Hall-Russell saga	Walker, Jim	1985	11	1
A review of alternatives for local government finance	Sandilands, Roger	1985	11	2
A tale of two surveys	Heeley, J.; McVey, M.	1985	11	2
Leveraged buyouts : the new game in the City	Scouller, John	1985	11	2
Scottish financial institutions	Draper P; Smith I; Stewart B	1985	11	2
The proposed wages council reforms : an evaluation	Gennard, J; McGregor, P	1985	11	2
1986 : a significant year of change for tourism organisation in Scotland?	Heeley, John	1986	11	3
Scottish steel at the crossroads	Love, Jim; Stevens, Jim	1986	11	3
The future of commercial vehicle manufacture in the United Kingdom	Lockyer, Cliff	1986	11	3
The Green Paper on local government finance	Sandilands, Roger	1986	11	3
A tale of two cities and tourism	Heeley, John	1986	11	4
Education vouchers and the public interest	Williams, David	1986	11	4
Industrialising education	Baldry, Chris; Lockyer, Cliff	1986	11	4
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The takeover battle for British Sugar	Alpine, Robin	1986	12	1
Big company involvement in Scottish tourism	Heeley, John	1986	12	2
Enterprise zones : emerging evidence and criticisms	Lloyd, M. G.	1986	12	2
The oil price collapse : some effects on the Scottish economy	Salmond, Alex; Walker, Jim	1986	12	2
The TSB after incorporation	Stewart, Bill	1986	12	2
Census of employment 1984 : an assessment	Boyle, Stephen; Jenkins, Iain	1987	12	3
Electronics employment in Scotland	MacInnes, John; Sproull, Alan	1987	12	3
Privatising the British Airports Authority : competitions, capture and control	Hancock, Karen; Swales, Kim	1987	12	3
What's wrong with Scottish firms? Local sourcing in electronics	McCalman, James	1987	12	3
Whither Scottish education?	Baldry, C. J.; Lockyer, C. J.	1987	12	3
Accountability and regional control : options for reform	Moore, Chris; Booth, Simon	1987	12	4
Making tracks : Caterpillar's crawl from Scotland	Haworth, Nigel; Walker, Jim	1987	12	4
Scotland's export performance : a closer look	Cox, Mark; Walker, Jim	1987	12	4
Scottish tourism : premier league charms but second division attractions	Heeley, John	1987	12	4
Bus regulation in Scotland : a review of the first six months	Farrington, J; Mackay, T	1987	13	1
The experience of Scottish firms in the North Sea oil supply industry : a guide to the future?	Cairns, J. A.; Harris, A. H.	1987	13	1
Union recognition in Scottish electronics	Sproull, Alan; MacInnes, John	1987	13	1
Overseas tourism to Scotland	Heeley, John	1987	13	2
Recent patterns of change in employment in Scotland	MacInnes, John	1987	13	2

Going international : the development of export-orientated indigenous electronic firms	McCalman, James	1988	13	3
The BP bid for Britoil : should Scotland take it lying down?	Scouller, John	1988	13	3
RSD : a comment	Love, J; Stevens, J	1988	13	4
The structure of legal services markets in Scotland	Stephen, Frank H. et al	1988	13	4
The Glasgow Garden Festival : a wider perspective	Castledine, P; Swales, K	1988	14	1
The Glasgow Garden Festival : making Glasgow miles better?	Heeley, J Pearlman, M	1988	14	1
Enterprise Scotland : the American connection	Boyle, Robin	1988	14	2
Non-domestic rating and the uniform business rate	Bailey, Steve	1988	14	2
The survival of the Scottish financial sector	Draper, Paul; Stewart, Bill	1988	14	2
"Scottish Enterprise" the creation of a more effective development agency or the pursuit of ideology?	Danson, Mike et al	1989	14	3
Scotland v Wales in the inward investment game	Young, Stephen	1989	14	3
Scotland's expanding financial horizons	Shaw, Jack	1989	14	3
The dual city and the Hughes plan : a review of Keating's "The City That Refused To Die" and the Scottish Enterprise White Paper	Stevens, Jim	1989	14	3
The forgotten dimensions of local fiscal reform in Scotland	Midwinter, A; Monaghan, C	1989	14	3
Training and development in the private sector in Scotland	Hyman, Jeffrey; et al	1989	14	3
Independence : the option for growth - a review	Draper, Paul	1989	14	4
Smart technology and smart people : human resource development in the electronics industry	McCalman, James	1989	14	4
The devolution debate : is there an economic case?	Campbell, R. Craig	1989	14	4
Scottish lowland airports policy : prospect and retrospect	Stevens, J; Dunlop, S	1989	15	1
The Channel Tunnel and Scotland	Dourmashkin, Neil	1989	15	1
Interest rates and the regional experience	Lonie, A. A.; Power, D. M.	1989	15	2
Pay 1990 : the spectre of stagflation	Hall, John M.	1989	15	2
The future role of Scottish local government economic development	Hayton, Keith	1989	15	2
Whither Scotland's tourist industry?	Heeley, John	1989	15	2
"Steel Production in Scotland: Strategic Considerations for the 1990s" : a review	Love, J; Stevens, J	1990	15	3
Global warming and the Scottish economy : crisis or opportunity?	Perman, Roger	1990	15	3
Global warming and the Scottish Economy : economic impacts and development opportunities	Perman, Roger	1990	15	3
The impact of 1992 on employment in life assurance and banking in Lothian	Holmes, Mark J.	1990	15	4
The investment trust discount	Draper, Paul	1990	15	4
Training and small companies : some Scottish evidence	Hyman, J.	1990	15	4
Chambers of Commerce : private versus public law status	Gilmour, Jacqueline	1990	16	1
The Skye crossing : constraints to construction	Macdonald K M K; Swanson E M	1990	16	1
How will Scotland's financial sector fare in the single European market?	Begg, Iain; Love, Jim	1990	16	2
Scottish Enterprise : the basis of a Scottish solution to Scottish problems?	Hood, Neil	1990	16	2
Scottish steel in the post-Thatcher decade	Stevens, Jim	1990	16	2
The effects of Iraq on the Scottish economy	Taylor, Richard	1990	16	2

Forty turbulent years: How the Fraser Economic Commentary recorded the evolution of the modern Scottish economy

Part 1: Inflation, intervention and the battle for corporate independence, 1975 – 1990

Alf Young

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 first of three articles which charts Scotland's transformation from an economy significantly based on manufacturing (and mining) to one that saw rapid deindustrialisation (in terms of 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.

When the Fraser of Allander Economic Commentary first appeared, in quarterly installments, in July 1975, the Scottish economy it set out to analyse was very different, in texture and tone, from the one it continues to appraise, now in its fortieth consecutive year. Then UK inflation was going through the roof. From May to November of 1975 the then-benchmark RPI measure of UK price inflation was consistently running at an annualised rate of 25% or above. Indeed inflation stayed in double digits for much of that decade and on into the early Thatcher years. At the start of this anniversary year, with the now-core CPI inflation measure reaching an all-time low of 0.3%, the fear stalking policy makers is not of hyper-inflation and the kind of wage-price spiral that led to the "winter of discontent" in late 1978, but of the kind of deflationary spiral that has gripped Japan for much of the past quarter century and currently stalks the Eurozone.

Nowadays the performance of Scotland's labour market broadly mirrors that of the UK as a whole. Ministers in Edinburgh vie with London, when the monthly jobs figures come out, to lay claim to any marginal out-performance they can find. In the 1970s the differentials were starkly negative. Thanks to its heavy exposure to traditional manufacturing capacity, by then in serious decline, Scotland's unemployment rate typically outstripped the UK rate by a very large margin. The very first Fraser Commentary noted that "the unemployment percentage in Scotland fell from an average of more than twice the UK rate in 1964 to a ratio of 1.7 in 1973." It then noted that "by November 1974 the Scotland/GB rate had fallen to 1.48, the lowest figure recorded since 1954." Had there not been massive net out-migration from Scotland in the fifties and sixties, one wonders how much bigger these adverse Scotland/UK unemployment ratios might have been in that period. Between 1951and 1971, net out-migration from Scotland totalled 606,500.

One feature of the Scottish economy has been a constant thread though the past forty years. Oil. Less than a month after the second Fraser commentary appeared, on 3 November 1975, Her Majesty the Queen pressed a gold-plated button in Dyce, sending the first crude from BP's Forties field from its landfall at Cruden Bay, by pipeline, to Grangemouth. Now, with the recent slump in the global oil price and Shell announcing plans to dismantle another iconic North Sea system, Brent, which lent its name to a global benchmark crude, all the talk is of the beginning of the end for the North Sea, if drastic fiscal action isn't taken. The story from there to here has provided a continuous stream of material for debate, from whose oil it is anyway to the capacity of indigenous Scottish businesses to capitalise on the opportunities exploiting hydrocarbon reservoirs off our shores presented.

Throughout, the fluctuating price of oil has been an ever-present and challenging reality. In 1973, in protest at the United States arming Israel in the Yom Kippur war, Arab states first imposed a supply embargo and then started hiking the global price of oil. By March 1974 the barrel price had quadrupled, from $3 to nearly $12. There was a stock market crash as recession bit. In the UK these problems were exacerbated by what came to be known as the Barber boom. In his 1972 Budget, Edward Heath's chancellor Anthony Barber delivered a tax-cutting package designed to ensure the Heath government's re-election. He certainly stimulated an intense burst of growth. But the electorate, in February 1974, returned a minority Labour government led by Harold Wilson. That very first Fraser commentary was blunt in its assessment of the Barber boom and its likely consequences.

"The UK has been almost alone amongst industrialised countries in continuing to expand domestic demand, maintaining this expansion by means of heavy external borrowing," (Vol 1 No 1) it argued. "A comparatively lower rate of unemployment has been achieved at the cost of an alarming and accelerating rate of inflation and deteriorating price competitiveness. However while the necessary readjustment of the domestic economy has been postponed, it cannot be avoided."

How right they were. Within months of being elected the minority Labour government had gone back to the voters, to be voted in again with a wafer thin majority. Harold Wilson resigned unexpectedly in March 1976. Jim Callaghan replaced him as prime minister. By that November, Callaghan's chancellor, Denis Healey, had had to go ('cap in hand' was always the phrase, no?) to the International Monetary Fund, seeking a loan and submitting the UK's finances to IMF supervision. Distant echoes of the position facing the current Greek government; though its financial plans are now overseen by the 'troika' of the IMF, European Central Bank (ECB) and the European Commission.

There was a second significant surge in global oil prices at the end of the 1970s. When the Shah was ousted in Iran in 1979 and through into 1980, when the Iran-Iraq conflict started, OPEC pushed the global price higher still. In its October 1980 commentary, the Fraser of Allander Institute estimated that a 130% oil price hike would lead to an accumulated loss of output in the industrialised countries of around 5% by the end of 1981 and would add an additional 11% to consumer prices. It expected the United States and the United Kingdom to experience absolute falls in output. "Both in deeds and words, the leaders of the western countries have made it clear that, given an apparent choice between greater inflation and greater unemployment, they have chosen greater unemployment," (Vol 6 No 1) the commentary warned.

When Margaret Thatcher's first chancellor, Geoffrey Howe, unveiled his 1981 budget the following March, the Fraser authors found they had under-estimated just how uncompromising his approach would be. This was the mirror image of the Barber boom budget. Having pushed up VAT to 15% and added 10p to the cost of a gallon of petrol in his first budget in June 1979, Howe now froze personal tax thresholds and allowances and whacked a further 20p on the cost of a gallon of petrol. The April 1981 commentary called the measures "ill-advised and their claimed justification - the restoration of order to the public finances - highly questionable." (Vol 6 No 4) Its authors were not alone.

A group of 364 academic economists across the UK wrote to The Times[1], claiming Howe's measures had "no basis in economic theory" and would threaten the UK's "social and political stability". Among them was Mervyn King, later destined to become Governor of the Bank of England. A fierce debate has raged ever since. Howe's supporters claim his approach did indeed tame inflation, leaving it at more subdued levels ever since. But the price that continues to be paid is, as the Fraser team foresaw, much higher average levels of joblessness in the UK economy than existed in the previous quarter century pre-1981.

Higher global oil prices had a significant impact on the UK's public finances. It has been argued that, without that offshore bounty, the Thatcher government might never have been able to finance the consequences, in terms of rising unemployment, of that controversial Howe budget in 1981. Revenues from UK oil and gas production grew steadily from 1980, peaking in 1984/5 and 1985/6. Then, having risen so high in the previous decade and a half, the oil price itself fell sharply again. Inevitably government revenues from oil and gas fell dramatically too. At 2009/10 prices, revenues peaked at £35bn in 1984/5. Two years later revenues had fallen in value by two-thirds. The November commentary in 1986 carried an article entitled 'The Oil Price Collapse: some effects on the Scottish economy'(Vol 12 No 2). It was written jointly by a member of the Fraser Institute's staff, Jim Walker, and the oil economist at The Royal Bank of Scotland. An 11.5% fall in world oil demand and a substantial rise in non-OPEC production had put pressure on the oil price. The dollar barrel price had virtually halved since the start of the year. The paper suggested that, while lower oil prices might be good for global growth, "Scotland would seem to be a clear loser in that group of oil exporting states and oil related industries which are feeling the immediate and adverse impact of the oil price collapse on output and employment."

The RBS oil economist who, with Walker, penned that warning was Alex Salmond. It was his only contribution to the Fraser Economic Commentary. Nearly thirty years later, having been Scotland's first minister for more than seven years, leading his country to an independence referendum, Salmond has now stepped out of government. As he did so the global oil price was again on the slide. Having virtually halved in just four months, Scotland is once more facing that challenge to output and jobs. Only this time the North Sea province is much more mature and the prospects for ongoing investment much more problematical. Oil has indeed been a continuous thread in forty years of Fraser commentaries

When the first one appeared in 1975, the Scottish economy was already facing many, much-older, industrial challenges. Its coalfields, nationalised under the UK-wide National Coal Board in 1946, were struggling to stay competitive. Miners were fighting for wages that could keep pace with rampant price

[1] Including University of Strathclyde economists R. G. Brooks, Professor A. I. Clunies-Ross, K. Hancock, J. Sconller and P. Wanless – Philip Booth (Editor) Were 364 Economists All Wrong?, Institute for Economic Affairs, 2006

inflation. In 1972 they called their first official strike since 1926. A second followed at the start of 1974. On both occasions the Heath government's response was to declare a state of emergency and implement a three-day week. The lights went out. Electricity was strictly rationed. Faced with that second strike, Heath decided to go to the country to seek a fresh mandate. But the electorate returned a minority Labour government which promptly settled with the NUM (National Union of Mineworkers).

Fast forward to the 1980s and the explosive issue dividing miners and government turned from wages to pit closures. The incoming Thatcher administration backed down, in 1981, over plans to close 23 pits. But as we now know from her own biographer Charles Moore, one of the first things she did on taking office in 1979 was to tell her deputy Willie Whitelaw "The last Conservative government was destroyed by the miners' strike. We'll have another and we'll win." By 1981 the logistics and planning for ensuring that victory - stockpiling enough coal; mobilising police strength in coalfield areas - were not yet in place. By 1983 she had brought a Scot, Ian MacGregor, over from America to run the National Coal Board. He had privately put a massive pit closure programme back at the top of his agenda. A bitter, protracted battle with the miners, now led by Arthur Scargill, was almost inevitable. It lasted a year and left the NUM defeated, demoralised and divided. Thirty years on from that March 1985 denouement, the three remaining deep mines in the UK (none of them in Scotland) are due to shut over the next two years.

The long decline in shipbuilding in Scotland and the rest of the UK has followed a shallower trajectory. Arguably production of ships reached its peak across these islands in the first decade of the 20th century. Had it not been for two world wars marine engineering might have emulated coal's rapid endgame. As it is ships are still being built on the Clyde, mainly for the Royal Navy. The latest, two massive aircraft carriers, are actually being assembled in huge modules at yards around the UK, then brought by barge to Rosyth on the Forth, for final assembly. When the Fraser commentary series began, there were still hopes of maintaining a viable merchant shipbuilding capacity in Scotland and across the rest of the UK.

On the Clyde, the Geddes-inspired restructuring of the late sixties foundered with the liquidation of Upper Clyde Shipbuilders in 1971, barely three years after five major shipbuilders on the upper river had amalgamated. The iconic work-in that followed, led by the late Jimmy Reid, served the workers in the yards more productively than Arthur Scargill's mortal combat with Margaret Thatcher a decade later. In 1977 what was left of UCS, together with the Scott Lithgow grouping on the Lower Clyde and numerous other yard groupings around Britain were merged into state-owned British Shipbuilders, headquartered in Newcastle. In the merchant yards the mismatch between order books and production capacity persisted. By the end of 1982, British Shipbuilders had closed half its yards.

New legislation by the Thatcher government the following year ensured the remaining yards would be privatised once more. On the Clyde, Govan Shipbuilders became part of the Norwegian-owned Kvaerner group and the naval shipbuilder Yarrow became part of GEC's Marconi division. Together they now constitute the naval ships arm of BAE Systems Maritime. On the Lower Clyde the small Ferguson yard survives (after a recent buy-out by the Scottish industrialist's Clyde Blowers Capital), building ferries for the Scottish government and hoping for orders from the offshore and renewables sectors.

It wasn't just the historic bedrock of Scottish industry, like coal and shipbuilding,that was facing tumultuous times during these first fifteen years of Fraser commentaries. Singer, the American

corporation that then dominated world sewing machine manufacture, first came to Clydebank in the mid-1880s. It built a production complex so vast it had its own distinctive clock tower and dedicated railway halt. By 1980 it was closing its gates for the last time. Tractor manufacturer Massey-Ferguson came to Kilmarnock in 1948, but departed in 1978. British Aluminium opened a large smelter at Invergordon on the Cromarty Firth in 1971, only to close it at Christmas 1981. Diverse industries across Scotland, with life cycles a long as a century and as short as a decade, all falling like ninepins by the end of the 1970s.

There were others. The giant car plant at Linwood. The pulp mill in Lochaber. The BMC/Leyland truck and tractor plant at Bathgate. The strip steel mill at Ravenscraig. All now gone. Some forever enshrined in the Proclaimers' plaintive lament Letter from America. Only Ravenscraig kept producing into the 1990s, finally closing in 1992. In a commentary piece in 1982, reflecting on why such plants had been sanctioned and financially supported by the state in the first place, David Simpson was blunt "Their establishment and location was dictated by political, and not by economic, considerations. Since, in the modern world, change is continuing, closure of such uneconomic plants was only a matter of time."(Vol 7 No 3).

Post-war regional policy was certainly deployed by governments, regardless of the party in power, to persuade companies to invest in some of the least economically dynamic parts of the country. The system of industrial development certificates, introduced by the Atlee Labour government in 1947, was used enthusiastically by the Macmillan Tory government in the early 1960s to persuade Lord Rootes, against his own instincts, to locate his Hillman Imp plant at Linwood, rather in the West Midlands. Harold Wilson, when prime minister, certainly lent on British Aluminium to build a new smelter at Invergordon.

But other major investment decisions can be traced more to heritage and personal connections. The American Singer Corporation brought its sewing machine plant to Clydeside because the executive charged with taking the decision was an emigrant from Clydebank. Alfred Yarrow, having outgrown his existing site, brought his burgeoning shipyard to Scotstoun in Glasgow from Poplar in London in 1906, having advertised around the UK for a new home for his yard. He even persuaded many of his existing workforce to make the move with him and built homes around the yard in Scotstoun to house them. And Thomas J Watson, the founding father of what came to be known as IBM, though born in America was from Scottish emigrant stock. His friendship with the then Secretary of State for Scotland, Hector McNeil, helped ensure IBM's first major European manufacturing plant came to Greenock in 1951. McNeil was Greenock's MP at the time.

In 1975 Labour, led by Harold Wilson, tried to reformulate the way government nurtured economic activity in Scotland by creating the Scottish Development Agency. The SDA was charged with furthering economic development; providing, maintaining or safeguarding employment; and promoting industrial efficiency and international competitiveness. It could invest directly in businesses (taking on the powers created for the National Enterprise Board in Scotland and paving the way for SDA's engagement in Scotland's nascent 'hi-tech' sector). SDA became Scotland's biggest industrial landlord and had widespread powers over derelict land clearance and urban renewal. It took over from the Scottish Council the task of luring more IBMs to Scotland's shores. In the jargon, inward investment. Its initial budget of £200m matched its wide-ranging powers.

The October 1974 general election had sent eleven SNP MPs to Westminster, most from Tory-held constituencies, on the slogan: It's Scotland's Oil. Labour's creation of the SDA was widely seen as a political ploy by Wilson and his Scottish Secretary Willie Ross to blunt that nationalist charge. Labour had, of course, created a template for the SDA a decade earlier, in 1965, when it launched the Highlands & Islands Development Board, with a radical mandate to revitalise the economy of the fragile North of Scotland. But while the HIDB drew strength from the less partisan nature of politics above the highland fault line, the advent of the SDA breached the old cross-party consensus on regional policy that had flourished in the fifties and sixties. The SDA became something of a political and ideological football.

It wasn't that conservatives, even those led by Margaret Thatcher from 1979, were consistently hostile to state intervention when markets looked like doing things they'd rather they didn't. At the start of the 1970s, when an insolvent Rolls Royce went into receivership, Ted Health nationalised it to secure its future. The next Tory to enter Downing Street as prime minister faced a similar challenge. With a similar result. When the Glasgow-based engineers, the Weir Group, chaired by Viscount Weir, got into serious financial difficulties in 1981, the SDA was prevailed upon to participate in a rescue package.

And in the same year, when the Royal Bank of Scotland board was minded to accept a takeover bid by the London-based Standard Chartered Bank, only to find itself on the receiving end of a much-higher hostile bid from the Hong Kong and Shanghai Banking Corporation, Mrs Thatcher's Scottish ministers went public on their hostility to both bids and helped ensure the Monopolies and Mergers Commission threw both of them out. As a memorandum from Professors McGilvray and Simpson to the MMC in the July 1981 edition of the commentary put it: "In terms of market capitalisation, the Royal Bank is the second largest company with its head office in Scotland. it is not putting it too strongly to say that if the Royal Bank goes, it will the beginning of the end of the indigenous private sector in Scotland, with all which that implies for the regeneration of Scottish industry." (Vol 7 No 1)

One of the dominating features of that whole decade was the wave of takeovers of major private sector players in the Scottish economy by rival businesses. Having fended off a takeover bid from Tiny Rowland's Lonrho in 1981, thanks to another MMC veto, the department store chain House of Fraser was sold to the Al Fayed family in 1985. Harrods is now owned by the Qatari royal family. The rest of the chain, having passed through Icelandic hands, is now in Chinese ownership. In 1983 South African-based Charter acquired mining equipment maker Anderson Strathclyde, based in Motherwell. Britoil, which started life in 1975 as the state-owned British National Oil Corporation, was privatised in two stages by the Thatcher government, first in 1982, then in 1985. Just three years after that floatation of the fourth biggest oil and gas producer in the North Sea was completed, it was acquired by BP. In 1986 the Glasgow-based thread maker Coats Paton was taken over by David Alliance's Viyella group.

The messiest of the 1980s takeover wave engulfing Scotland's private sector hit the whisky sector. In 1984 the Irish brewer Guinness launched a surprise takeover bid for the Perth-based whisky distiller Arthur Bell. Having swallowed Bells, it then downed the much-bigger Distillers Company, home to a whole family of well-known brands of Scotch. Distillers accepted the embrace of the Ernest Saunders-led Guinness, rather than succumb to the mercies of the Argyll Group supermarket chain, led by the upstart Jimmy Gulliver. The outcome split the Scottish business establishment. The then governor of the Bank of Scotland Sir Tom Risk and a leading Edinburgh lawyer Sir Charles Fraser had agreed to serve with Saunders on the enlarged United Distillers group board. But when promises made to them weren't

kept, the flak began to fly. Saunders and three others were subsequently charged with fraudulently manipulating the Guinness share price to win the battle for Distillers. Saunders served ten months of a thirty month sentence in an open prison.

The fear expressed by McGilvray and Simpson over the fate of the Royal Bank, that its loss of independence would spell "the beginning of the end of the indigenous private sector in Scotland" was widely shared at the time. There was sustained debate, even in boardroom and professional circles, about what kind of protectionist measures might stem the tide and retain more headquarters control in Scotland. Could some kind of tartan ring-fence, enforced by the competition authorities, be erected? But as we will see, in later stages of this three-part story, that trend was not reversed. Indeed it spread to areas like finance and professional services. And the Scottish bank that was saved from itself in 1981, RBS, ended up going on a massive takeover spree of its own that plunged it into a near-death experience.

The Thatcher government's comparative pragmatism over intervening directly in markets, as it did over the possible collapse of the Weir Group and the Royal Bank's corporate independence did not extend to buying in to its Labour predecessor's vision of the role of the fledgling SDA. At the start of 1980 more restrictive guidelines were issued on when Agency could invest directly in businesses and in what form – and dropping its Labour-inspired aim to extend trade union representation in Scottish industry. The following year the business of attracting more foreign direct investment into Scotland was hived off to a new joint SDA/Scottish Office agency Locate In Scotland. In the latter half of the decade, the SDA was told to sell off its large industrial property portfolio and leave more of the task of housing Scotland's industries to the commercial property sector. In between there was a select committee inquiry and various National Audit Office and HM Treasury trawls to keep the SDA on its toes.

The vast Glasgow Eastern Area Renewal project (GEAR), coordinated by the Agency – at the Government's direction - and launched the year after the SDA was up and running, was allowed, under the Tories, to complete its ten-year journey. However the fact that has taken a project of the scale of last year's Commonwealth Games to revisit the physical regeneration of much of that same area of Glasgow's East End speaks volumes about how difficult it is to renew economic vitality in physically run-down inner city areas. The creation of Locate in Scotland had a positive impact on the flow of inward investment to Scotland, notably the steady stream of electronics ventures coming to swell the residents of Scotland's 'Silicon Glen'. Some, of course, had been coming long before that. There was a wave in the 1940s and 1950s. Ferranti, IBM, Burroughs, Honeywell, NCR. Motorola brought its first chip plant to East Kilbride in the 1960s. National Semiconductor brought another to Greenock in the 1970s.

But the wave of plants that opened in the 1980s, mainly in Scotland's New Towns, many assembling the hardware for the first generations of desk top computers, seemed to herald a new industrial dawn. Sadly, thanks the speed of innovation in the technology and the emergence of even lower-cost locations to do such work, notably in Eastern Europe and the Far East, it was to prove a transient boom.

Attempts were made to attract other emerging technologies. In 1985, to much fanfare, Damon Biotech was supposed to be coming to Livingston, with $40m of investor backing, to build the biggest monoclonal antibody plant in the world. It did not happen. Risk is, of course, unavoidable for any national development agency, seeking to replace outmoded industries with tomorrow's growth businesses. But,

by the late eighties, it was becoming clearer that the Thatcher government had never quite forgiven the SDA for being Labour's initiative. Its death knell was sounded in 1988 when a Tory supporting businessman Bill Hughes came up with a new model - a network of enterprise agencies with strong business representation that would not only reignite Scotland's entrepreneurial spirit but take over responsibility for skills training too. How Scottish Enterprise came to be forms past two of this series.

And how did the state of the Scottish economy look as the first fifteen years of the Fraser commentaries drew to a close? I'll leave the last word to Dr John Hall TSB Scotland's Treasury Economist. In his economic briefing in the last issue of 1989 (Vol. 15, No. 2) he writes "Companies, already faced with a burgeoning financial deficit and a squeeze on profits and liquidity, may then be forced into a period of intense labour shedding, thus tipping the economy towards recession. The intensity of pressures in the labour market have once again raised the spectre of stagflation, albeit of a milder form than previously experienced and in the context of a far more benign international environment: slugflation may be a more appropriate term." (Vol 15 No 2) Slugflation? It's a period of sluggish growth and rising inflation. An Age of Diminished Expectations perhaps, to borrow the title of one of Paul Krugman's books. To see what the 1990s did bring for the Scottish economy, read the next installment of SERIES TITLE in June's Fraser Economic Commentary (Vol. 39, No. 1).

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The Scottish Financial Sector; its performance and future prospects

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I Introduction

The purpose of this paper is to review the performance of Scotland's financial services (FS) sector and its three principal sub-sectors and to draw out strategic issues for the sector and policy makers in Scotland to consider. The paper draws on analysis of official economic statistics undertaken by economists at the Fraser of Allander Institute and work by HMT, as well as from conversations with senior members of Scotland's financial community.

Section II draws together a time series analysis of output, employment and value added (GVA) of the FS sector and its principal sub-sectors. This is particularly important given that the sector has experienced a very turbulent period over the past six or seven years. The analysis has been much aided by the data and analysis provided by economists at the Fraser of Allander Institute (FAI). However, it should be noted this assistance cannot fully compensate for the inconvenient truth that official data on the sector are not complete in their sub-sectoral breakdown and hence conclusions have to be cautious in places.

Having considered this analysis and its implications, Section III turns to the major influences which have impacted on the sector in recent years, those which are being felt now - and will be felt into the future. In this context the author has benefited from discussions with Scottish Financial Enterprise and senior contacts within the financial services sector in Scotland.

Section IV draws together some key conclusions as to the current and future focus of both key players in the FS sector and for policy makers in Scotland and proposes some possible early actions to help reduce perceived risks and signal that Scotland remains a competitive location for the financial services industry, as it has done for so many years.

There can be no doubt that a wide variety of major influences are at play at present and that the future, domestically and internationally, is rife with uncertainties. Again this implies that the conclusions drawn regarding the outlook of the sector have to be cautious, as do any recommendations regarding appropriate policies and interventions for the sector. It is hoped that this paper raises some key strategic issues for those involved with the sector –industry players, policy makers and politicians - and that further consideration of these issues and risks may lead to outcomes that are beneficial to the Scottish economy and the economic health of this key sector; or at least help to mitigate some downside risks.

Of course it should be stressed that the responsibility for the analysis, the views expressed and the conclusions drawn is entirely that of the author.

II The recent performance of the financial services sector in Scotland

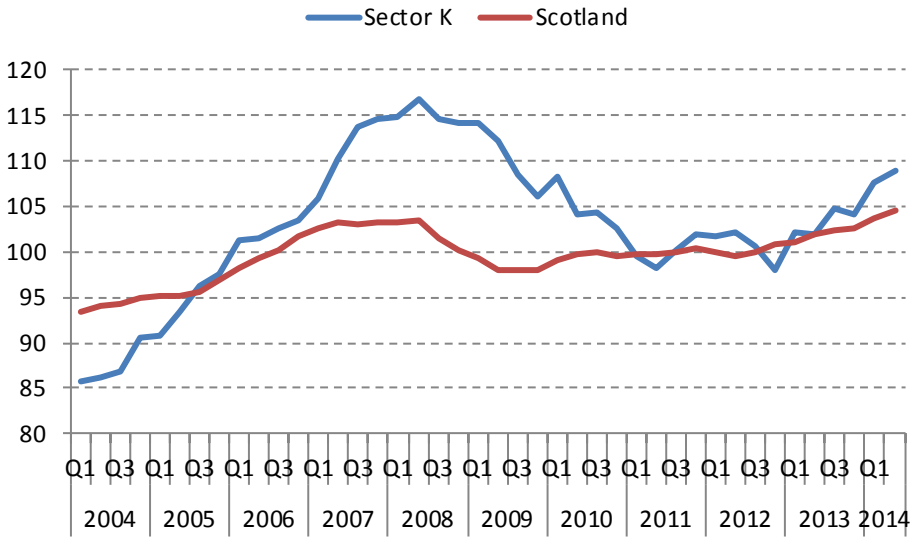
A statistical analysis of the sector has to be based on data covering 'Sector K' in the UK's 2007 Standard Industrial Classification (SIC2007). This is further broken down into three components, namely:

67 - Financial services, except insurance and pension funding
68 - Insurance, re-insurance and pension funding services, except compulsory social security and pension funding
69 - Services auxiliary to financial services and insurance services.

Clearly this is neither as detailed nor as clear a breakdown as one would wish. In Scotland we tend to think of the three key components of the sector being banking, insurance and asset servicing. For the purposes of this analysis we take banking as sitting in (indeed dominating) 67 and insurance and asset servicing in 68 – with a potpourri of (much) smaller activities sitting in 69.

Data on trends in Gross Value Added in Scotland from 2004Q1 to 2014Q2 are set out in Figure 1, for the financial services (FS) sector as a whole and for Scotland, in index form, based upon 2011 = 100 in both instances.

Figure 1: GVA index for Sector K and Scottish economy, basic prices, Index: 2011 = 100



Source: Gross Domestic Product, 2nd Quarter 2014 (Scottish Government)

Figure 1 shows that the while financial services sector out-performed the Scottish economy as a whole over the ten year period from 2004 to 2014, FS growth was most marked from 2004 to 2008, with the index rising from c.85 to above 115 while the Scottish economy index rose only gently from 95 to below 105. Post 2008 Sector K fell back sharply as the financial sector-induced recession struck, declining to around 100 in 2010, 2011 and 2012, before edging up once more over the last two years towards 110. The Scottish economy index fell back far more gently and has risen more slowly to reach 105 in

2014Q2. The index rise over the whole period for the FS sector was c.25 index points, while for the Scottish economy as a whole it was only 10 index points.

In order to assess relative performance within the FS sector we set out in Tables 1,2 and 3 GVA compounded average growth by sub-sector and the equivalent for output growth and employment growth sector for the periods 1998-2011, 1998-2008 and 2008-2011. These figures are contrasted with the equivalent results for the FS sector as a whole and for Scotland. The data come from the Scottish-Government Input-Output tables, as re-calculated by the Fraser of Allander Institute.

Table 1: GVA growth by sector, compound average growth rates, years as noted, %

period	Banking	Insurance and pensions	Auxiliary financial services	FS Sector	Scotland
1998 to 2011	9.8	2.6	2.2	5.7	4.2
1998 to 2008	12.8	7.3	8.7	9.7	5.2
2008 to 2011	0.3	-11.8	-16.7	-6.5	1.1

Source: Scottish Government Input-Output tables and multipliers, July 2014 and FAI calculations.

Table 2: Output growth by sector, compound average growth rate, years as noted, %

period	Banking	Insurance and pensions	Auxiliary financial services	FS Sector	Scotland
1998 to 2011	8.1	5.7	0.7	6.0	3.9
1998 to 2008	10.2	11.7	6.6	10.5	4.9
2008 to 2011	1.3	-12.2	-16.8	-7.6	0.3

Source: Scottish Government Input-Output tables and multipliers, July 2014 and FAI calculations.

Table 3: Employment growth by sector, compound average growth rate, years as noted, %

period	Banking	Insurance and pensions	Auxiliary financial services	FS Sector	Scotland
1998 to 2011	0.0	-4.0	3.0	-0.1	1.0
1998 to 2008	2.7	-0.8	1.5	1.6	1.8
2008 to 2011	-8.6	-14.0	8.4	-5.5	-1.7

Source: Scottish Government Input-Output tables and multipliers, July 2014 and FAI calculations.

For banking GVA and output grew rapidly (average double digit rate per annum) up to 2008 and then slowed sharply. However, there was a modicum of growth in the period 2008-2011 for this sub-sector,

which was emphatically not the case for insurance and pensions where GVA and output fell back by 11 or 12% per annum over the period 2008-2011. There was an even larger decline by both measures for auxiliary financial services, though it should be recalled that this sub-sector is much smaller than the other two. Clearly the knock-on effect of the banking crisis was felt strongly across the whole FS sector – with the most limited effect in the sub-sector containing banking! (It has to be noted that the suggestion in the data that banking output grew between 2008 and 2011 is counter-intuitive. With employment down sharply and profits from the major two banks generally negative the expectation has to be that output declined. As noted above the data are not perfect!)

Turning to employment, there was much less growth in the earlier years than in output or GVA, a sign of increasing productivity, and then a sharp fall for 'financial services' and insurance and pensions. Employment in auxiliary financial services rose by over 8% pa from 2008-2011. One explanation could be a shift to lower wage, lower value-added, activities as the crisis struck.

Turning to a comparison between the FS sector as a whole and Scotland, it is clear that the degree of volatility was much greater for FS – stronger growth of output and GVA up to 2008 and then decline while for Scotland very slow growth was maintained. Turning to employment, again the fall back was greater in the FS sector than it was for Scotland as a whole; for the period 1998-2011 as a whole FS employment fell marginally while Scottish employment grew by 1%.

As a result of these differing trends the financial sector as a share of Scotland's economy waxed and then waned over the period. The FS sector's share of Scottish GVA rose from 5.77% in 1998 to 7.11% in 2003 and 8.77% in 2008, before falling back to 6.94% in 2011. Banking more than doubled its share of Scotland's GVA in the decade from 1998 to 2008. (See Table 4.)

Table 4: GVA for sector, and Scottish economy, £million, cash values

	1998	2003	2008	2011
Banking	1,248	2,564	4,169	4,206
Insurance and pensions	1,864	2,540	3,785	2,595
Auxiliary financial services	559	626	1,287	743
Financial Services Sector K	3,671	5,730	9,241	7,544
Scottish economy	63,578	80,646	105,331	108,690

The share of wage income accounted for by Sector K varies less markedly than was the case with GVA. It rose steadily from 4.74% in 1998 to 6.51% a decade later, before falling to 5.69% in 2011. This decline was down to insurance and pensions + auxiliary financial services, not sub-sector 67 where wage income rose in absolute terms and as a share of the Scottish total. It will be of interest to see more recent data when available and attempt to identify possible causes of these trends.

Table 5 shows similar figures but this time for wage income.

Table 5: Output for sector, and Scottish economy, £million, cash values

	1998	2003	2008	2011
Banking	682	1,361	1,682	2,247
Insurance and pensions	679	1,073	1,443	912
Auxiliary financial services	441	543	1,012	571
Financial Services Sector K	1802	2,977	4,137	3,730
Scottish economy	38,003	50,121	63,576	65,546

It is also possible to examine the overall contribution to the Scottish economy of the sector and its components by means of considering the 'multipliers' derived from the Input-Output tables. Data by sub-sector for the output multipliers and employment effects are shown in Table 6.

Table 6: Output and Employment Multipliers (Type ") by FS sub-sectors, 1998 to 2011

	Banking (67)		Insurance and Pensions (68)		Auxiliary Financial Services (69)	
Sector	Output multiplier	Employment effect	Output multiplier	Employment effect	Output multiplier	Employment effect
1998	1.8	28.9	1.7	17.2	1.8	28.4
2003	1.7	22.9	2.0	14.2	1.8	21.5
2008	1.5	14.7	2.2	9.7	1.7	17.4
2011	1.6	13.0	1.9	9.6	1.6	27.2

Source: Scottish Government Input-Output tables and multipliers, July 2014.

This shows that for banking the output multiplier (showing indirect and induced effects) has declined only marginally through the 13 year period from 1998 to 2011, while the employment effect has more than halved. [The employment effect is defined as the impact on total employment (jobs) across the economy of £1 million additional demand for a sector's output. It therefore captures not just employment in the sector itself but through the 'supply chain'.] The output multiplier trends are similar for auxiliary financial services , however, while the employment effect falls sharply to 2007 it then climbs back sharply again. This is another anomaly to explain. For insurance and pensions the output multiplier remains relatively stable, while the employment effect – as with banking - falls steadily through the period. The decline in the employment effect looks to be due to a combination of rising productivity and the impact of inflation - £1 million of demand at the end of the period is less in real terms than at the beginning and would mean

lower employment impact even with productivity held constant. Nevertheless the halving of the employment effect of banking again appears difficult to explain rationally.

Table 7: Contribution of sector(s) to Scottish output, £million (various years)

£million	1998	2003	2008	2011
Financial Services Sector r(K)	9,834	16,889	24,126	19,654
Banking	3,554	6,027	8,472	8,763
Insurance and Pensions	5,044	9,619	13,352	9,582
Auxiliary Financial Services	1,479	1,670	2,615	1,472

Note: Figures are in cash (i.e. nominal) values for the respective years.
Source: Scottish Government Input-Output tables and multipliers, July 2014 and FAI calculations.

It is interesting to note that the output multipliers for banking and auxiliary financial services are relatively low – ranking 83rd and 74th respectively out of the 98 Scottish sectors included in the overall analysis. However, insurance and pensions (sub-sector 68) has a multiplier ranked 14th in terms of output and is the top-ranked employment multiplier of all sectors. This suggests that insurance and pensions is significantly more important than the other two elements of the financial services sector in terms of the secondary impacts on output in Scotland, while the greatest (relative) employment impact comes from auxiliary financial services.

The total contribution of the sub-sectors and the sector as a whole to Scottish output is set out in Table 8. This shows the output that would be lost to the Scottish economy if production in each of these areas was lost to Scotland and replaced by imports.

A comparison with Table 5 shows how much of the output lost is due to direct production and how much to the indirect and induced effects of that production.

One further - and critical - point is that a high share of output from each sub sector is exported out of Scotland. This amounts to 86.9% for auxiliary financial services, 79% for banking and only 36.9% for insurance and pensions. This reinforces the fact that Scotland is a significant UK financial services centre that sells - “exports” – financial products to the rest of the UK - and beyond. (At the same time the export figure for insurance and pensions looks low, given anecdotal evidence of the destination of most products from at least the largest companies.)

The Forecast

Finally it is necessary to note the latest FAI forecasts for the sector, in the context of forecasts for the Scottish economy as a whole.

The FAI is now forecasting, in its central forecast, GVA growth per annum of 2.7% in 2014, 2.2% in 2015 and 2.1% in 2016. For Sector K (Financial and Insurance Activities) the equivalent forecasts are 2.2%, 1.9% and 1.9%. In other words, as with the economy as a whole, the growth rate is forecast to decelerate through the period; and also growth in each year for this sector is expected to be lower than for the overall economy.

So far as employment is concerned, FAI expects an increase in full time equivalent employee jobs each year, by 2,500, 1,400 and 1,800 respectively in the three years, taking total FTE jobs to 96,650 by the end of 2016.

III Major Influences

The constitutional uncertainties

During the run up to the September 2014 referendum most financial services companies will have considered very carefully their options in the event of a 'yes' vote. In the course of producing a paper for the David Hume institute and Scottish Financial Enterprise regarding currency options for an independent Scotland, the author spoke with a number of senior representatives of companies across a range of financial service sub-sectors.

From these discussions, and consideration of the impact that independence could have had, it is clear that no bank or financial institution of any scale operating across the UK and elsewhere would have continued to operate from a legal (i.e. *de jure*) HQ in Scotland. In addition to the currency risk that independence would bring to companies with a *de jure* Scottish HQ, there were also significant regulatory and legal risks to consider. A prime example was the question of who would operate as lender of last resort. Bank customers were also questioning whether they would wish to retain assets in a bank based in Scotland, with the associated potential risks. These problems would have been resolved by the movement of *de jure* – but not necessarily *de facto* - HQs from Scotland, and hence location for regulation, etc., to somewhere in the rest of the UK.

There would also have been issues for those companies selling financial service products from a Scottish base across the whole of the UK. Maintaining their Scottish base would again have exposed these companies to currency, regulatory and legal risks; and further their customers' outwith Scotland would have perceived risks associated with products – and usually long-term products – purchased from a company based in Scotland. Again the likely 'solution' would have been to move their *de jure* HQs, leaving in Scotland a range of activities, perhaps including a smaller (*de jure)* Scotland-based company to deal with sales of products to Scottish customers.

The movement of HQs would not have meant the end of the Scottish financial services sector, or indeed the end of the sub-sectors referred to above. As discussed below the impact would have been varied and uncertain.

Following the 'no' vote in September there has been no end to the constitutional uncertainties. Formally we have had the Smith Commission examining options for further devolution of powers to Scotland, including tax powers and potentially other powers of relevance to the financial sector. There is also the work of the Hague Commission to follow, looking more broadly at constitutional issues and options across the UK. Then of course there is the increasing possibility of a referendum on UK membership of the European Union in 2016, with uncertain results.

The UK general election will take place in May 2015, and the position on further devolution in Scotland should become clearer in the run up to and subsequent to that election. However, clarity on all issues will not be available at that time. The election for the Holyrood Parliament follows in 2016. While there are a variety of plausible scenarios for Scotland and the UK as a whole over the coming years, it is sufficient at this stage to note that the future constitutional position of Scotland, and indeed and perhaps more critically, of the UK within the EU, continues to suffer from risks and uncertainties, even after the result of the Scottish independence referendum. And the uncertainties will not wholly dissipate with the results of the 2015 UK general election.

Scottish-based financial service sector companies must be increasingly aware of these uncertainties, and also see that no early end to uncertainty is to be expected. Those companies which decided that leaving Scotland (in terms of *de jure* HQs) was the best option in the event of a 'yes' vote may decide that the state of uncertainties is such that it still makes business sense to consider moving HQs even after a 'no' vote. It is worth remembering the 'Montreal effect'. After the referendum on independence for Quebec in 1995 which also yielded a no vote (albeit by a very narrow margin) the Bank of Montreal moved its HQ to Toronto. However, there were key differences in language and culture in the case of Montreal which mean that one cannot necessarily read direct lessons from the Montreal experience for Scotland.

The potential EU referendum must be a significant and additional complicating factor for many. Those companies for which the UK market is paramount can decide upon HQ and operational bases without too much concern about any EU exit. However, those companies selling products across the EU must already be considering how they would best manage their affairs if the UK were to seek the exit door. Moving their formal (*de jure*) HQ from Scotland – or indeed London - to (say) Dublin might become a possibility for debate.

The Impact of these Uncertainties

It is very important to consider the potential impact of changes in location, etc. on the scale and significance of the FS sector in Scotland and indeed the sector's impact upon the Scottish economy.

The HQs of RBS and HBOS may *de jure* remain in Scotland, but in practice many (most?) of the most senior positions are now based south of the border. The 'centre of gravity' of these banks moved south some time back. If they were to move their formal *de jure* HQs to England, then it is not clear that there would be further major losses of top jobs in Scotland or indeed of business in Scotland related to decisions taken by top management.

We do have in Scotland a wide range and significant number of important, well paid and high value-added jobs in these two banks. Of course there is a spectrum of jobs in banking, as in the rest of the FS sector, ranging from the most senior and (very) well paid, through a range of high skill and high value-added activities, many back office in nature, to customer contact and call centre and other relatively low skill/low wage jobs. But the jobs towards the top end of the skill and wage spectrum are of greater importance in terms of the impact on the Scottish economy as a whole. Movement of the *de jure* HQs would not necessarily mean that those jobs still remaining in Scotland would be lost. Many of these jobs can be undertaken in a number of different locations. Choices have already been made between locations across the globe, and the jobs are here because a Scottish location provides a cost-effective means of delivering the services undertaken by the job holders. That should continue to be the case unless policy changes, perhaps as a result of further fiscal devolution, change the comparative cost-benefit of a Scottish base as compared to a base in the rest of the UK or further afield.

The importance of these jobs to Scotland should not be under-estimated. They add substantially to GDP and provide a career structure, making progress through a stimulating and productive financial sector career in Scotland feasible and attractive for many. These jobs will also have significant external effects – associated high level and high value services purchased from (inter alia) the business and financial service sector across Scotland and significant expenditures on housing and other goods and services by the job-holders. The purchases from other service sector companies are important to new and growing companies across the economy, including inward investors. Note that I am hypothesising high multiplier effects from such jobs.

In sum the key risk associated with any decision to move the *de jure* HQs of the two major Scottish banks out of Scotland is not the loss of HQ functions, as these have gone already, but the loss of the large number of jobs in the next tier which bring substantial direct and indirect benefits to our economy and are crucial to sustaining a high-skilled labour force. The consequent policy imperative is to focus on policies which tend to support the retention of these jobs in Scotland; and to avoid taking any steps which might threaten their continued location in Scotland. On this basis it would be inappropriate, for example, to introduce tax or other policies which could change the cost/benefit equation and lead to the departure to pastures new of skilled financial service sector jobs which add significant value to the Scottish economy. The focus must be on maintaining these medium/higher level jobs in Scotland. Indeed one could argue that it is better to let the *de jure* HQs go, and focus on retaining these jobs and aiming to attract many more. Scotland can continue to be a very attractive location for such jobs, across the financial sector.

The HQs of the smaller banks now emerging in the UK including Scotland are located in a variety of places. The same logic applies to them as is the case for RBS and HBOS. *De jure* HQ location is of low relevance. From an economic and strategic perspective Scotland wants more than just operational jobs which deliver products in Scotland or low skill/low pay back office jobs associated with delivering products globally. Scotland needs to focus on attracting and maintaining medium/higher level jobs in these new banks. We need to show that it makes sense to base these relatively high skill activities here,

because Scotland provides a cost-effective location. If the location works for such parts of the operations of RBS and HBOS it should also work well for the banking operations of Virgin or Tesco or Sainsbury's.

A number of other international operators across the banking sector have located quite high level operations here. There may have been a hiccup while the referendum campaign caused uncertainties. There may be a risk that this hiccup could continue as the uncertainties continue. This risk must be addressed as soon as feasible. The Scottish Government, along with SFE, SDI and SE, needs to be able to say that these companies will be welcomed here as before and that nothing will be done to diminish the attractiveness of Scotland as a base for such skilled activities.

One concern may be on the fiscal front. This needs to be addressed. Another may be regulatory. There seems to be no reason for not stating *now* that there will be no change, as the devolution process continues, in the regulatory structure. Regulation of financial services should remain a UK function, a reserved function, and the Scottish Government could state now that this is their firm intention. It is in all interests that this uncertainty be removed at once and a statement to this effect would be wholly consistent with the Smith Commission report.

Another key element of the attractiveness of Scotland for these operations is our skilled pool of labour, based upon our high quality Higher Education (HE) institutions. Generally there do not appear to have been skill shortages of any significance for the financial sector related to the output of the Scottish HE sector. Nevertheless it could assist for statements to continue to be made by all concerned parties that this is fully appreciated and that the Government and the Scottish Funding Council are prepared to work ever more closely with the financial sector, including potential new entrants to Scotland, to ensure that their needs are appreciated and catered for. There should be scope for ever closer links between Scottish HE and College providers of these key skills and the companies making use of the skills to understand better how one can serve the other. Similarly HE institutions may wish to attempt to foster research links with financial service companies – demonstrating that they have both the skills and the interest to support these companies at the highest levels, globally.

Of course the financial services sector in Scotland recruits from elsewhere than the Scottish Universities, and would also benefit from being able to recruit some of the most able foreign students undertaking graduate and postgraduate studies at Scottish Universities. In this context the recommendation from Lord Smith that the UK and Scottish Governments should 'explore the possibility of introducing formal schemes to allow international
higher education students graduating from Scottish further and higher education institutions to remain in Scotland and contribute to economic activity for a defined period of time' provides an opportunity for a quick win to the benefit of financial services and other key Scottish sectors.

Similar issues arise when considering the potential impact of changes in the *de jure* HQ of financial service companies in other sub-sectors which provide products for sale across the UK and further afield. In some instances there would be a detrimental effect of significance from a change in HQ if both *de jure* and *de facto*. However, the *de jure* shift may be very difficult to prevent. But even if the *de jure* HQ moves there is no reason why most highly skilled, highly paid and high value-added jobs (with

substantial multiplier impacts) should not be retained in Scotland. This is what we should seek. Such jobs would add far more to the Scottish economy than some lower level jobs retained to service the sale of products within Scotland and looking after the interests of existing customers based here.

Demographics and internationalisation

Of course there are also broader, global, trends which will impact upon the environment within which players in the Scottish financial services sector operate. Within the more developed economies demographic shifts are leading to an ageing population. This will also be the case in China. Dealing with retirement savings will be big and complex business, especially as defined benefit schemes disappear and the focus shifts to maximising value of defined contribution schemes and other forms of savings in an increasingly complex, global and transparent world of financial assets. Thanks to technological change, all interested parties will have access to all relevant financial data at any time they choose; and they will also receive an increasing flow of analysis and 'offers' from those wishing to aid them with their asset management decisions. Customers will be increasingly 'empowered' but may run the risk of also being increasingly confused!

Meantime the shift in economic power is continuing and accelerating. Brazil, Russia, India and China were the original BRIC economies, but now many others have joined them in the race to enhance economic growth, with accompanying urbanisation. These trends in the emerging economies are resulting in a very rapid growth in the relatively affluent – large numbers of consumers and large numbers of folk with funds to invest for their future prosperity. The extent of wealth to be managed in the Middle East should also never be under-estimated.

These diverse trends should all result in ever-increasing business for asset managers. Some analysts suggest that asset management will move centre stage and out of the shadows cast by the banking and insurance sectors. Scotland's asset management sector has performed extremely well throughout the past two decades. Informed parties within the sector consider that this success has helped to offset, at least partially, the decline since 2008 in output, value-added and employment in banking.

Retail and commercial/corporate banks may focus increasingly on national and sub-national markets, while effectively distinct investment banks operate regionally and internationally. [Discussion of investment banking has been avoided as this seems unlikely to be a major source of activity in Scotland or the type of activity which Scotland should work hard to attract.] Asset managers are likely to have to work on an international basis. Assets will become increasingly international. Different national markets may exhibit differing demand factors, but fully understanding the international supply side will be essential if asset managers are going to build their business.

Thus far the continuing consolidation in the fund management business has not led to major departures from Scotland. Companies and key jobs have stayed in Scotland when (for example) BNY Mellon bought Walter Scott and Aberdeen Asset Management bought Scottish Widows Investment Partners. It may be that Standard Life Investments and Baillie Gifford are the only two 'home grown' fund managers

of significance, but what matters is retaining in Scotland the key jobs whoever owns the company and the key relationships, purchases, etc. which go along with these jobs.

The evolution of regulation will matter, as will the UK – and Scotland's – position within the EU. Based in Scotland, regulated at EU level but selling their services across at least Europe, the USA and the Middle East may increasingly be the model for Scottish-based asset managers in the future.

Competition will be intense and Scottish companies will need to demonstrate:

- access to all the required skills
- a close understanding of diverse international markets
- key technological capabilities
- a global telecommunications capability (and global fluency)
- all other abilities required to match competitors across the globe.

Given the deep business, skills and technological foundations / assets upon which the sector in Scotland is based, none of the above challenges seem insurmountable barriers to establishing global players of substance based in Scotland. Devolution of Air Passenger Duty to Scotland, as recommended by Lord Smith, should permit considerations of means by which the opening up and/or extension of routes to key destinations from Scottish airports can be encouraged, to the benefit of this key sector and others.

Competition in the Banking sector

A long standing question regarding financial services in Scotland has been whether the banking sector is sufficiently competitive to provide the required level of services to consumers of its products. It is therefore significant that the UK Competition and Markets Authority (CMA) has just launched a market investigation into components of the banking sector across the UK. (Its planned coverage is 'small and medium-sized enterprise (SME) banking and personal current accounts (PCAs)'.

There is more than one market for banking in Scotland. For the purpose of this discussion let us assume that there are four – retail banking to households; services to small and medium-sized enterprises (SMEs); lending and other basic services to large corporates; and investment banking.

It would be difficult to argue for large corporates and investment banking that there are distinct Scottish markets. The markets for these services are at least UK-wide. For lending to large corporates RBS and HBOS are the long-term incumbents, but they face mounting competition within Scotland from the likes of HSBC, Santander and Barclays. There do not appear, at first blush, to be barriers to entry of substance to prevent these banks and others entering this market in Scotland and competing with the incumbents.

The situation is similar with investment banking. It is worth noting that the trend may be for those providing investment banking services to separate from those providing other banking services, but companies in Scotland will face a range of options (including banks based across the UK and indeed globally) if they wish to hedge currencies or enter into other investment banking activities.

The structure of the retail banking sector in Scotland has changed in recent years, but the degree of competition appears to have been broadly sustained. There may be fewer building societies offering services to households but we have seen the entry of a number of 'challenger' banks – Virgin, Sainsbury's and Tesco to name three. These are now actively competing with RBS, HBOS and Clydesdale. These incumbents may have the benefit of a wider-ranging network of branches but (a) the rise and rise of on-line banking has somewhat reduced the relevance of the branch; and (b) we have seen all banks going through a process of branch closure reflecting this fact. The barriers to entry into the retail banking market may thus have been reduced to a limited extent.

The CMA has concluded thus far that 'essential parts of the UK retail banking market lack effective competition and do not meet the needs of personal consumers or small and medium sized enterprises (SMEs).' Their provisional conclusion that 'barriers to entry and expansion for newer and smaller banks remain significant and the markets remain concentrated, ***particularly in Scotland*** and Northern Ireland' (emphasis added) applies to both personal current accounts (PCAs) and SME banking. It will be interesting to see whether the CMA decides that there is a separate Scottish retail banking market and if so what views it forms in the more detailed phase of its work on the competitive state of that market.

In the author's view the SME banking sector in Scotland should be seen as the prime cause for concern. Again RBS and HBOS are the main participants, with a relatively small (and declining) involvement of Clydesdale. Data on shares of lending to SMEs in Scotland are not the easiest to acquire. An HM Treasury paper in May 2013 noted that in 2011 Lloyds/HBOS accounted for 36% of finance to Scottish SMEs and RBS 34%.

The market study recently undertaken jointly by the CMA and the Financial Conduct Authority (FCA) provides more data. In 1999 RBSG (33%), Clydesdale (31%) and BoS (25%) accounted for around 90% of business loans in Scotland, with Lloyds (4%) the only other provider of significance. In 2013 the picture had changed marginally – RBS (48%), Lloyds (26% -including HBOS), Clydesdale (14%) making 88% in total. Santander, the Co-op and HSBC all had shares of below 5%.Not the most encouraging sign of a healthy competitive banking market for SMEs in Scotland!

The CMA generally calculates the' HHI' index in studies of this type – a measure of market concentration. They have done so for SME banking in Scotland and determined that there continues to be 'a highly concentrated market even after the divestment from Lloyds'.

The CMA and FCA also concluded that 'significant barriers to entry and expansion remain' – noting in particular the continuing importance of a branch network and concerns expressed about the 'cost and difficulty for smaller and newer banks to gain access to payment systems which are key to offering Business Current Accounts.' The only new entrant noted was the Metro Bank. The 'challenger' banks will take some time to develop products for this market, with their clear initial emphasis being on households. The banks that are competing in the large corporate market are unlikely to work far down the company scale in the near future, given that for the smallest companies, especially but not only retailers, a branch presence will be critical for cash deposits, etc.

It is very clear that banks are not positively viewed by SMEs. The CMA/FCA study referred to above finds that only 13% of SMEs 'trust their bank to act in their best interests' and only 25% consider that 'their bank supports their business'. Overall the CMA concludes that the SME banking sector is one in which 'a believed lack of choice of providers combines with, and reinforces, SME inertia, apparently resulting in suboptimal outcomes for SMEs.' This suggests that the current market participants may well not be providing the range, quality, price, etc. of products for its customers that would be expected in a perfectly functioning market.

There are (at least) two strong reasons why the SME banking market specifically in Scotland should be a key element of the CMA study. First there is the concentration of SMEs in Scotland, a higher concentration of SMEs here than in the UK as a whole, and consequently this sector is of critical importance to the Scottish economy. Second, the SME banking market is significantly more concentrated here than elsewhere in the UK's nations and regions with only two participants of substance and no signs of significant early changes to be anticipated. The study of personal current accounts will be of interest but the examination of the SME banking market even more important – certainly a topic worthy of the CMAs careful, informed and objective analysis. We will learn more over the coming months and learn their conclusions at the end of their study period. One further point to note is that, if the Smith Commission recommendations are adopted then Scottish Ministers will in future have the ability to require the CMA to undertake a full second phase investigation 'in relation to particular competition issues arising in Scotland.' This may open up opportunities for further helpful examinations of aspects of this and other sectors.

IV Some conclusions and recommendations

The impact of the financial sector –induced recession starting in 2008 was felt across the globe. Given that the two major players in the Scottish financial sector – RBS and HBOS – were major casualties of the banking sector collapse, both ending up largely (UK) state-owned, it is remarkable that the sector here has not suffered more than has been the case. This is demonstrative of the robustness of the sector and its diversity. The Scottish financial sector amounts to much more than just two major banks. Clearly asset management and insurance are key elements, as are a range of ancillary activities and other banks – large and small, UK and overseas. This robustness and diversity provides a powerful base for future success, to the benefit of our economy as a whole.

Another point stressed throughout is that Scotland benefits most from relatively high wage, high value-added and high skill jobs within the sector. These have the greatest direct impact on the economy, but also yield larger multiplier effects on GVA and employment. By no means all of these jobs are tied in locational terms to the HQs of companies. Scotland has attracted many such high level jobs for companies based in the rest of the UK and further afield, and has also retained many for RBS and HBOS/Lloyds as their *de facto* HQs have moved elsewhere. There is a risk that more companies may formally relocate south of the border as risks and uncertainties on the constitutional front continue (and outwith the UK in some instances if risks grow regarding a possible UK exit from the EU). However, such moves should not be seen as necessarily implying the loss to Scotland of high level jobs.

It will be critical that the Scottish Government confirms its commitment to providing the environment within which it makes sound business sense to locate a wide variety of high level financial sector jobs in Scotland. Professor Nick Crafts has made a distinction between horizontal and vertical interventions to support business. The latter – vertical – interventions include the age-old policy of 'picking winners', and other specific interventions in support of specific businesses or so-called 'key' sectors. Crafts suggests a preference for horizontal interventions, a focus on providing the supportive environment for flourishing business. This can include an emphasis on skill development (general and specific), provision of key physical and digital infrastructure, internal and external communications, a positive and clear legal and regulatory environment and encouragement of external links in a variety of ways. Emphasis on the horizontal is strongly commended for the financial sector in Scotland.

Skills

Scottish Higher Education and Further Education institutions already have close links with businesses in the financial sector; and there are doubtless equally close links involving the Scottish Funding Council, Universities Scotland, Scottish Financial Enterprise, Scottish Enterprise, CBI, IoD, SCDI, etc. Indeed there is a skills/labour supply sub=group of FISAB that brings together most of these bodies. However, the availability of key skills on a continuing basis from these institutions, along with their interest in continuing skill development ('lifelong learning') and research of relevance will all be critical in attracting and retaining high level jobs. The sector and its component parts will continue to change at pace in the years ahead. Our institutions must ensure that they match, and preferably anticipate, such change; and demonstrate their overwhelming commitment to meeting the requirements of the sector.

An early follow up to the Smith proposal regarding allowing foreign students to stay on to work in Scotland for a specified period would also work to the advantage of financial services and the proposed emphasis on high skilled and high value added jobs.

Regulation

Following the outcome of the referendum, key elements of regulation and supervision of the financial sector remain as functions reserved to the UK rather than devolved to Scotland. One straightforward means of reducing uncertainties facing the financial sector would be for the Scottish Government to indicate immediately that, irrespective of the findings of the Smith or Hague Commissions, it is their firm intention that financial sector regulation and supervision should remain a UK function for the foreseeable future.

Life assurance and pensions

Providers in these sectors face a UK-wide threat from deregulation of the pensions' market – e.g. ending the restriction on the timing of being able to withdraw funds from pension pots. Companies based in Scotland also face the threat of a differing pensions' regime here. It that was to materialise then Scotland-based companies selling across the UK would find the regime in Scotland of real difference

from the rest of the UK, where some 90% of their market is likely to lie. An obvious response would be to re-locate their core business outwith Scotland and keep a business in Scotland to service Scottish customers. Thereby they would avoid the risks of selling across a border to a different regime. It is possible that even with a *de jure* move of HQ Scotland could retain key high value-added jobs, but the risk is clear.

The financial and fiscal environment

The outlook for the public finances in Scotland and the rest of the UK remains difficult and uncertain. The situation will be made more complex in Scotland as we await the follow up to the Smith Commission and subsequent decisions at Westminster and Holyrood as to further devolution of fiscal and other matters to Scotland. It looks inevitable that Scotland will gain a substantially larger share of tax-raising powers than at present; although the specifics as to what may change are by no means clear. The Scottish Government cannot be expected to enter into any firm and early commitments on this front. However, it would be helpful to those in the financial sector who are planning location decisions on a variety of fronts for Government to stress that it values the sector and will strive to retain a competitive environment for high skilled, high wage and high value-added jobs to be located within Scotland. This would be beneficial for both Scottish and UK companies and actual and potential inward investors.

Infrastructure

Perhaps the most important aspect of communications for the financial sector in the future will be digital. Across all key sub-sectors access to the latest and best will be critical in order to compete. For banking this will largely be a matter of within the UK, with some stretch to Europe, but for asset management the requirement will be global. Both Governments must continue to stress their commitment to high speed and broad digital communications across Scotland – in line with the 'best of class globally.

Communications/air services

The emphasis here has to be on international as well as domestic communications. For asset management, in an increasingly globalised market, good communications by air with all major centres of demand and supply will be essential. One critical issue is likely to be air services, access by direct and/or highly convenient flights from Scotland's airports to a variety of destinations. Related to this will be the cost of travel. The Holyrood Government will wish to be strongly supportive of increasing the number and range of direct flights from Scotland's airports and doing what it can, directly and indirectly, to constrain costs. Devolution of APD should be a significant benefit to this process.

SME Banking

Reference has been made above to the Competition and Markets Authority study of banking which has recently been launched. This will cover retail current accounts and banking for small and medium scale businesses. The latter is of great importance to the Scottish economy. The CMA has determined that there is a distinct Scottish market for SME banking. All interested parties in Scotland should endeavour

to follow this CMA work closely and provide the CMA with a range of evidence on the importance of the sector in Scotland, the problems caused for SMEs by the limited number of providers at present and how the service might be improved to the benefit of the Scottish economy. The Scottish banks, principally RBS and HBOS, will be providing major inputs. Other key players should aim to match that from a very different and perhaps more objective perspective.

In sum, the financial services sector in Scotland has been an important and high performing component of the Scottish economy, albeit one hit by the financially-induced global recession from 2008. The FS sector as a whole has, somewhat surprisingly, faced up successfully to the consequent pressures, which hit the banking sector in particular. Indeed, the negative impact of these changes on output and employment has been much less than anticipated, reflecting the diversity, resilience and competitiveness of the FS sector in Scotland.

Certainly the future for Scotland's financial service sector could be bright, despite the uncertainties which continue to loom and the risk of further moves of *de jure* HQs to other parts of the UK or even the EU. Components of the sector have performed remarkably well in recent years, despite recession and banking sector turmoil. Scotland is a favoured location for footloose financial sector activities, including a variety of activities employing relatively high skilled, high value-added and high wage personnel. These activities and jobs are not inextricably linked to HQs. Given skill availability and a variety of other factors Scotland can be a competitive location for such activities.

The emphasis of all engaged in and with the FS sector should be on creating the environment in which Scotland continues to be an attractive environment, with government and all key parties showing, by words and deeds, that attracting and retaining such important jobs and activities is seen to be very clearly in the interests of Scotland as a whole. Asset management in particular looks to be a relatively unsung Scottish success story, facing a very exciting global future, and one in which Scottish-based activities should be well placed to thrive. The future for the Scottish sector as a whole is much more than being a safe haven for call centres and low value-added back office jobs. Scotland has the skills and experience to be much more than that, and to achieve its potential as a major European FS location. Making the most of this sector should continue to be a key priority for the years ahead.

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People and Policy: Behavioural economics and its policy implications

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Abstract

The standard approach of economic modelling and policy analysis is to assume that people are *homo economicus*: a rational and self-interested economic man. However, a well-documented body of evidence suggests that human decision makers depart from this assumption in several interesting ways. This paper explores three key behavioural aspects – loss aversion; present-biased preferences; and social preferences. It considers the evidence to support them; how behavioural economists have modified economic models to capture the implications of each modification; and how they offer new insights on the scope and efficacy of a wide range of policy interventions.

Keywords

Behavioural economics; loss aversion; reference-dependent preferences; present-biased preferences; social preferences; procrastination; reciprocity; public policy

I Introduction and background

Economists seek to describe the complexity of the real world by using abstract models of reality. At the heart of most models in economics are people who make decisions, and economists therefore have to make assumptions about how they behave. The 'standard economic model' ("SEM") in the neoclassical tradition is populated by individuals that satisfy the assumptions of '*homo (or femina) economicus*' – rational economic (wo)man – people who understand their preferences; are rational; obey the axioms of 'utility theory'; are self-interested; and discount for time in a consistent way. There are some good reasons to pursue such an approach. Economists try to develop general models of reality that help explain – and predict – (average) behaviour. Its behavioural assumptions don't have to concur with how we conceive that people actually make decisions, but their predictions should be consistent with observed behaviour *on average*. Given the need for generally applicable models, the SEM has often served economists – and by extension – society rather well.

In recent decades, however, there has been something of a 'behavioural revolution' in economics. By observing how people make decisions in experimental settings, some well-documented anomalies of behaviour to the SEM have been identified, bringing into question the validity of some of its assumptions. These have given behavioural economists the inspiration to incorporate psychological insights into economic models in an attempt to better capture the way people make decisions. This paper presents the basic idea behind three key modifications to the standard model: loss aversion; present-biased preferences; and social preferences. For each we consider an illustration of such behaviour; discuss the evidence that suggests people do behave in this way; consider how economic models have been adapted to capture these behaviours; and discuss some of their policy implications.

First let us define rationality. For the purpose of this paper the following definition is useful: a rational individual, faced with multiple options, will choose the one(s) that give her the highest payoff. This does not rule out, for example, an individual acting in the best interests of society even if it is not in her material interest to do so; the drivers of 'value' to individuals might be more than simply their own material gain, which are turned on when pro-social decisions are taken. Using this definition allows us to distinguish between: a) behaviour that is inconsistent with the standard model because people are not optimising and are being irrational; and b) departures from the standard model that involve rationalisable behaviour where the carrier of 'value' is not simply a standard utility function, but something that is more behaviourally influenced. Our focus is very much on the latter.[1]

Loss aversion is the idea that losses loom larger than equivalent-sized gains. If people are loss averse and they are exposed to losses then they face particularly sharp incentives to avoid incurring them. This seems to be a widely reported characteristic of human behaviour which gives rise to many interesting conclusions. For example, to incentivise someone to do something, rather than rewarding them upon completing the task, a loss averse individual is more likely to complete it if they are paid first and face being required to repay the payment if they fail.

Present-biased preferences capture the idea that when considering decisions that have consequences in the future, the present is particularly salient and has a large impact on the decision at hand. This can give rise to time inconsistency: people may plan to do something in the future, but after the passage of time when that future becomes the present they change their plans because decision making in the here and now takes a different shape to decision making regarding the future. Models that incorporate this behaviour can shed light on procrastination and self-control problems, and, more importantly, mechanisms to overcome these.

Social preferences allow economists to capture other-regarding elements to preferences that might also be drivers of behaviour. One of the most convincing of these is reciprocity: if an act of kindness is done to an individual they will gain some pleasure from reciprocating kindness with kindness, but will suffer displeasure if they are unkind in return. Reciprocity can temper the behaviour of people in pursuit of self-interest. For instance, in a situation in which there are negative externalities (i.e. where people, in doing what is best for themselves, do harm to others) the prediction of the standard model is market failure, promoting an institutional response to correct it; but reciprocity may provide a self-correction mechanism that limits the extent to which people harm others, particularly if this is encouraged by society.

By considering more descriptive accounts of people's behaviour, the analysis of economic environments often leads to different conclusions than those drawn from a standard analysis. Consequentially, consideration of behavioural ideas gives rise to implications for policy. Affiliated with the UK Cabinet Office is the Behavioural Insights Team (established in 2010) that works to consider the implications of insights that stem from behavioural economics for public policy[2], demonstrating the centre stage that behavioural economics is taking in the public policy arena. This paper aims to provide some insight into

[1] Very accessible discussions of the former are included in Thaler and Sunstein (2008); Kahneman (2011), which is a highly recommended read for anyone with an interest in behavioural economics; and Ariely (2009).
[2] For the interested reader, their 'Mindspace' report on "influencing behaviour through public policy" presents an interesting dialogue on the broad policy implications of many aspects of behavioural economics.

the economics behind behavioural policy interventions to help readers make an informed assessment of their importance.

II Loss Aversion: losses loom larger than gains

A well-documented feature of human perception is that losses loom larger than equivalent-sized gains: the pleasure felt from gaining an amount of money is less than the displeasure of losing that same amount of money. This cannot be consistently captured in the SEM because it assumes that only final outcomes are the carriers of value. Loss aversion suggests that how an outcome compares to a reference point influences how it is valued.

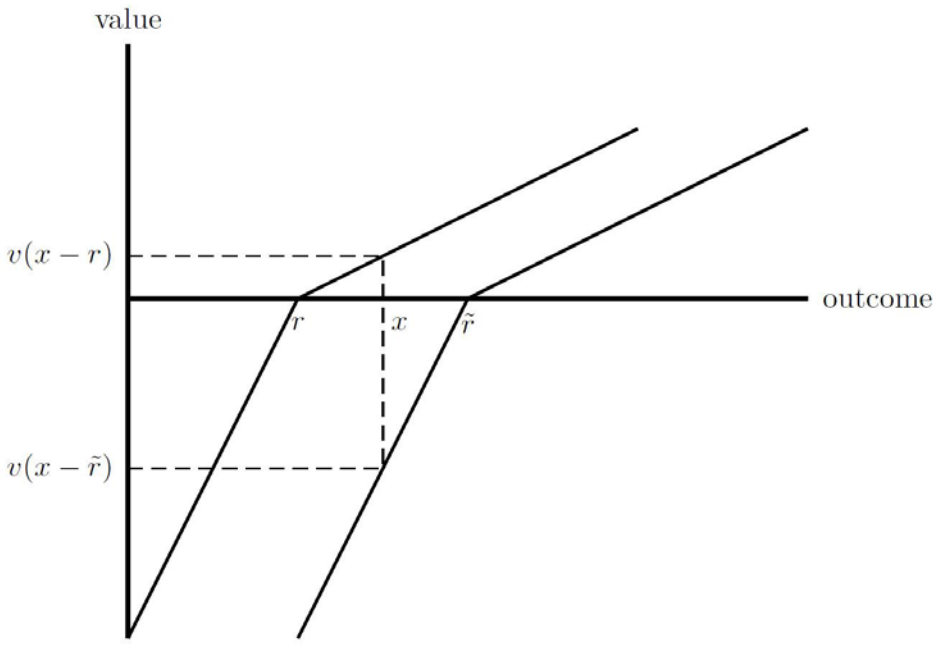
To capture this reference dependence, a model of preferences needs to not only consider the magnitude of outcomes, but also how they compare to a reference point. An outcome is coded as a gain if it exceeds the reference point, and as a loss if it falls short of it, and individuals seem to intrinsically assess gains and losses differently. Loss aversion was introduced as a central feature of Kahneman and Tversky's (1979) 'Prospect Theory' where the reference point was taken to be *status quo*, the individual's current state.

The way loss aversion is captured in an economic model is straightforward. In standard preference representation models individuals have a utility function defined over outcomes that assigns to each outcome x a utility number $u(x)$. Decision making involves comparing the utility of different options and choosing the one that gives the highest utility. To allow for loss aversion the outcome x is compared to a reference point r, and a standard utility function is augmented with a 'gain-loss' utility $v(x-r)$ which can differ depending on whether x exceeds the reference point r (in which case $x-r>0$) or falls short of it (in which case $x-r<0$). An individual is loss averse if, for some $y>0$, $-v(-y)>v(y)$: the gain-loss utility is steeper in the domain of losses than in the domain of gains, so there is a kink at the reference point.[3] An individual's overall payoff from the outcome x is then a combination of the utility of that outcome and the gain-loss utility: $U(x;r)=\eta u(x)+v(x-r)$ (where η is just a weighting parameter).

Figure 1 plots two gain-loss utility functions for different reference points, r and $\tilde{r}>r$. Suppose an individual's reference point is r, then if an outcome represents a gain relative to this reference point she moves up the relatively shallow value function to the right of r; conversely, if an outcome falls short of r and so is judged to be a loss she moves down the relatively steep value function to the left of r. The disutility from a loss is larger than the utility from an equivalent-sized gain, which means that individuals face a sharp incentive to avoid losses. This figure also illustrates that how an outcome is evaluated depends on the reference point to which it is compared: relative to the reference point r the outcome x in the figure is a gain, but relative to the reference point $\tilde{r}$ it is a loss and is evaluated as such.

[3] Prospect theory also incorporates 'diminishing sensitivity': the effect of marginal gains and losses is smaller the larger is the gain or loss under consideration, which implies the gain-loss utility function is concave in the domain of gains and convex in the domain of losses. For simplicity of exposition, we consider only loss aversion here.

Figure 1: reference dependence and loss aversion.



The evidence base that supports the concept of loss aversion is large and convincing. Early evidence came in the form of the 'endowment effect' (Kahneman et al., 1990), which noted that, on average, individuals require more compensation to give up a good that they have gained entitlement over than they would be willing to pay to acquire it. After being endowed with a good an individual perceives ownership of it so if they were to sell it they would suffer a loss, losses are felt strongly, and so a high level of compensation is required to sell the item. This is easily seen in the diagram: if *r* is the individual's initial situation and $\tilde{r}$ incorporates acquisition of the good, the individual's willingness to pay for the good is given by the height of the left value function evaluated at $\tilde{r}$; by contrast, their willingness to accept if they are endowed with the good and have incorporated possession of it into their *status quo*, is given by the amount by which the right value function reduces when moving from $\tilde{r}$ to *r*. Loss aversion implies the willingness to accept exceeds the willingness to pay.

Loss aversion has been found in many experimental settings, as well as in field studies: for example, in seller behaviour in the housing market (Genesove and Mayer, 2001); in physician behaviour (Rizzo and Zeckhauser, 2003) and police performance (Mas, 2006) in relation to pay; and in labour supply decisions (Camerer et al., 1997; Crawford and Meng, 2011). The evidence by no means suggests that every individual is loss averse; indeed, there may be distinct groups who are not. For example, List (2004) found that experienced market participants did not exhibit loss aversion whereas those with little experience did, but professional golfers – who have vast experience and are subject to large stakes – do tend to exhibit loss aversion (Pope and Schweitzer, 2011). The phenomenon seems to be robust enough that it should be given careful consideration by economists when undertaking modelling exercises so that they can infer whether people do exhibit loss aversion, and if so assess its implications.

People make decisions based on the incentives they face: they weigh up the benefits and the costs of undertaking an action, compare the two, and act appropriately. If people are loss averse, they evaluate gains and losses differently, which means they face different incentives in the domain of losses to those in the domain of gains: the incentives to avoid losses are sharper. By altering the decision-making environment in a way that changes the reference point, people can be exposed to losses which may consequently lead them to change their behaviour. As such, if people are loss averse, the 'choice architecture' within which decisions are made may matter for the decisions that are taken.

'Drip pricing' is one example of companies trying to influence reference points that recently commanded the attention of an Office of Fair Trading Report (OFT, 2010). Drip pricing involves the buyer not seeing the total price for a good when making a purchase decision; a base price is augmented with additional charges before the purchase can be made (for example, airline tickets with compulsory debit and credit card fees or theatre and concert booking fees). An experienced consumer obeying the assumptions of *homo economicus* would see through such pricing and make decisions based on the total price. For a loss averse consumer, once they have made the decision to make a purchase their decision shifts their reference point; subsequently pulling out of the purchase would imply a loss that the consumer is keen to avoid, making them more willing to pay the additional charges than they would be before they made the decision to purchase. Logically, consumers who are subjected to drip pricing may end up paying a total price for the good that is more than they would have chosen to pay had the total price been cited before their purchase decision was made.[4]

For further illustration, a recent study considers the effect of appealing to loss aversion when trying to incentivise teachers to be more efficacious (Fryer et al., 2012). Whilst financial rewards following good performance had no effect on teacher performance, when teachers were paid up front and asked to return the money if their students under-performed, students achieved significantly better results in a test.[5]

Later developments of models of reference-dependent preferences have allowed the reference point to be influenced by various features of the environment in which decisions are made: for example, by expectations (Shalev, 2000; Koszegi and Rabin, 2006); and by the outcome achieved by a reference group (e.g. Card et al. (2012)). This has further implications for behaviour and policy. For example, what seems like innocuous behaviour by firms might have non-obvious consequences. If a firm offers a good at a sale price this might act to manipulate a consumer's future willingness to pay if they buy at the sale price and their expectations about consumption are influenced by what they consume. The reason is that if, at the next purchase opportunity, the consumer does not consume the good they will suffer a loss relative to their expectations, so are willing to pay a higher price to avoid the loss; their willingness to pay has increased, perhaps to a level that exceeds the regular price (Heidhues and Koszegi, 2014). A further example concerns aspirations that can be influenced by the reference group to which individuals compare themselves. If a person's reference point is influenced by those around her and that group is currently enjoying better outcomes than the individual, then by remaining in her current state the individual would be suffering a loss relative to her aspirations. Since realising this loss would give

[4] For the reader interested in competition issues, there is a further OFT survey on consumer behavioural biases in competition (OFT, 2011).
[5] Following a similar logic, the website StickK.com allows users to expose themselves to both monetary losses and social pressure with the aim of helping people achieve their goals; simple, but effective!

substantial displeasure, she faces a sharp incentive to achieve her aspirations. As such, it is more likely that lower performing groups will make achievements if they are exposed to influences that cause them to aspire to more.[6]

The implications of loss aversion for behaviour and therefore policy are numerous and varied. The long-term consequences of policy interventions should be borne in mind, however, because loss aversion implies there may be an asymmetric response to the introduction and elimination of policy measures if those policy measures generate entitlement effects that get incorporated into reference points, as might conceivably be the case with changes to minimum wages (Fehr et al., 2009).

III Present-biased preferences: the best laid plans; what happens 'when tomorrow comes'

We now turn to discuss inter-temporal decision making, in which the consequences of a decision occur in multiple periods. When outcomes occur over time, economists discount those in the future to reflect the idea that people are impatient: other things being equal, people prefer to receive rewards sooner rather than later. The standard 'discounted utility model' proscribes that the present discounted utility of a stream of outcomes occurring between now and time period *T* is

$$u(x_0) + \delta u(x_1) + \delta^2 u(x_2) + \cdots + \delta^T u(x_T)$$

An individual's discount factor is $\delta \leq 1$: patient individuals have large discount factors and don't discount the future too heavily; impatient individuals have small discount factors so outcomes that occur in the future are heavily discounted. Regardless of the level of impatience, the discount factor for some period *t* is δ^t, which is smaller the larger is *t*: outcomes farther into the future are more heavily discounted. A key feature of this model is that the additional impatience between any two consecutive periods is the same regardless of the time horizon: for example, the discount factor applied today is 1 (no discounting) and that in the following period is δ (the additional discount applied is $\delta/1 = \delta$); the discount factor 7 periods hence is $\delta^7$and 8 periods hence is δ^8 (the additional discount applied to the later period is $\delta^8/\delta^7 = \delta$).

A feature of real-life decision making is that many people exhibit a present bias: when considering decisions at short time horizons that involve the present people tend to exhibit a high degree of impatience, but when thinking about consequences at long time horizons people tend to be less impatient.[7] An example will help to illustrate. When asked whether they would choose to receive £100 now or £110 next week, people often choose the 'smaller sooner' reward revealing that they are relatively impatient at short time horizons; when asked whether they would prefer £100 in 1 year or £110 in 1 year and 1 week (separated by the same amount of time as the first choice), people tend to choose the 'larger later' reward. However, if £110 in 53 weeks is preferred to £100 in 52 weeks then $\delta^{53}110 > \delta^{52}100$ (δ is the weekly discount factor in this example), so $\delta > 10/11$, but if £100 now is preferred to £110 next week then $100 > \delta 110$, so $\delta < 10/11$. But in the standard discounted utility model individuals have a single discount factor that is meant to capture their time preferences; such behaviour is inconsistent with the standard model.

[6] Genicot and Ray (2014) undertake a careful analysis of aspirations in relation to aggregate outcomes, and in particular consider the effect on inequality of only moderate aspirations being effective in incentivising people to achieve more (due to diminishing sensitivity in the gain-loss value function).
[7] Frederick et al. (2002) discuss the body of evidence that supports this idea.

This pattern of behaviour is an example of 'time inconsistency' because an individual that makes such choices would plan that in a year's time they would wait and take the 'larger later' reward; however, after the passage of a year if asked the same question again they would choose to take the 'smaller sooner' reward, since that is what they would choose now. What seems to be the case is that for decisions at short time horizons, and particularly for decisions that involve the present, people are more impatient than they are at longer time horizons. Individuals exhibit a 'present bias' that gives rise to the time inconsistency: plans can be made at long time horizons, but when it actually comes to making the decision to enact that plan (after the passage of time) this happens in the present and the evaluation of that decision changes.

To try to capture this present bias behavioural economists have turned to alternative models of discounting for time. Perhaps the most appealing, because of its simplicity, is Laibson's (1997) 'quasi-hyperbolic' discounting model.[8] This introduces a single additional parameter, $\beta \leq 1$, into the discounting model that lowers the weight of all periods in the future by changing the discount applied to any period $t \geq 1$ from δ^t to $\beta\delta^t$; put another way, it increases the (relative) weight attached to the present. Under so-called (β, δ) –preferences the present discounted utility of the same stream of outcomes considered above is:

$$u(x_0) + \beta\delta u(x_1) + \beta\delta^2 u(x_2) + \cdots + \beta\delta^T u(x_T)$$

This is a really simple, but very clever, modification since it captures the present bias that gives rise to time inconsistency in a single present-bias parameter, β.

Take the example used previously: if an individual prefers £110 in 53 weeks to £100 in 52 weeks then $\beta\delta^{53}110 > \beta\delta^{52}100$ so $\delta > 10/11$ (the βs cancel). If £100 is chosen now over £110 in 1 week then $100 > \beta\delta 110$, which is consistent with $\delta > 10/11$ so long as β is sufficiently small, i.e. there is a strong enough present bias to preferences. By capturing present bias, quasi-hyperbolic discounting allows us to understand the extent to which people might plan to do things ("in one year I will wait another week to get £110") but then renege on those plans after the passage of time (when one year has passed "I want £100 now").

The behavioural insight of present bias, which implies time inconsistency and is captured by the quasi-hyperbolic discounting model, is important because it can explain the mechanism through which people suffer from self-control problems that are associated with the behaviours of '*procrastination'* (putting off until later a costly activity) and '*prepropriation'* (bringing forward rewarding activities for instant gratification). To see this, consider a costly activity that brings subsequent benefits (such as exercising)[9]: the cost is *c* and the benefit which is received in the following period is *b*. An individual, when planning to do exercise in, say, 5 days' time will do so if the (appropriately discounted) cost is less than the benefit, i.e. if $\beta\delta^5 c < \beta\delta^6 b$, which will be the case so long as the benefit is sufficiently greater than the cost and the individual is not too impatient ($c < \delta b$). However, after the passage of 5 days when it actually comes to doing the exercise the cost to be incurred on that day is particularly salient, and they

[8] A different approach to modelling present-biased preferences considers individuals as having dual selves – a long term planning self and a sequence of short term decision-making selves – see Fudenberg and Levine (2006).
[9] The notation of DellaVigna (2009) is followed in this discussion.

will exercise only if $c < \beta\delta b$. If the individual suffers from a present bias and $\beta < 1$ it may very well be the case that whilst $c < \delta b$ implying the individual plans to do exercise, $c > \beta\delta b$ so when the planned exercise day arrives they choose not to.

People with a present bias plan to do things that subsequently don't get done: they suffer from a self-control problem. When it comes to carrying out the plan, costs must be incurred now, and whilst there are subsequent benefits, the salience of the cost due to the present bias means the benefit may be insufficient to motivate them to do it, even if they planned to. People procrastinate; they put off until later something that should, in their long-term interests, be done today.

The extent to which people understand their self-control problems can be captured by considering an individual's perception of their true present bias, $\hat{\beta} \geq \beta$. Someone is said to be sophisticated if they perfectly understand their present bias and subsequent self-control problem (i.e. $\hat{\beta} = \beta$), and is said to be (partially) naïve if they over-estimate their self-control ($\hat{\beta} > \beta$). A sophisticated individual understands that they have a self-control problem and will not be surprised when they subsequently procrastinate. Naïve individuals will be surprised in some circumstances: they will make plans fully anticipating following them through, not recognising that they over-estimated their ability to stay in control.

In an interesting study by DellaVigna and Malmendier (2006), the gym attendance patterns among members of health clubs in the US were considered. Despite there being a pay-as-you-go membership option, the *ex post* average price per visit of members who signed up to a monthly contract was substantially higher than the pay-per-visit fee. This suggests that at the planning phase, when deciding which contract to purchase, members over-estimate their gym usage, consistent with people exhibiting present-biased preferences and being partially naïve to their self-control problem.

By accounting for present bias in economic models we can understand and begin to think about the consequences of procrastination. One fairly obvious consequence is that, if people are faced with a decision problem in which a choice has to be made, they may procrastinate over making a decision even though the transaction cost is small and there are substantial subsequent benefits from making a decision (such as joining a pension scheme). This implies that default options for decisions will matter and that careful consideration should be given to what the default option is. In an early study of pension choices, Madrian and Shea (2001) considered the effect of an opt-out system (with a default saving plan), rather than an opt-in system: under the opt-out system 90% joined immediately and 98% after 3 years; whereas with the opt-in system only 20% joined after 3 months and 65% after 3 years. Thaler and Sunstein (2008) in their book *Nudge* champion the idea of default options as a simple, almost costless, policy tweak that can have dramatic effects, and there is a significant body of evidence in the recent literature to suggest that this is so.

By a similar logic to the idea behind procrastination, people may also engage in enjoying the instant gratification of a pleasurable activity that gives rise to subsequent costs, even though they plan not to do so, i.e. they prepropriate rewards. It seems, then, rather surprising that the UK Government in the 2014 Budget announced flexibility for pensioners in respect of their retirement savings, allowing them to withdraw their pension pot upon retirement. All very libertarian, but whilst pensioners may *plan* to be sensible with their money at the point of retirement, when it comes to acting on their plan they will require great strength of will; the temptation to prepropriate for instant gratification is clear and present.

For instance, a recent study linking the level of credit card borrowing with present bias suggests that people with present bias do prepropriate consumption, more so if their present bias is stronger (Meier and Sprenger, 2010). Understanding the extent of people's present bias through the lens of a model incorporating quasi-hyperbolic discounting could allow economists to predict the additional spending that will take place around retirement, and the subsequent gap in income that may emerge in later years. Such analysis should certainly be borne in mind by policy makers when assessing the implications of such radical policy changes in, for example, pension arrangements – especially as any future income shortfalls may in all likelihood be borne in part by the State.

A further point of consideration for policy makers to bear in mind relates to commitment. If people are sufficiently aware that they suffer from a self-control problem then at the planning stage they will have some idea that they will engage in procrastination/prepropriation at the point of carrying out decisions, and might be able to take actions to help them stay in control. For example, a field study of savings behaviour by Ashraf et al. (2006) reported in an aptly-titled paper "Tying Odysseus to the mast" found that savings rates of those individuals offered special accounts that allowed for some commitment to monthly saving were significantly higher than for individuals left to their own devices. In relation to gym attendance discussed earlier, another explanation is that people buy a monthly membership to sink the financial cost of going to the gym that encourages them to go more than they otherwise would. If people are presented with an opportunity at the planning stage to either tie their hands in respect of their future decision, or to alter their future incentives making it more favourable to complete the task they plan to undertake when the time arrives, individuals who are sufficiently aware of their self-control problems can overcome them. Providing such commitment opportunities is a simple way to help people make better decisions that are in their long-term interests.

IV Social Preferences: self-interest or the common good; competition or co-operation?

Economic models have traditionally made the assumption that individuals care only about their own material self-interest. There is, however, a body of convincing evidence suggesting that some people care about more than simply themselves.[10] Behavioural economists have worked to capture this by considering, in addition to material self-interest, 'other-regarding elements' to preferences. The pleasure someone derives from an outcome depends not only on the material value to that individual, but how achieving that outcome sits within a societal context. For example, people might derive pleasure from acts of altruism or displeasure from taking actions that lead to increased inequality or that contrast with accepted norms of behaviour. These issues, and their implications, are perhaps most easily illustrated using the 'ultimatum game' (Güth et al., 1982). In the ultimatum game there are two individuals, a proposer and a responder; the proposer is given a 'pie' (e.g. an amount of money), and has to make an offer of a share of this pie to the responder; the responder then has to decide whether to accept this share, in which case the proposer and responder leave with the suggested shares, or reject it, in which case both leave with nothing (players know the rules before play begins). Under the SEM the responder should accept any share, no matter how small; the proposer should reason that this is the case and so should offer a tiny share of the pie retaining the vast majority for herself, and the responder should accept.

[10] This literature is too vast to survey here; Fehr and Fischbacher (2002) give a good overview.

In general, this is far from what is observed when the ultimatum game is played in experimental settings (see, e.g., Thaler (1988)). Proposers tend to make significant offers to responders, and responders sometimes reject substantial offers. This behaviour can be explained in a number of ways. 1) Proposers may be *altruistic* and derive a 'warm glow' from the act of giving something to the responder (Andreoni, 1990); they are willing to sacrifice their personal material payoff to experience the warm glow. 2) Both proposers and responders might be *inequity averse*: receiving more or less than others in society gives some disutility (Fehr and Schmidt, 1999). This implies people are willing to sacrifice their material payoff to achieve more equal outcomes, so proposers may propose substantial shares to ensure the outcome is more equal, and responders might reject particularly unequal shares to avoid increased inequality despite foregoing the share that was offered. 3) Responders might exhibit *reciprocity*: some pleasure is gained by reciprocating fair behaviour with fair behaviour (positive reciprocity) and unfair behaviour with unfair behaviour (negative reciprocity), and likewise displeasure is felt if an individual behaves unfairly to those they perceive have treated them fairly, and vice versa (Rabin, 1993; Falk and Fischbacher, 2006). If a responder engages in reciprocity and she judges the proposer's offer to be unkind she may reject the offer since the pleasure she derives from reciprocating with an unkind act (rejecting leaves the proposer with nothing) is larger than the material payoff from acceptance of the small offer. Fearing that unfair offers will be rejected tempers the behaviour of the proposer since she needs to ensure her offer is perceived to be fair for it to be accepted. 4) Both proposers and responders might be influenced by social norms (see, e.g., Young (2007)); some disutility will be felt by straying from what is deemed by society to be acceptable behaviour. If sharing is a social norm, both proposers and responders may take actions to concord with this accepted behaviour (proposers by making substantial offers, responders by rejecting insubstantial offers) even if it reduces their material payoff.

Having summarised some of the main ideas that behavioural economists have advanced in considering social elements of behaviour, we now turn to consider some of the implications of taking social preferences into account. By accounting for the influence of such motivations we can capture the idea that individuals are potentially constrained in their actions by a comparison with both internal and external norms of behaviour. Reciprocity and social norms seem particularly convincing explanations: if an individual is motivated by reciprocity she may not pursue activities that are in her self-interest if this involves being unfair to someone who is perceived to have acted in a fair way, as this violates an internal norm of behaviour. Likewise, if individuals are motivated by social norms they may not pursue acts that are in their self-interest if the actions contrast with what is believed to be acceptable behaviour by society, i.e. external norms.

It is useful at this point to outline two scenarios from game theory that provide an effective representation of many of the environments encountered in settings where social behaviour is important. The first is the classic 'Prisoners' Dilemma', in which two (or more) individuals have to choose whether to 'cooperate' or 'defect', all individuals face a material incentive to defect regardless of what they think others will do, and when any individual acts in their own best interests they do substantial harm to others (i.e. there are negative externalities). If individuals pursue their own self-interest they choose to defect, but then each will be doing harm to the other and the collective outcome will be inferior to what could be achieved by cooperating. This is represented in the left panel of Figure 2; given the incentives the equilibrium involves both individuals defecting so each achieves a payoff of 1, even though both players could achieve a payoff of 2 if they cooperate. In the right panel of Figure 2 a somewhat different scenario

is considered, in which the only change is that the payoff from defecting when the other cooperates has been reduced from 3 to 1. This is a 'Stag Hunt' in which each player can achieve a relatively low payoff regardless of what their adversary does by defecting (the analogy is to go hare hunting; a small but guaranteed gain); larger gains are possible by cooperating, but they can only be achieved if *both* players cooperate (the analogy is to go stag hunting; the gain is large, but a stag cannot be caught single-handedly). From a situation of mutual cooperation, there is no incentive for any player in this game to defect, so in contrast to the prisoners' dilemma mutual cooperation is an equilibrium. Mutual defection is also an equilibrium, so in the parlance of game theory there is a coordination problem, but one that should be relatively straightforward to solve since the equilibrium in which players cooperate payoff-dominates that in which they defect: if people have sufficient confidence that others will cooperate, they will choose to cooperate as well.

Figure 2: A Prisoners' Dilemma in the left panel, and a Stag Hunt game in the right panel. In each game two players A and B decide whether to cooperate or defect. A chooses between the rows of the matrix, B the columns. Each cell of the matrix corresponds to a potential outcome, and in each cell the payoffs to the two players are listed, the first number being the payoff to player A, the second that of player B.

A Prisoners' Dilemma

		B: Cooperate	B: **Defect**
A	Cooperate	2,2	0,3
	Defect	3,0	1,1

A 'Stag Hunt'

		B: Cooperate	B: Defect
A	Cooperate	2,2	0,1
	Defect	1,0	1,1

In many scenarios in the real world pursuing self-interest harms the common good and the material incentives people face concur with those in the prisoners' dilemma. If people do pursue their material incentives this is at the expense of society, which leaves society with a problem. Prisoners' dilemma-type scenarios imply a market failure, to which there should be an institutional response to enforce the cooperative outcome to make society better off: decisions should be taken out of the hands of the members of society through acts of formal governance.

However, if we take the view that people are motivated not only by material self-interest but also by internal and external norms of behaviour, the picture is perhaps rosier. In a prisoners' dilemma, when an individual pursues their self-interest by defecting they do harm to others (since there are negative externalities). If doing so conflicts with either internal or external norms of behaviour there will be a psychological cost. This reduces the payoff of defecting from 3 to, say, $3 - c$; if this cost is large enough the overall payoff will fall short of 2, in which case the incentive to defect disappears. If the psychological cost exceeds 1 then the structure of the game in psychological payoffs is not a prisoners' dilemma, but a stag hunt, in which the cooperative outcome is an equilibrium. So long as the material benefits from defecting on cooperation are not too large and the psychological cost of defecting on cooperation is large enough, members of society will find it in their own interests to act in the best interests of society, so long as they believe others will. If this is the case then the institutional response should be to promote cooperation by supporting reciprocity, nurturing social norms and communicating the extent of

cooperative behaviour, which is a very different response to formal governance that requires legal or other formal sanctions.

Whether individuals will act pro-socially in situations that materially look like a prisoners' dilemma but where their actions are tempered by the constraints of internal and external norms of behaviour depends on the size of the material gain, and the psychological cost of defecting (amongst many other factors). If people are unconstrained by social preferences they will never act pro-socially. However, if people are subject to fairness concerns embodied in reciprocity, and are influenced by social norms that contrast with pursuing self-interest at the expense of others, society may very well be able to be self-regulating without recourse to formal governance. From a vast body of research investigating this issue, we have some understanding of the drivers behind pro-social behaviour (see, for example, Ostrom (2005)), but there is no widely applicable universal truth. In situations where policy makers identify a market failure and consider an institutional response of formal governance, they should also carefully consider whether people's intrinsic motivation can be appealed to and strengthened to enable society to resolve its own problems without recourse to formal sanctions. In addition, where people are behaving pro-socially, policy makers should be careful not introduce material motivations or issue instructions on how to behave that may 'crowd-out' existing intrinsic motivation and hence inadvertently discourage people from behaving pro-socially (Frey, 2012).

V Conclusions

The standard economic model does a good job of explaining how some people behave, and given its generality and tractability has served economists – and society – well. However, the well-documented and consistent evidence pointing out its flaws should not be ignored if economists are to provide more accurate models of behaviour and hence help policy-makers design policy 'that works'. By incorporating insights from psychology, experiments and field observations, more accurate models of behaviour can be constructed that can be used to better understand how people act in economic environments and how they might respond to changes in those environments through policy interventions.

However, behavioural economics is not without its critics, some of whom are behavioural economists themselves, who are critical of some of the methodologies used and their consequent insights. There is, for example, concern that the findings from experiments that are conducted in decision laboratories are not generalisable to the real world and so only deductions from field studies should be used to inform insight into how people actually behave. This is a healthy debate that promotes high-quality academic work in behavioural economics; hence there are an increasing number of field studies, and the issue of control in experimental settings is under particular scrutiny.

Developing a better understanding of people's behaviour is critically important in assessing the economic value of policy interventions and in identifying new policy approaches and levers through which change can be enacted. A main focus of this paper has been to explain the economic models that capture behavioural insights, because an understanding of the mechanisms at work is crucial to understanding the importance of taking departures from the standard approach into account and the applicability of ideas to new and different settings.

Behavioural economics has certainly come of age as an academic sub-discipline in economics over the past two decades. Most encouragingly it has extended its influence into a wide variety of critically important policy fields, be that in labour market policy, social policy, pensions and savings policy or competition policy. Given its relatively recent existence, behavioural economics has a strong and growing presence in the analysis and evaluation of public policy in the UK and internationally – and this will only grow as fundamentally most public policy is about effecting change in peoples' behaviours and in societal outcomes.

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