# State of the Economy

Dr Gary Gillespie

Chief Economist

12 August 2013

**State of the Economy**

This presentation outlines recent developments in the global, UK and Scottish economies. Updates are provided on a periodic basis.

To view previous State of the Economy presentations please visit the following link: http://www.scotland.gov.uk/Topics/Economy/state-economy

Feedback and comments on this presentation are welcome and can be provided using the email address below:

Economist-webgroup@scotland.gsi.gov.uk

## Summary of Key Conclusions

### Background

- This State of the Economy comes at a time when there are some growing signs of a global recovery starting to take root in 2013, especially when compared to a disappointing 2012.
- The first half of the year has seen an improvement in key economic fundamentals across a number of advanced and emerging economies. Confidence is beginning to return and, with it, hopes that 2013 will be the year in which the global economy can return to a steady rate of growth following the turmoil of the financial crisis and its aftermath.
- However, ongoing headwinds remain. Households, governments, and the private sector are continuing to adjust in the wake of the financial crisis, so global risks remain elevated, albeit at a much reduced level compared to this time last year. In particular, the fragility of the global banking sector in a number of European countries continues to act as a drag on growth.
- There is also a growing emergence of de-coupling in the collective global recovery, most notably between the US and Europe. The Euro Area still remains vulnerable to, as well as a source of, economic shocks.
- Discussion continues to be dominated by the optimal policy response to entrenching or consolidating the recovery. In Europe, the discussion centres upon the merits and scale of fiscal austerity, while the US is considering the gradual unwinding of their unprecedented monetary stimulus.
- Key to a sustainable recovery for Scotland, will be the ability of the supply side of the economy to respond to the gradual recovery in demand. With this in mind, this State of the Economy includes a section on emerging trends in labour productivity in Scotland and the UK over the course of the recession and the period since.

### Recent Global Economic Developments

- Through the end of 2012 into the first half of 2013, the global recovery has gained some relative traction and the picture is more optimistic than this time last year.
- However, global growth is highly uneven, with the US and Japan seeing improvements in growth in 2013, while the Euro Area as a whole is still in recession.
- The US started 2013 with a strong economic performance, driven by growth in household consumption, which is benefitting from a buoyant labour market and a boost to disposable income in the wake of the deleveraging process. US supply

side improvements should help boost competitiveness, offsetting some of the effects of the recent appreciation in the dollar. The improvement in US economic conditions has prompted the Federal Reserve to announce the potential unwinding of quantitative easing. This could have knock-on effects globally, not just as a direct result of the potential 'cooling' of the US recovery but also via its impact on higher bond yields both in the US and elsewhere. (This is an area we will return to in future reports).

- The Euro Area, meanwhile, remains in recession and growth is not expected to pick up until the end of 2013. The breathing space created by the containment of the Euro crisis provides room to focus attention on addressing structural weaknesses in the Euro Area. Repairing the monetary union's banking system, making progress on the structural reforms required to boost competitiveness and restoring the public finances to health, will all be necessary to bring greater stability to the Euro Area and allow growth to take hold on a sustained basis.
- Emerging economies are seeing weaker growth rates compared to previous trends. In particular, there are questions over the continued sustainability of Chinese growth as it attempts to deal with its banking sector and rebalance its economy away from an over reliance on investment and exports towards domestic demand.
- The UK has seen a return to growth over the first half of 2013, posting growth of 0.2% in Q1 followed by a preliminary estimate of 0.6% GDP growth in Q2. While this upturn is welcome, revisions to earlier quarters mean that the recession was more severe than previously thought. Taken together with the continued weakness in productivity, this means that the UK remains further away from recovery to pre-recession levels of output.
- The Bank of England August 2013 Inflation Report set out how the Monetary Policy Committee will, for the first time, adopt '*forward guidance'*, which explicitly sets out the intermediate targets the Monetary Policy Committee (MPC) believe are relevant in assessing monetary policy alongside the existing price target. The publication of 'forward guidance' is in itself viewed as a policy tool and is intended to reassure markets and boost confidence and investment.
- The Bank announced that there would be no rise in UK interest rate which is currently at 0.5%, or a reduction in the scale of quantitative easing, until the UK unemployment rate has fallen to 7.0 per cent or below. The Bank forecast that this is unlikely to happen before 2016 based on their assumptions of spare capacity in the UK economy. The Bank also expect the UK economy to grow by around 1.4 per cent and 2.6 per cent in 2013 and 2014 respectively.

**Recent Scottish Economic Developments**

- Over the year, Scotland has seen a pick-up in the labour market and growth, putting it ahead of the UK on its headline labour market indicators and output recovery.
- The most recent data for the Scottish economy showed growth of 0.4% in the first quarter of 2013. This followed an increase of 0.5% in Q4 2012, reflecting a continued recovery in the underlying strength of the economy. Over the year to Q1 2013, the Scottish economy grew by 1.2%, compared to 0.3% for the UK.
- New, revised UK data confirms earlier findings that Scotland had a less severe recession than the UK as a whole and is closer to pre-recession levels of output, although both countries remain below pre-recession levels.
- 2013 has seen a continued improvement in the labour market, particularly when compared to one year ago. Employment is up, driven by a rise in full-time employment, and economic inactivity and unemployment are down, indicating a positive direction of travel in terms of Scotland's labour market recovery. Nevertheless, fragility remains and a sustained recovery will depend on continued economic growth driving demand for labour.
- There has been a fall in youth unemployment over the year with Scotland's youth unemployment rate, as measured by the International Labour Office (ILO) rate, comparing favourably to that of the UK and other European countries.

**Summary of Future Global Prospects**

- Global growth is likely to remain fragile and modest through the remainder of 2013. It is forecast to be stronger than 2012, although still below the previous trend level.
- Global growth in 2013 is expected to be relatively subdued at 3.1 per cent, based on continued weakness in domestic demand, the on-going recession in the Euro Area and slowing growth in key emerging economies.
- However, with the US economic recovery gaining momentum, this has the potential to be a catalyst for the wider global recovery.
- Therefore, global growth in 2014 has the potential to gain momentum, which would lift confidence and feed through to sustained improvements in other economic indicators such as employment and unemployment across economies, particularly the Eurozone.

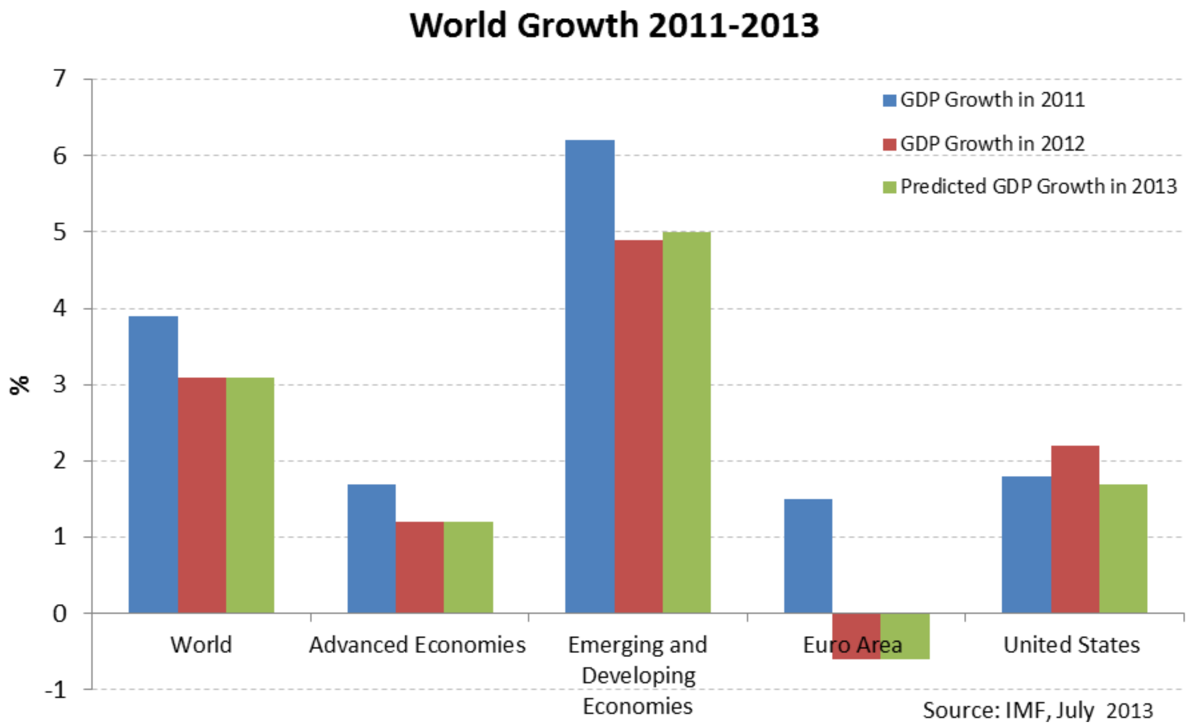
**Future Prospects – Scottish Economy**

- There is evidence to suggest that the recovery in Scotland is gaining momentum – for example, the recent positive quarterly growth rates and general improvement in the labour market. The latest independent forecasts predict positive output growth in Scotland for 2013, although the rates of growth still remain significantly below previous trend levels.

- Signs of recovery in the US and UK spell positive news for Scotland, as they are Scotland's most important single-country trade partners. However, this is balanced by the continued risk from weak growth in the Euro Area, which accounts for over a third of Scotland's international exports. On-going adjustments in the domestic economy, including in the household and financial sector, will also act as a headwind on growth.
- One of the key dynamics which will determine how Scotland will perform in the future will be our productivity performance and how much scope there is to recover and return to our 'economic potential'. Although Scotland's labour productivity has returned to and now exceeds pre-recession levels, it is still below the path implied by historical trends. Some degree of supply side adjustment will be required to allow productivity to continue to rise and, with it, real wages. This is in contrast to the UK where labour productivity is still below its pre-recession levels.
- It is not yet clear to what extent the growth in productivity in Scotland relative to the UK is a temporary or permanent effect. To the extent that the recent productivity improvements are maintained in full or in part, this implies a greater level of potential output in Scotland and therefore more spare capacity in the economy. This may allow for stronger growth in Scotland once demand returns to previous levels. However, while positive for output, in the short term this will require careful monitoring to ensure that such improvements are reflected across the entire economy, including the labour market.
- The recent output growth and underlying nature of the recession in Scotland suggest the potential for Scotland's recovery to gain traction through- out 2013 and the economy as a whole to return to pre-recession levels of output in 2014. This growth will be required to see a sustained recovery in the labour market, particularly employment, and to support improvement in real wages.

# Recent Developments in the Global Economy

# Global Economic Performance




The recovery from the global financial crisis slowed during 2012, with the International Monetary Fund (IMF)[1] estimating that the world economy grew by 3.1% in 2012, down from 3.9% in 2011. This was evident across all regional blocks with the Euro Area slowing to -0.6% (from 1.5% in 2011), emerging economies to 4.9% (from 6.2%) and the OECD to 1.4% (from 1.9%)[2]. However, the recovery is expected to continue this year, with an IMF forecast global growth rate in 2013 of 3.1%. Growth is expected to be uneven, with evidence of a decoupling in the recovery between the US and Europe.

Across most advanced economies, monetary policy has remained highly expansionary throughout 2012 and into early 2013, reflecting continued fragility and a need for ongoing stimulus.

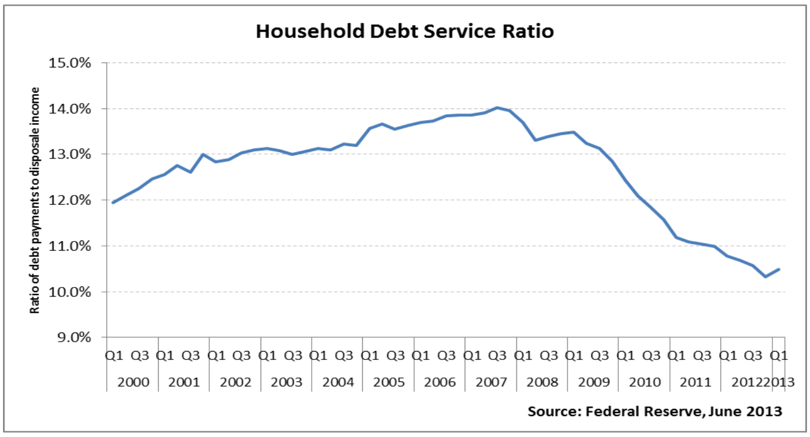
Following his re-election in December 2012, Japan's prime minister, Shinzo Abe, implemented a suite of measures aimed at breaking the country's trend of low growth and persistent deflation. These so-called 'three arrows' consist of: fiscal stimulus, aggressive monetary easing, and structural reforms to boost competitiveness.

[1] IMF World Economic Outlook Update, July 2013
[2] OECD, Economic Outlook, May 2013

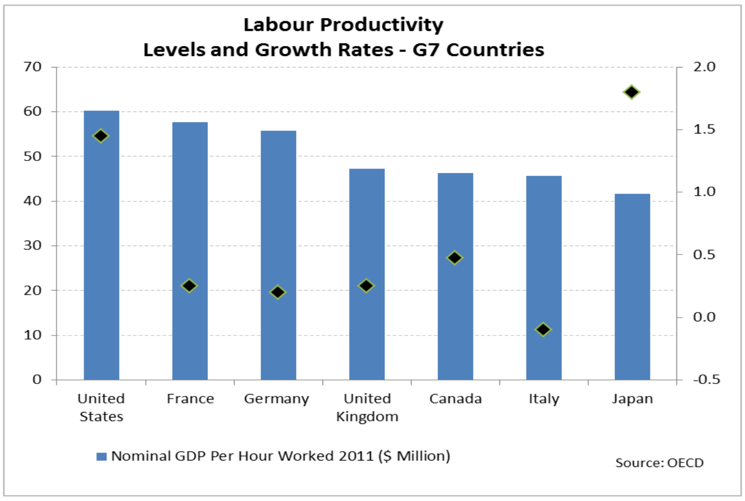
The United States' Quantitative Easing programme is now in its fifth year. However, in June the US Fed announced its willingness to start the process of unwinding QE as early as 2014. Although this move should be regarded as positive for the US, it presents risks to other countries, as set out in the next sections.

**United States**

The US was the only advanced economy to grow faster in 2012 (2.2%) than in 2011 (1.8%). The annualised GDP growth rate was 1.1% in Q1 2013 (based on 0.3% quarter-on-quarter growth), with the preliminary estimate for Q2 2013 at 1.7% (based on 0.4% Q-on-Q growth). In the earlier quarter, growth was driven by household consumption, which grew by 2.3% in Q1 compared to 1.7% in the previous quarter. This partly reflects a strong labour market performance. However, the US also took earlier steps on deleveraging, with the result that household debt ratios have fallen since the recession, boosting disposable income. Consumption continued to grow during Q2 albeit at a slower rate (1.8%), alongside an acceleration in gross private investment (9.0%) and exports (5.4%).




Despite indications that the US recovery is underway, its fiscal position still presents a risk. After failing to reach an agreed deficit reduction strategy, automatic spending cuts (known as the 'budget sequester') introduced into federal law in 2011 in order to reduce the deficit will now take effect. Concerns have been raised about the potential impact on growth if they result in job losses and curtail demand. The IMF[3] has recommended a more gradual pace of consolidation be adopted in the short term.

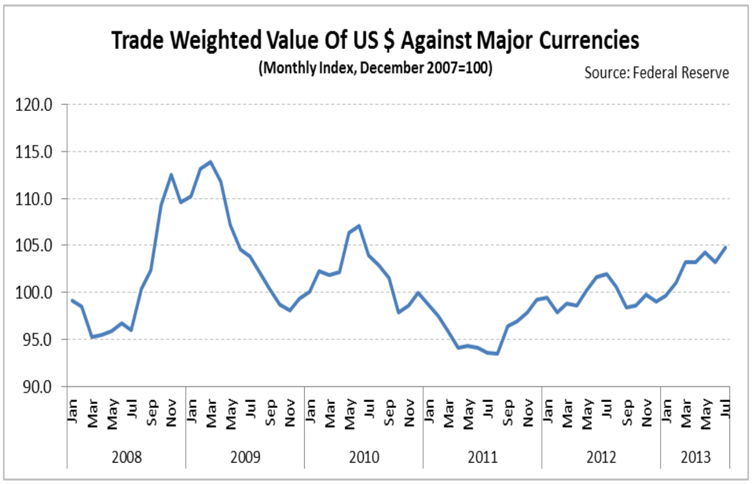



Nevertheless, the US has also been experiencing supply side

[3] IMF (2013) Concluding Statement of the 2013 Article IV Mission to USA, available here.

improvements that are helping to boost its international competitiveness. It already enjoyed the highest level of labour productivity (measured by GDP per hour worked) of the G7 countries in 2011 but, over the period 2008-2011, has also seen the second fastest growth in labour productivity out of the seven advanced economies. As this feeds through to unit labour costs, it provides the US with a competitive advantage compared to other advanced exporting economies.

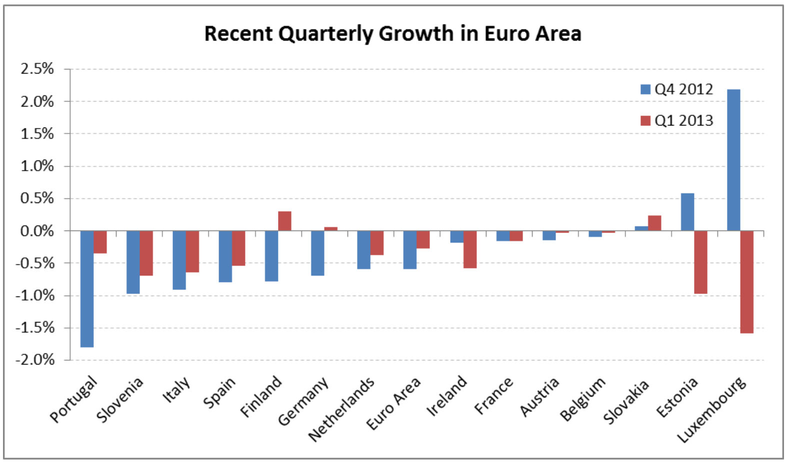
Any improvement in the US' competitiveness is especially beneficial in light of the appreciating dollar, which is making US exports relatively more expensive. The appreciation partly reflects the improving economic situation, recovering domestic demand, and rising US Treasury yields in the wake of the Fed's announcement on QE.



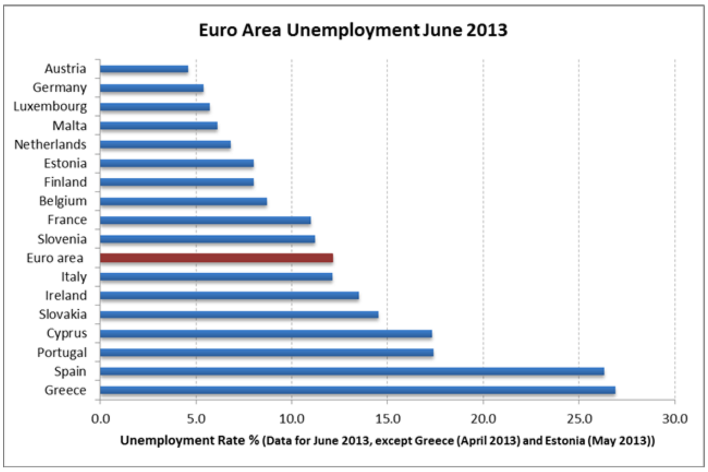

A stronger dollar has a number of implications which can vary from country to country. For example, a rising dollar tends to feed through to weaker commodity prices, which is good news for commodity importers like China, but less positive for commodity export-oriented economies like Australia.

**Euro Area**

The Euro Area is the market for over a third of Scotland's international exports (37.3% in 2011), therefore Scotland's trade performance is sensitive to the economic performance of the group. Economic performance has remained weak throughout 2013, with the Euro Area still in recession. Output fell by -0.3% in Q1 2013, contracting for the sixth consecutive quarter.



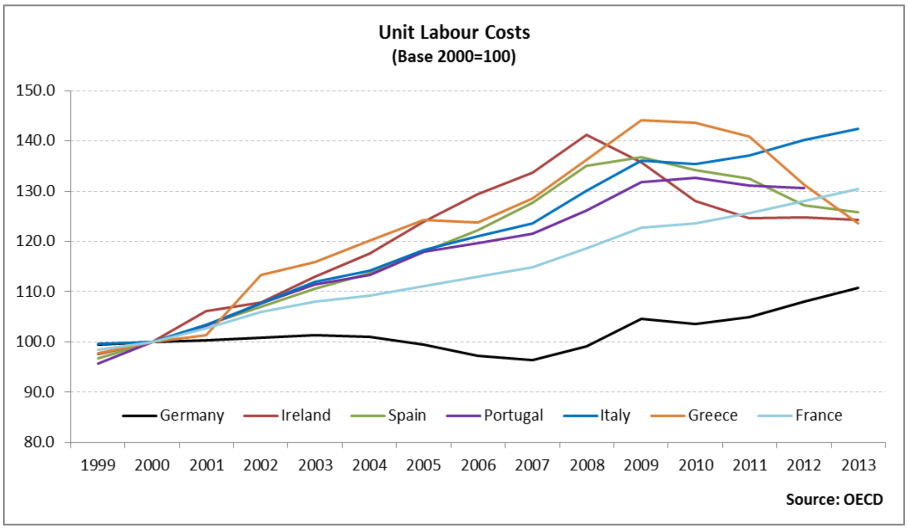

The French and Dutch economies experienced 'triple dip' recessions in Q1 with contractions of -0.2% and -0.4% respectively, alongside further output contractions in the periphery economies of Portugal, Spain and Italy. Germany avoided recession in the first quarter, but saw weak growth of only 0.1%.




Unemployment in the Euro Area stood at 12.1% in June, and has been stable around this rate throughout 2013. Significant differences remain between core and periphery countries. In June, Austria reported an unemployment rate of 4.6% and Germany 5.4%; whereas Spain saw a rate of 26.3%.

The previous edition of State of the Economy reported on the ECB's actions to contain the financial crisis in the Euro Area. Sources of instability emerged again this year when Cyprus received a €10bn bailout from the IMF and EU for its banks, and political deadlock resulted after inconclusive election results in Italy. However, both events were resolved relatively swiftly and did not generate the same kind of instability seen in 2012. Moreover, market reactions to more recent reports of a possible need for a bailout for Slovenia's troubled banking sector were muted, partly due to the confidence installed by the ECB over the year.

The dampening of the immediate instability has provided an opportunity for the Euro Area to turn its attention to the significant challenges it faces in repairing and reviving the 'real' economy.




Negotiations are on-going on the creation of the Banking Union, which should help efforts to repair the European financial system.

This is closely tied to the process of securing the sustainability of government finances across the union, given the implicit risk to public sector balance sheets from bank liabilities. The US Federal Reserve's signal on QE tapering makes this even more necessary, as it implies that the yield on US Treasury Bonds will rise, with a knock-on effect on European bond yields and governments' borrowing costs.

Finally, there is a need for periphery countries like Greece and Spain to restore their competitiveness which, without recourse to currency devaluation, will have to be achieved through an internal devaluation (primarily through labour market adjustment). Although some countries, notably Greece and Ireland, have already made progress, there is still some way to go before the process is complete.

A positive piece of news for the Euro Area has been the appreciation in the US dollar, as a weaker euro could provide a boost to exports. However, the over-riding priority for the Euro Area was, and will remain, making the adjustments necessary to revive economic growth.

**BRICs and Japan**

BRICs economies have continued to grow, albeit at a slower rate than in the past. India experienced growth of just 0.5% in Q1 2013 compared to the previous quarter (1.2%). The Brazilian economy grew by 0.6% in both Q1 2013 and Q4 2012. Russia grew 3.4% over 2012 – at its second lowest annual rate, after 2009, since 1999 – and experienced a contraction in Q1 2013 of 0.1% on the previous quarter.

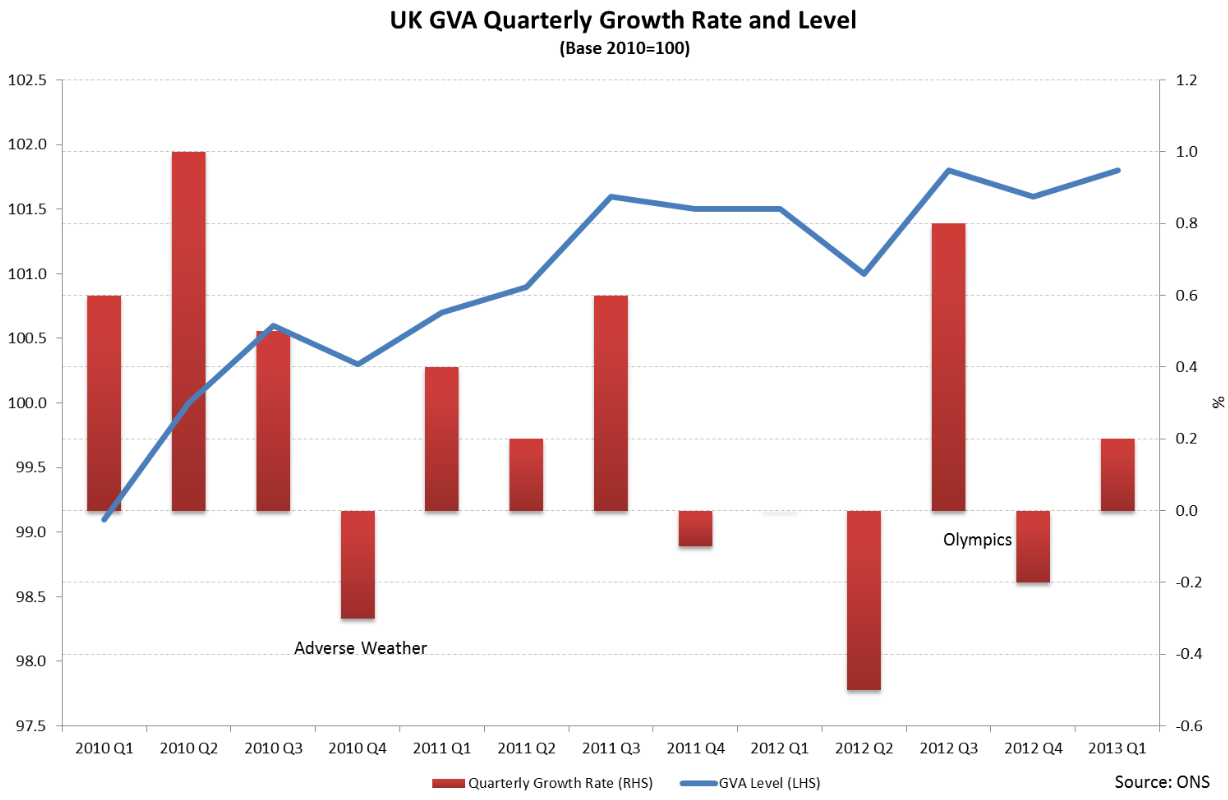
In China, GDP grew by 7.8% during 2012, the poorest year of growth since 2009, with the year-on-year growth rate slowing to 7.7% in Q1 2013 (compared to 7.9% Q4 2012). Concerns exist in regards to China's financial stability and continued growth prospects, particularly as the economy has become highly leveraged. The Bank of China recently implemented monetary tightening in a bid to contain inflation and to dampen investment and asset price growth.

More fundamentally, there is growing recognition[4] of the need for wider structural reforms to the Chinese economy that will put it on a more sustainable growth path. These include a reform of its banking sector to aid the efficient allocation of capital, a rebalancing of economic activity away from an over-reliance on investment and export-led growth toward more domestic consumption, product market reform to enhance competition, and supply side adjustments to boost long-run productivity.

Japan is one of the few advanced economies currently enjoying relatively robust growth, with 1% GDP growth in Q1 2013 following on the back of a 1.9% expansion in 2012. Although this must be seen in light of Japan's track record on growth and deflation, it is regarded as a positive development and a possible vindication of the significant package of stimulus measures implemented by the Abe government. In order to maintain this momentum, a range of further actions are planned, such as: further monetary stimulus to achieve its inflation target of 2%; reform of the public finances; and measures to encourage firms and households to spend (e.g. tax breaks for firms spending on capital).

[4] See, for example, European Central Bank (2013) China's Economic Growth and Rebalancing, available here.

# Recent UK Performance




**Output**

After a year of weak performance, the UK returned to growth in Q1 2013. However, revisions to previous quarters indicated that the recession of 2008-09 was more severe than initially thought (see section below).

The final estimate of UK GVA for Q1 reported that the economy grew by 0.2% (Scotland 0.4%), quarter-on-quarter. The largest contribution to the growth was from the service sector, where output is estimated to have increased 0.5%, following flat growth (i.e. zero) during the final quarter of 2012. Output in the production sector also grew 0.3% following a decrease of 2.2% in Q4 2012. The construction sector experienced a contraction of -1.8% offsetting the 1.7% increase in the sector during Q4 2012.

More recent data indicates the UK's return to growth has continued, with preliminary estimates reporting 0.6% GDP[5] growth in the second quarter of 2013, and growth seen in all sectors (although the service sector remained the driver of growth). At Q2 2013, UK output is estimated to be 3.3% below its pre-recession peak, an

[5] Note these UK figures are for GDP, as GVA figures are not yet available for Q2 2013. GVA = GDP + subsidies on products – taxes on products.

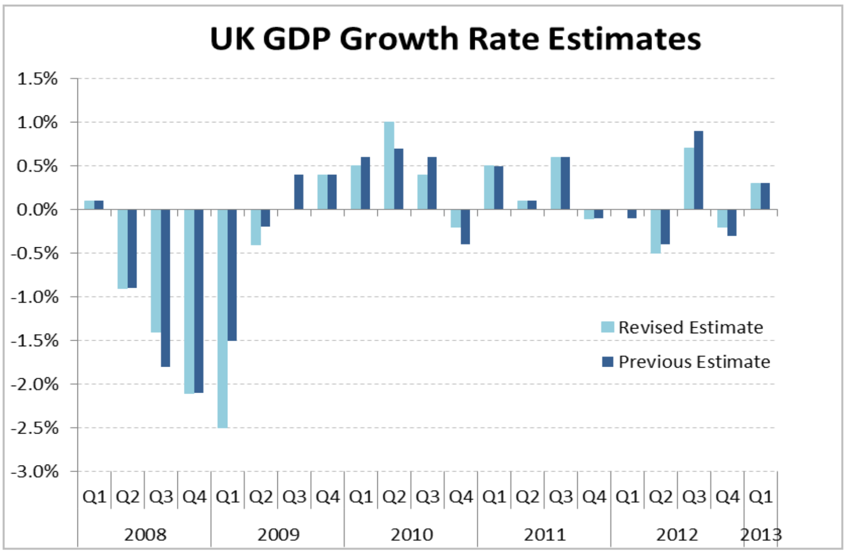
improvement on Q1 2013 where it was 3.9% below. In contrast, Scottish output (GVA) in Q1 2013 was 2% below its pre-recession peak compared to 2.3% below in Q4 2012

.

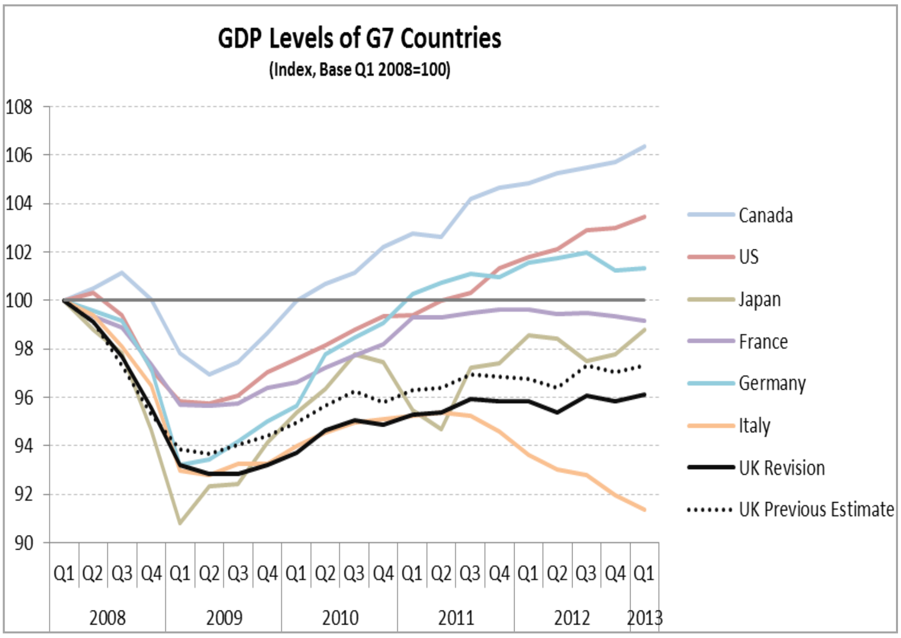
**Revisions to UK Output Data**

The Q1 2013 UK National Accounts, reported relatively substantial revisions to previous output data. These occur routinely as better data becomes available, however, these particular revisions had two noteworthy effects.

*UK Recession Now More Severe than Previously Estimated*



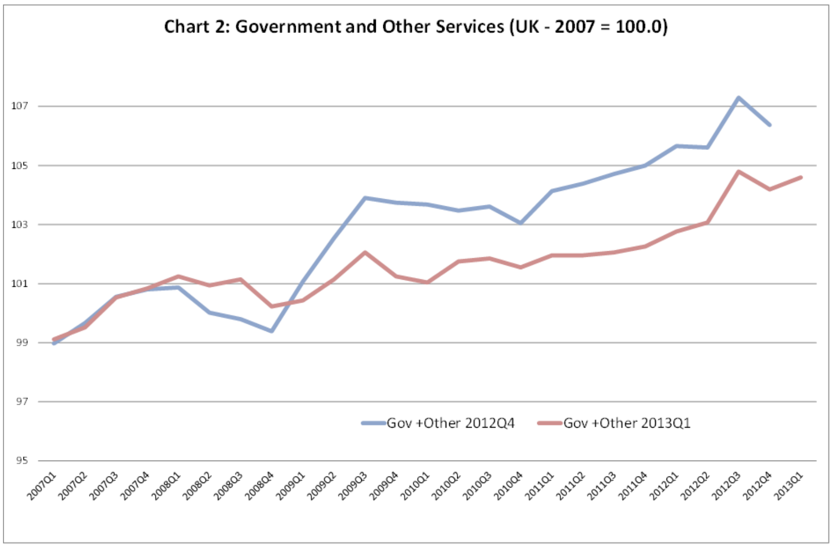

The revisions showed that the UK's period of recession (Q2 2008 to Q2 2009) was more severe than previously thought, with the contraction in GDP during the recession now estimated at 7.2% (previously 6.3%). The revisions do not affect the Scottish data (which experienced a contraction of 5.6% GVA), so it follows that the gap between the fall in output in Scotland and the UK during the recession is now larger, and that, compared to Scotland, UK output is further away from a recovery.




The revisions also affect the UK's position relative to its G7 partners. The UK's level of output remains further below its pre-recession peak than in any other G7 country, with the exception of Italy.

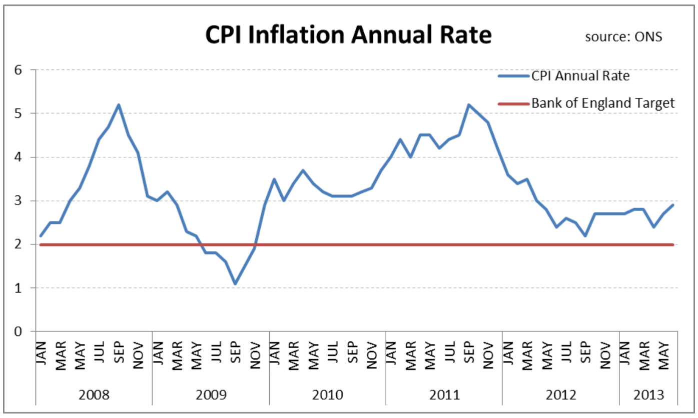
*UK Government Output Revised, Partially Removing Anomalous Growth Pattern*

The GDP revisions also changed growth rates for a sub-sector of the economy, Government and other public services, which resolved previously unexplained trends in UK output in this sub-sector. The revisions removed a large jump in growth previously observed at the end of 2008 and early 2009, which had resulted in UK Government and other services output being reported to have grown by 6.2% between 2007 and 2012 (an average annual growth rate of 1.2%). These figures were difficult to reconcile with the fiscal consolidation process in the UK or similar data for Scotland which showed much slower growth. However, following the revisions, that growth is now reported as 3.7% - an annual average rate of 0.7%.



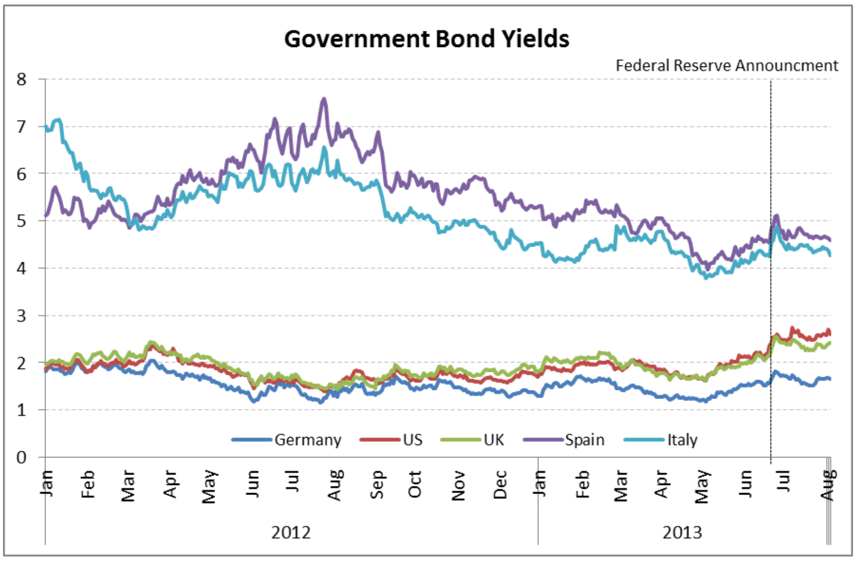

**Inflation and Wages**

Consumer Price Index (CPI) inflation has remained above-target through the first half of 2013, despite on-going subdued levels of output. In its August inflation report, The Bank of England (BoE) reported that inflationary pressures are mainly from administered and regulated prices (e.g. university tuition fees and domestic energy costs), which are affected by government and regulatory decisions more than demand and supply forces. However, a sterling depreciation in early 2013 has also had an effect. The sterling effective exchange rate fell by 3.8% over the first quarter of 2013 compared to Q4 2012, making imports more expensive and putting upward pressure on the price level.




CPI inflation stood at 2.9% in June 2013, and the MPC expects the rate to remain around this level throughout the autumn of 2013, later falling back towards the 2%

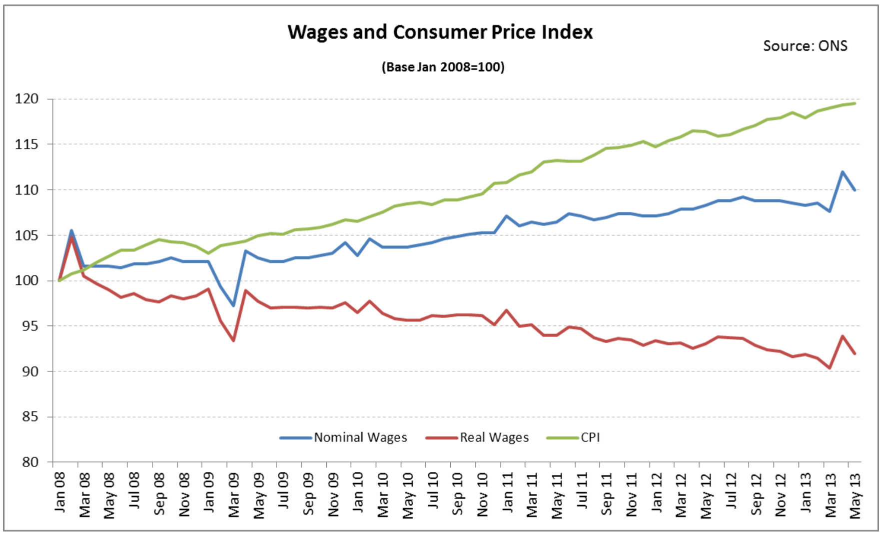
target rate once the effects of external price pressures diminish and if productivity growth reappears (see later section).




The BoE welcomed a new Governor, Mark Carney, on 1 July 2013, who, even in his first days at the Bank, led several noteworthy actions. After the US Fed's announcement on the potential tapering of QE, US Treasury bond yields rose and, with them, UK bond yields (despite no change in the UK macroeconomic picture). This, along with rising market interest rates since May, which indicated market expectations of interest rate hikes earlier than the Bank rate's pathway implied, prompted the Bank to issue a statement[6] that these expectations were 'unwarranted'.

Following on from this, August's Inflation Report set out how the MPC will, for the first time, adopt *'forward guidance'*. This involves being more explicit about the future path of monetary policy subject to given economic indicators.

It was announced that there would be no rise in the 0.5% interest rate or reduction in the scale of QE, until unemployment had fallen to 7.0% or below (unless there is a greater than 50% chance that inflation will rise above 2.5% in the next 18 to 24 months). The Bank forecast that this is unlikely to happen before 2016 based on their assumptions of spare capacity in the UK economy.

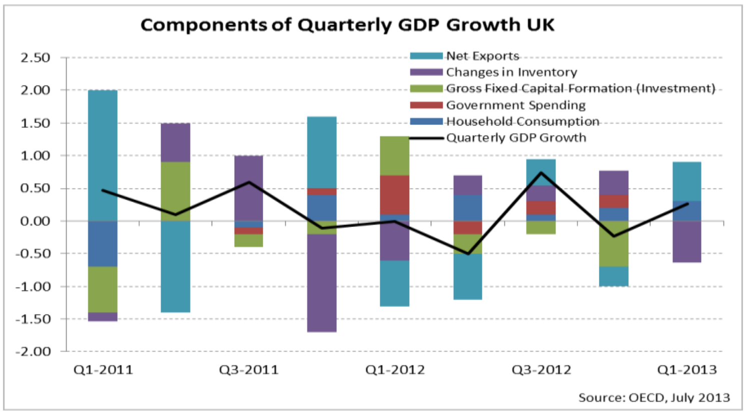



Above-target inflation has been exerting pressure on wages at a time when nominal earnings growth is

6 Bank of England, 4 July 2013, available here.

weak compared to pre-recession trends. UK nominal earnings growth remained subdued during 2012 and into 2013. An April 2013 spike in average weekly earnings of 3.8% monthly growth, compared to -0.2% in the previous month is likely to be a one-off effect of bonus payments being postponed until April 2013 to take advantage of the fall in the top rate of income tax. Weak nominal earnings growth reflects both demand-side factors (e.g. continued slack in the labour market), and supply-side factors (e.g. poor UK labour productivity). The combination of subdued nominal earnings growth and above-target inflation has had the effect of holding down real wages.

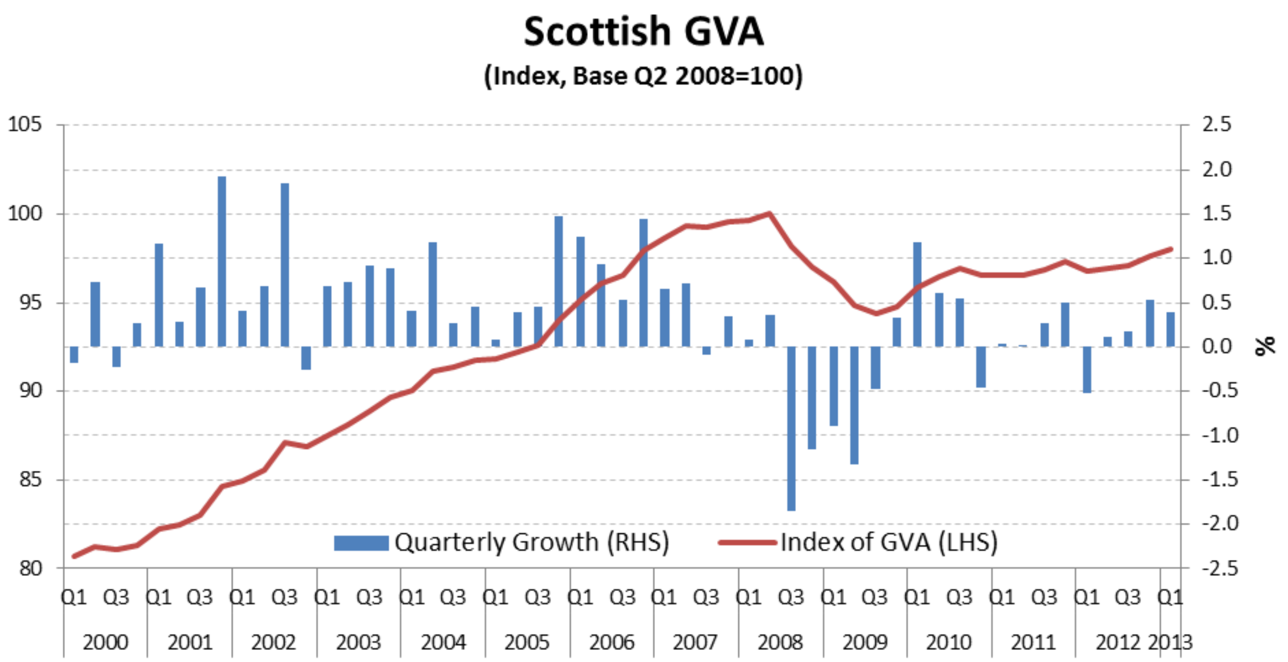
Since earnings tend to be the most significant component of household income, there is a risk that depressed real wages limit the growth of household consumption, which feeds through to aggregate demand. So far, this does not appear to be the case, as, along with net exports, household consumption appeared to be driving the UK's return to growth in the first quarter of 2013.




Nevertheless, this is an area of potential concern since real wages are not growing as labour productivity is still weak, and UK households are still highly leveraged. The UK recovery will have to be more broadly balanced across sectors if it is to be sustained over time, although this depends on external, as well as domestic factors.

# Recent Developments in the Scottish Economy

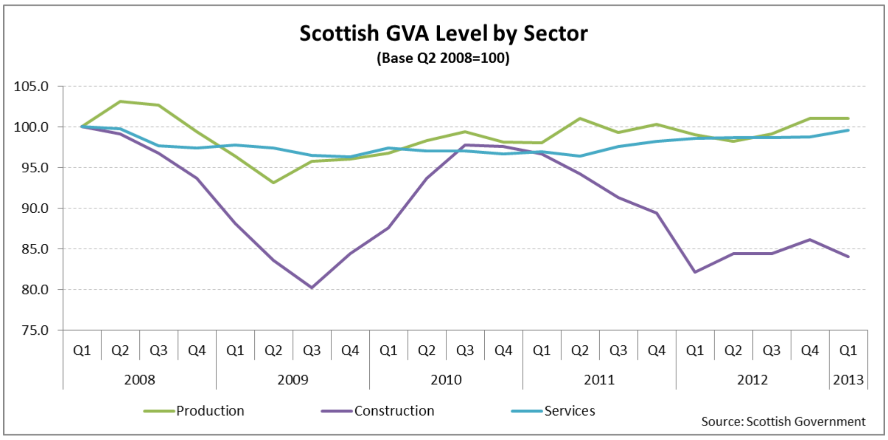
# Recent Scottish Performance




## Output

After a relatively subdued, albeit positive, performance in output over 2012, the data for the end of 2012 into the first part of 2013 has been more encouraging, indicating that the recovery in Scotland is gaining some traction.

The most recent quarterly figures showed Scottish growth of 0.5% during the final quarter of 2012, followed by a further expansion of 0.4% in the first quarter of 2013. Comparing the most recent quarter with the same quarter last year, highlights the extent of the improvement in economic conditions. Output in Scotland rose by 1.2% in Q1 2013 compared to Q1 2012 (UK grew 0.3% over the same period). This latest data means that Scotland has now moved closer to its pre-recession peak in output, at 2% below the Q2 2008 level. The output estimates confirm findings from the range of private sector



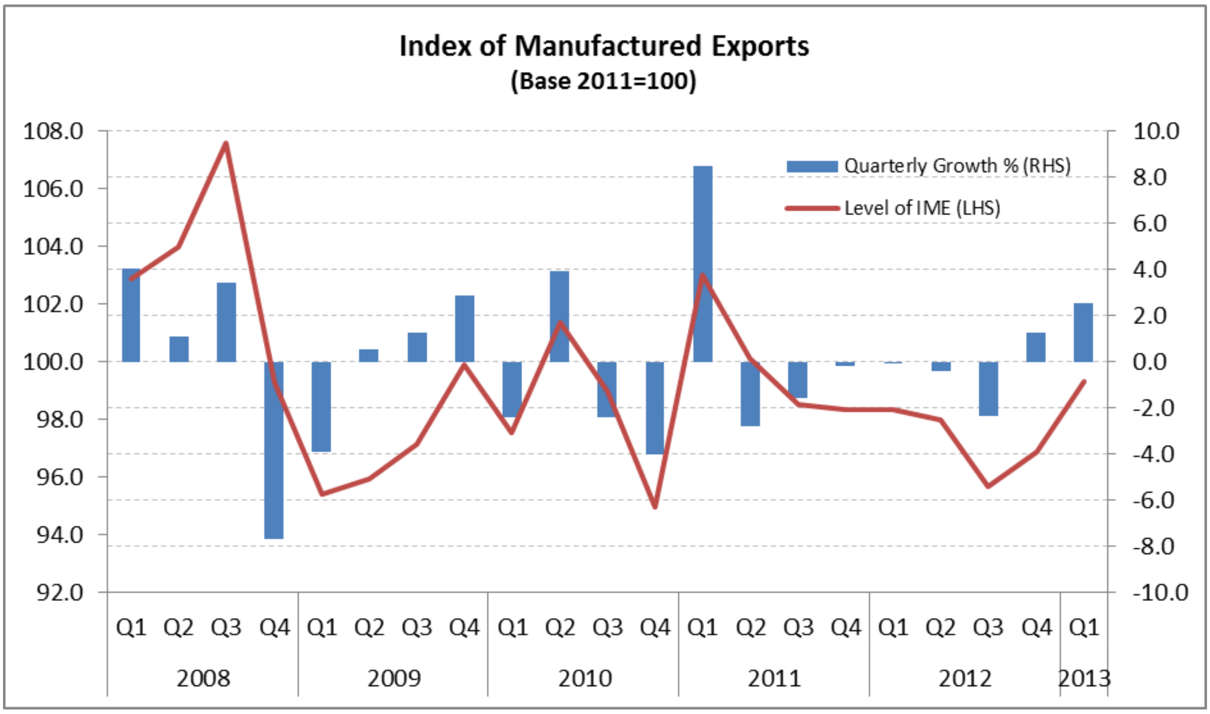
business surveys in Scotland, which pointed to a relatively encouraging start to 2013.

The underlying data for Q1 shows the sectors that are driving the upturn in output. Growth in the first quarter of 2013 was due mainly to an upturn in services (+0.8%), accompanied by a marginal increase in production output of +0.1%. In the previous State of the Economy (March 2013), it was hoped the fall in output in the construction sector had bottomed out, especially after three consecutive quarters of growth Q2 2012–Q4 2012, which had followed a substantial contraction of -8.1% in Q1 2012. However, the Q1 2013 seasonally-adjusted data shows that the sector experienced another contraction (-2.5%), although it still managed to grow by 2.3% over the year to Q1 2013.

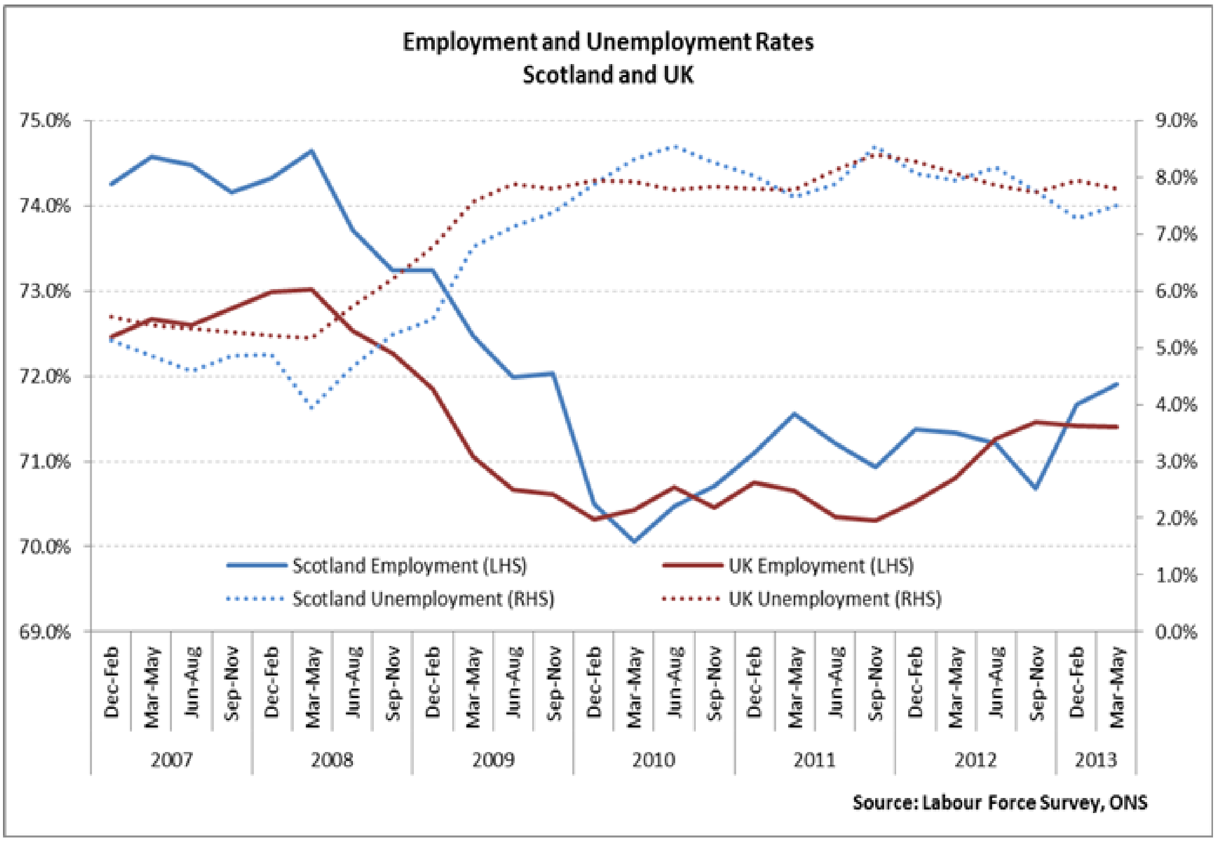
**Exports**

Scottish exports figures for the first part of 2013 were also encouraging, but pointed to continued fragility. The Scottish Index of Scottish Manufactured Exports reported a 2.5% real terms increase in export sales during the first quarter of 2013. The quarterly increase was driven by a 3.3% expansion in Food & Drink and a 19% increase in exports of Refined Petroleum, Chemicals & Pharmaceutical Products. However, the picture was more subdued for other manufacturing sectors, all of which saw quarterly contractions in sales.

Although this aggregate level increase was welcome, the contraction across a range of manufacturing sectors highlights the continued fragility in Scotland's key export markets in 2012 into 2013, with the Euro Area in particular continuing to pose a risk to a sustained recovery in growth in Scotland.



# Labour Market Performance



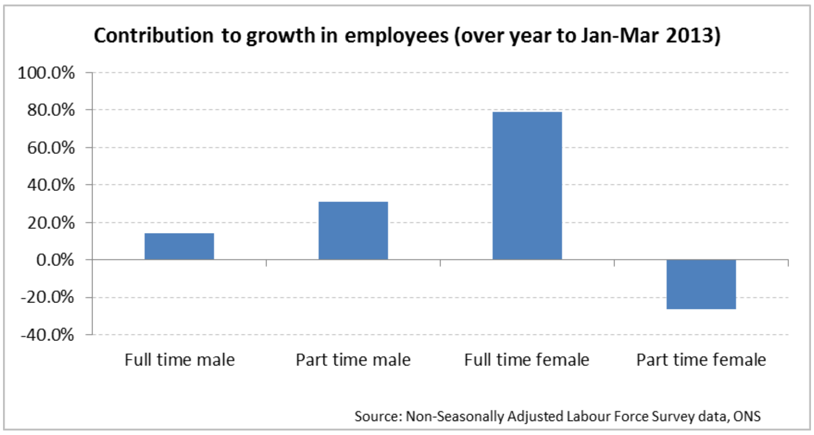

The period since the last edition of State of the Economy has seen a continued improvement in the labour market in Scotland.

**Employment**

The most recent data (March-May 2013) shows the Scotland employment rate (16+) stands at 71.9% (UK 71.4%), a 0.2 percentage point increase on the previous three month period. Employment levels also showed an increase of 4,000 over the same period to reach 2.5 million in March-May.

Nevertheless, the data shows that Scotland's employment level and rate are still below their pre-recession peak (by 51,000 and -2.7 percentage points, respectively). In contrast, the UK level of employment is above its pre-recession peak (by 142,000), although its employment rate is still -1.6 percentage points below its pre-recession peak because of population growth over the period. As discussed later in this edition, this recovery in employment levels in the UK is one of the factors responsible for the UK's weak labour productivity performance, particularly given the revisions to GDP data which show the recessionary fall in output was even greater than previously thought.

The State of the Economy in November 2012 touched on the rise in part-time employment that had occurred in Scotland over the course of the recession, likely reflecting the fall in demand and firms' reluctance to hire (or retain) full-time workers in uncertain economic conditions.




However, the most recent data[7] shows this trend changing and the bulk of the rise in employment in Scotland over the year to the first quarter of 2013 was driven by a rise in full-time employment, particularly among females. Although the number of full-time workers in Scotland is still below its pre-recession levels, the latest data provides a welcome indication of continued headway being made in the labour market recovery.

**Unemployment and Inactivity**

The Scottish unemployment rate (March-May 2013) saw a marginal rise to 7.5% (UK remained at 7.8%) compared to the three month period beforehand. But given that employment levels have continued to rise and inactivity fell over the same period, this likely reflects individuals entering the labour market to seek work. Claimant count data for June 2013 shows the number of people claiming Jobseekers Allowance in Scotland falling by 0.1 percentage points to 4.7%

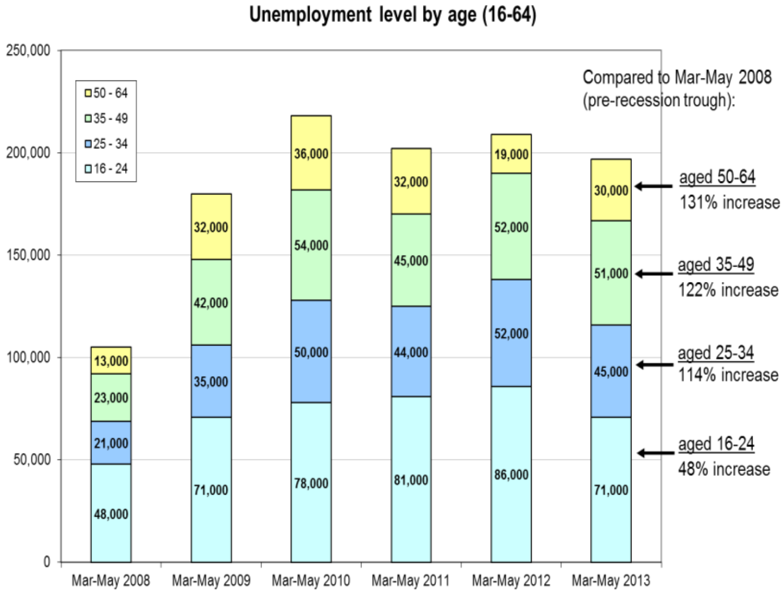
In March-May 2013 in Scotland, the inactivity rate fell by 0.5 percentage points compared to the previous three months and stood at 22.1% (compared to a rate of 22.5% in the UK).

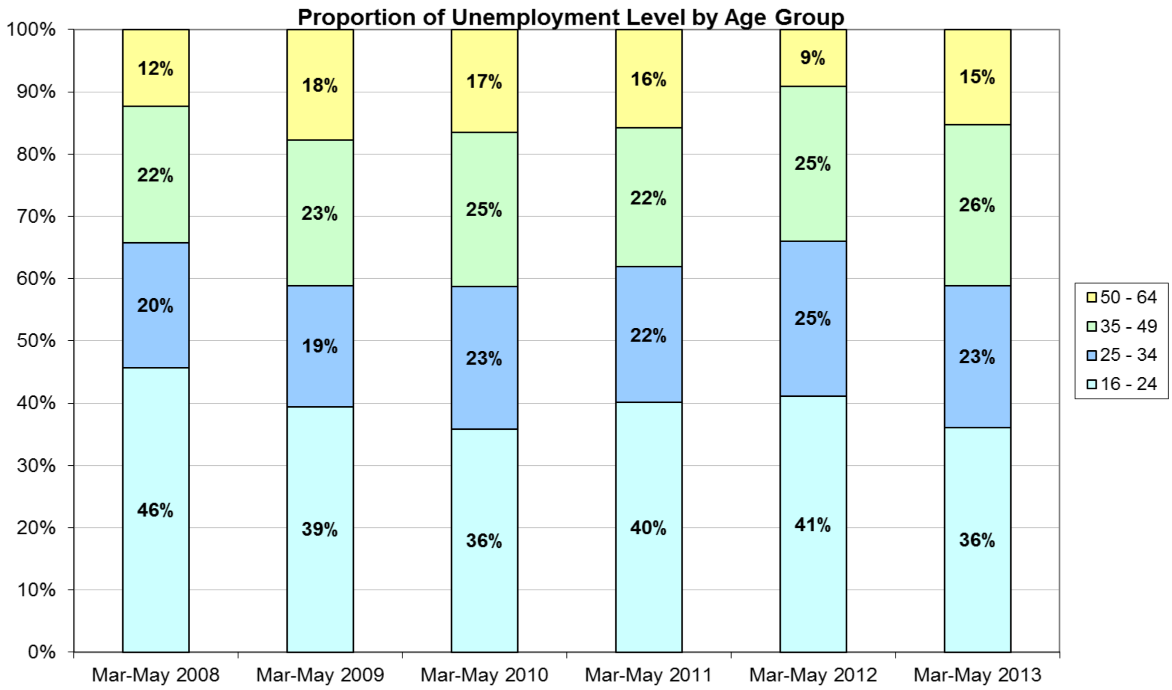
**Youth Labour Market**

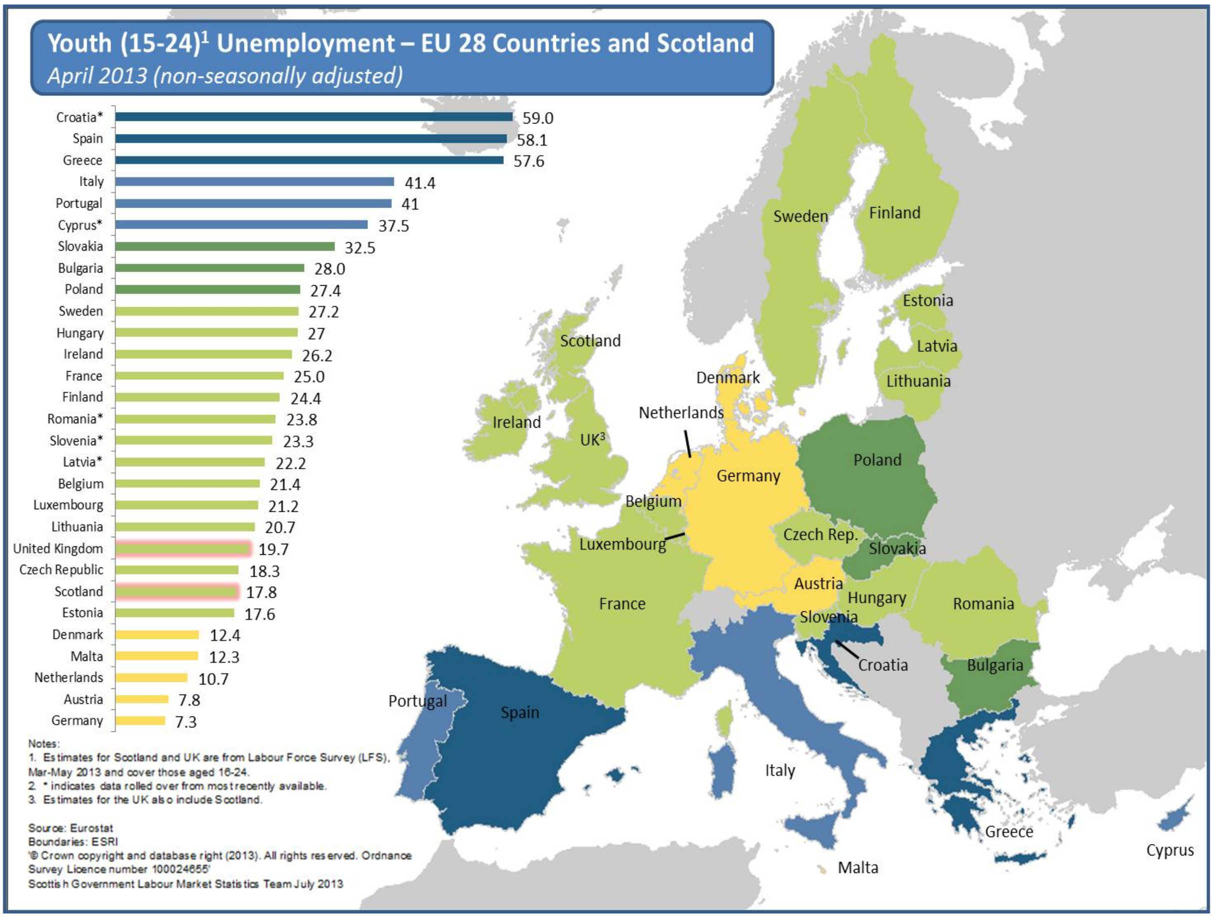
One labour market indicator that has justifiably received considerable attention across Europe during the period of recession is youth unemployment. The issue was discussed in the July 2012 edition of State of the Economy, which highlighted evidence indicating that unemployment while young, particularly for prolonged spells, is associated with permanent 'scarring effects' (e.g. a reduction in wages and the probability of being employed in later years).

[7] Data on the full and part time employment split is available less frequently, so refers to the Jan-Mar calendar quarter rather than the more recent March-May rolling quarter.

One year on, the most recent labour market statistics (March-May 2013) show that the youth unemployment rate in Scotland stands at 17.8%, which is a three percentage point reduction on the previous year's figure, though still six percentage points higher than in the same period in 2008. Moreover, in terms of unemployment levels, those aged 16-24 actually experienced the smallest increase (48%), compared to all other age groups, between March to May 2008 and the same period this year. Subsequently, although the number of unemployed aged 16-24 has increased, in March-May 2013 young people accounted for a smaller proportion of the total unemployment level (36%) than they did in the equivalent period before the recession (46%). In addition, when viewed against other European countries' rates, Scotland's youth unemployment rate compares relatively favourably.



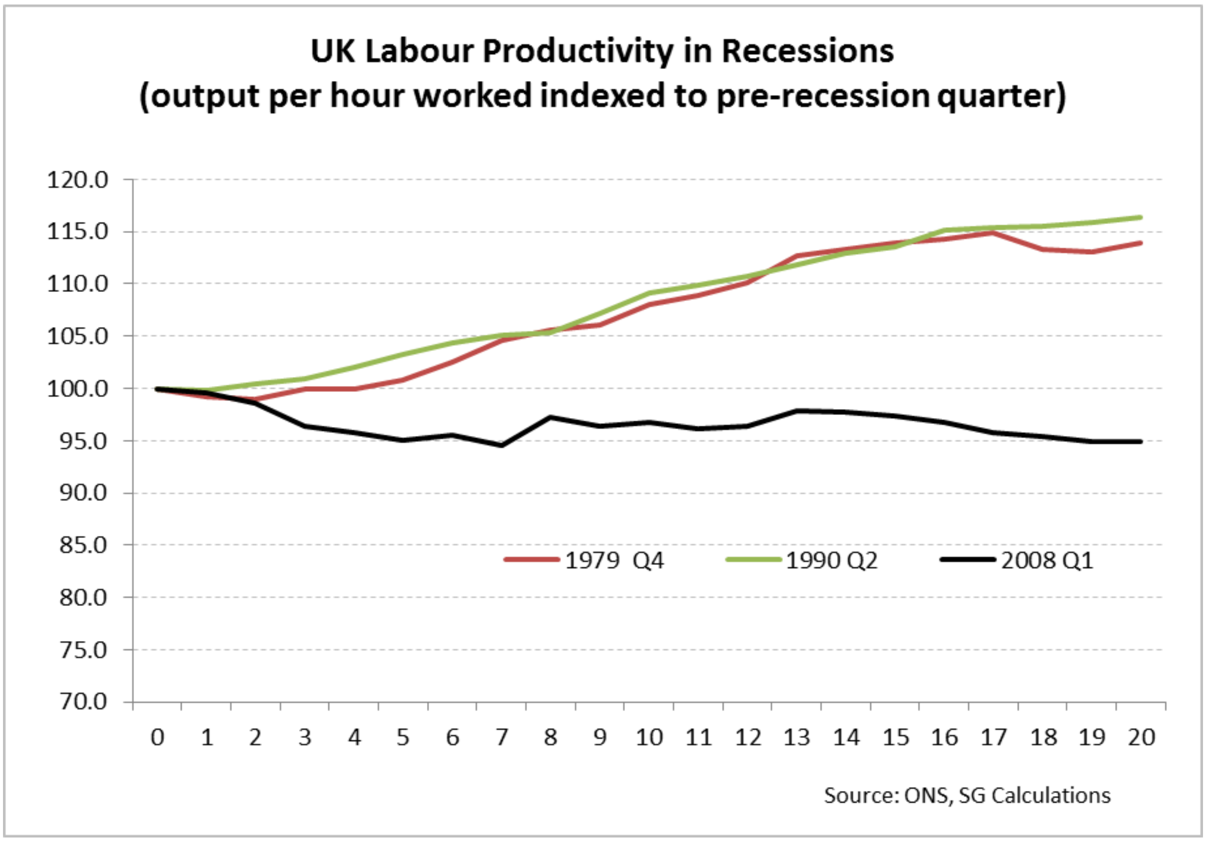



The data shows while the recession has had an impact on the youth labour market in Scotland, the impact is reducing over time, though recovery to pre-recession levels will depend on continued growth and recovery in the wider economy.

**Conclusion**

2013 has seen a continued improvement in the labour market, particularly when compared to one year ago. Employment is up, driven by a rise in full-time employment, and economic activity and unemployment are down, indicating a positive direction of travel in terms of Scotland's labour market recovery. Nevertheless, fragility remains and a sustained recovery will depend on continued economic growth.

# Recent Trends in Labour Productivity




This edition of State of the Economy returns to the UK productivity puzzle to highlight recent trends in the UK data on productivity and make comparisons with Scotland using Scottish data.

The State of the Economy in November 2012 discussed the so-called ‘productivity puzzle’ in the UK. During the 2008/09 recession in the UK, employment levels fell by much less than the fall in output, so that labour productivity declined sharply and has not recovered to pre-recession levels.

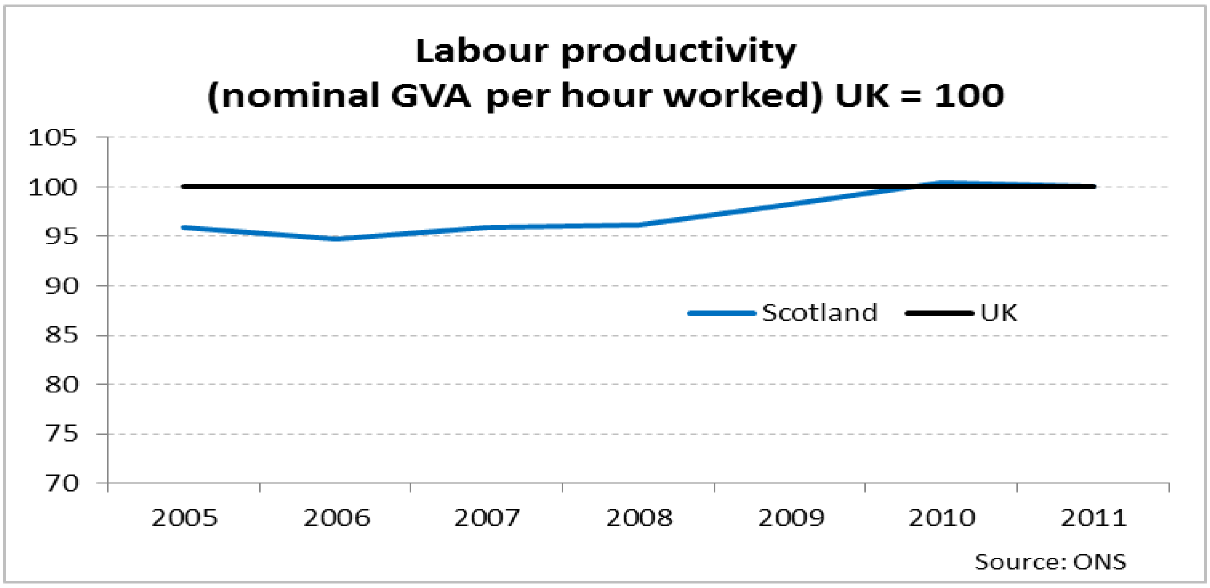
This is in sharp contrast to trends in previous recessions, and compared to the experience of some other advanced economies, such as the US, Ireland and Spain, which by 2011 had increased their labour productivity relative to pre-recession levels. However, other countries, like Germany and Italy, have also seen a similar pattern to the UK.

**Productivity Convergence Between Scotland and the UK**

In general, improvements in productivity are to be welcomed as they imply a higher level of trend growth. However, during recessions the picture – and the implications from falling or rising productivity measures – can be challenging to interpret.

ONS estimates show that labour productivity in Scotland converged with the UK in 2010 and remained level with it in 2011. Given that, historically, there has been a gap in labour productivity between Scotland and the UK as a whole, this reported convergence in productivity is worth exploring further.

The next sections show that this was driven by different recent trends in productivity in the two countries.

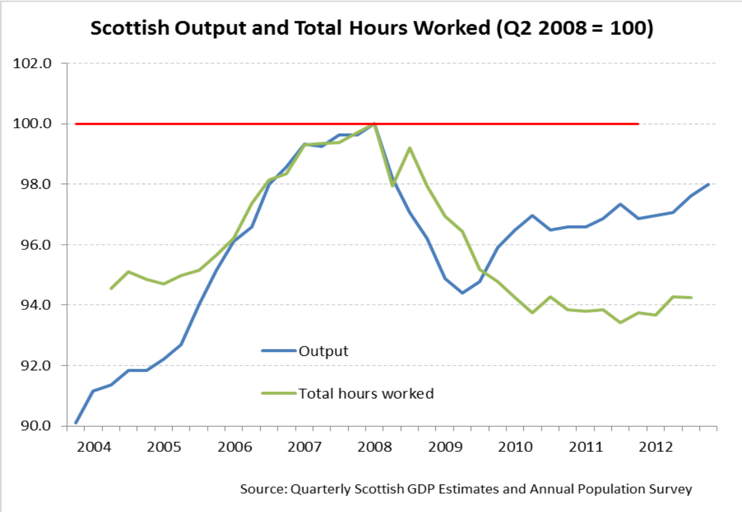



**Recent Trends in Scottish and UK Labour Productivity**

With the onset of the recession, output in Scotland fell sharply to around 94.5% of its pre-recession peak (Q2 2008) at its lowest point in 2009 Q3. Employment levels fell more gradually in the quarters following the recession before falling relatively sharply in late 2009 and early 2010. Both output and employment have remained around 97-98% of

their Q2 2008 levels up to the most recent quarter for which data is available (Q4 2012)[8].

In contrast to the gradual decline in employment levels, quarterly total hours worked in Scotland fell more sharply following the onset of the recession to reach around 94% of their pre-recession levels, where they have broadly remained. This partly reflects the 3.4% decline in employment, as well as an actual 2.4% decline in average hours worked.

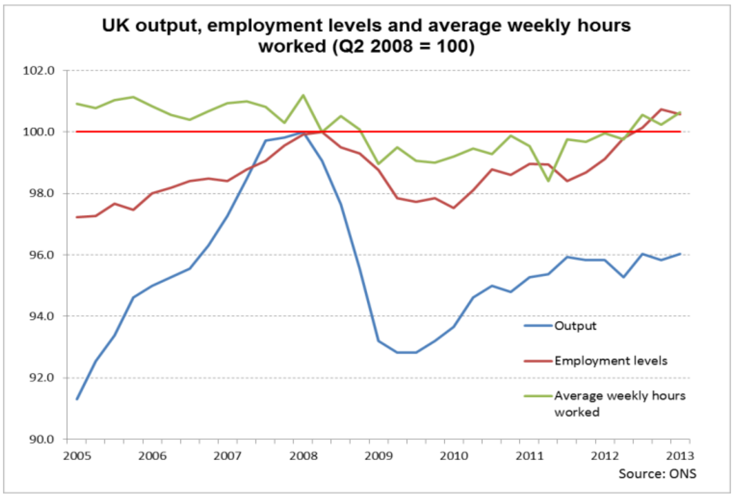


Scottish Output and Total Hours Worked (Q2 2008 = 100)
Source: Quarterly Scottish GDP Estimates and Annual Population Survey

Combining the data on output and hours worked shows the trends in labour productivity (in terms of output per hour worked) over the recession and the period since. Labour productivity in Scotland fell with the onset of the recession, but afterwards saw an upturn and then growth. As a result, labour productivity in Scotland is now (Q4 2012) 103.6% of its pre-recession peak.

Scottish Labour Productivity (Q2 2008 = 100)
Source: Calculated using Quarterly Scottish GDP estimates, APS and LFS data

Compared to Scotland, the UK had a larger peak-to-trough decline in labour productivity. The period since its recession has been characterised by relatively weaker growth and, more recently, a further downturn in labour productivity. Taken together, these trends



UK output, employment levels and average weekly hours worked (Q2 2008 = 100)
Source: ONS

[8] Although GDP data is available up to Q1 2013, Q4 2012 is the latest quarter for which hours worked data is available for Scotland.

mean that UK labour productivity now stands at 94.9% (Q1 2013) of its pre-recession levels.


Analysing the underlying data in the changes in productivity from the pre-recession peak to the trough, and from the trough to the most recent data, shows the relative contribution of each of the key variables – output, employment and hours worked – to the trends in productivity in each country.

The tables below show that over the recession (pre-recession peak to trough) the fall in labour productivity in both Scotland and the UK was a result of output falling by more than employment and average hours worked (although the UK had a larger fall than Scotland in both output and hours, which is responsible for its relatively larger fall in labour productivity).

In the period since the end of the recession (trough to most recent quarter), while the two countries have seen similar recoveries in output, the UK has seen a greater recovery in employment levels and hours worked than in Scotland. This different pattern in the ratio of the recovery in output to the recovery in employment/ hours worked is responsible for the more recent trends in Scotland and the UK.

| **Pre-recession Peak to Trough** | % change | | Approximated contribution to change in productivity | | |
|---|---|---|---|---|---|
| | *Scotland* | *UK* | *Scotland* | *UK* | *Difference: Scotland - UK* |
| **Output** | -5.6% | -7.2% | -6.1 p.p | -7.9 p.p | 1.8 p.p |
| **Employment** | -2.2% | -2.2% | 2.4 p.p | 2.4 p.p | 0.0 p.p |
| **Average hours worked** | -1.4% | -2.1% | 1.6 p.p | 2.4 p.p | -0.8 p.p |
| **Productivity** | -2.1% | -3.1% | -2.1% | -3.1% | 0.9 p.p |

| **Recession Trough to Q4 2012** | % change | | Approximated contribution to change in productivity | | |
|---|---|---|---|---|---|
| | *Scotland* | *UK* | *Scotland* | *UK* | *Difference: Scotland - UK* |
| **Output** | 3.4% | 3.3% | 3.5 p.p | 3.6 p.p | -0.1 p.p |
| **Employment** | -1.3% | 3.1% | 1.3 p.p | -3.3 p.p | 4.7 p.p |
| **Average hours worked** | -1.0% | 1.2% | 1.0 p.p | -1.3 p.p | 2.3 p.p |
| **Productivity** | 5.8% | -1.0% | 5.8% | -1.0% | 6.8 p.p |

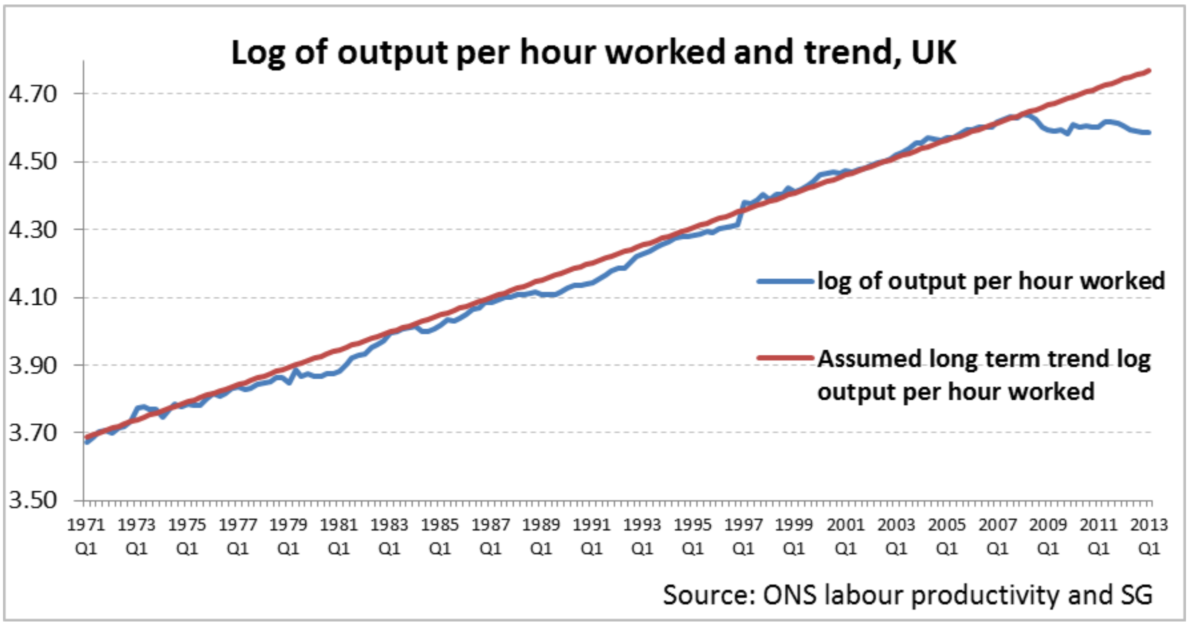
| Pre-recession Peak to Q4 2012 | % change | | Approximated contribution to change in productivity | | |
|---|---|---|---|---|---|
| | *Scotland* | *UK* | *Scotland* | *UK* | *Difference: Scotland - UK* |
| **Output** | -2.4% | -4.2% | -2.3 p.p | -4.2 p.p | 1.8 p.p |
| **Employment** | -3.4% | 0.8% | 3.5 p.p | -0.8 p.p | 4.3 p.p |
| **Average hours worked** | -2.4% | -1.0% | 2.4 p.p | 1.0 p.p | 1.4 p.p |
| **Productivity** | 3.6% | -4.0% | 3.6% | -4.0% | 7.6 p.p |

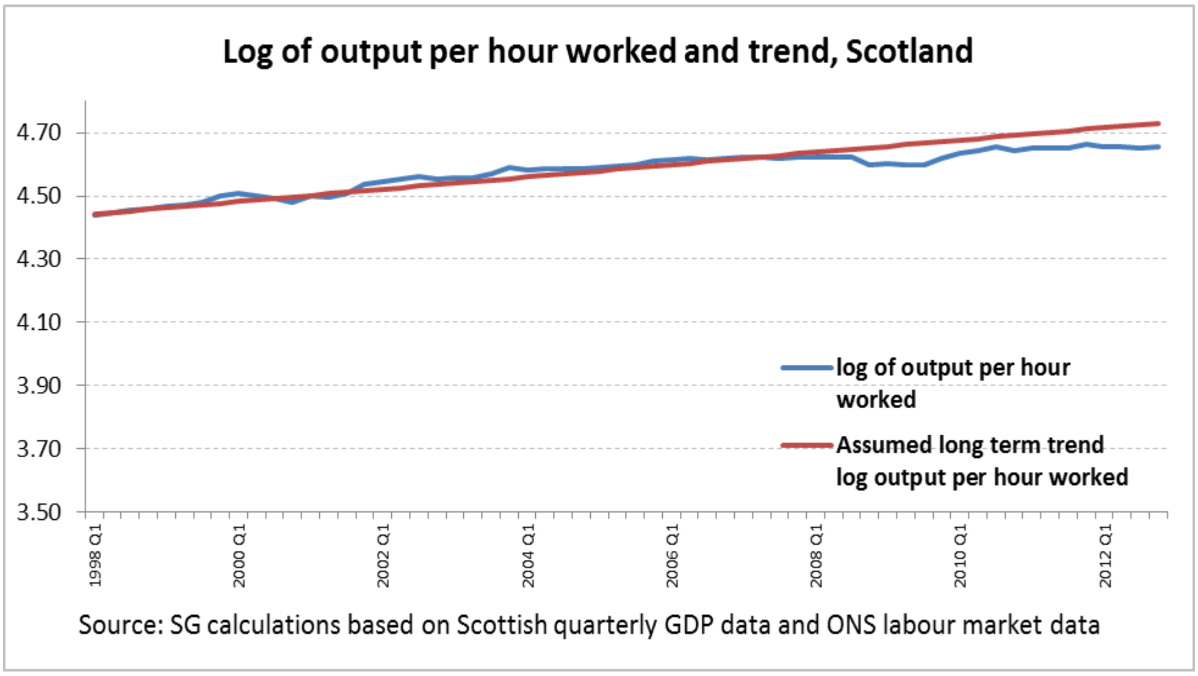
**Comparison with Historic Trends in Productivity**

The data indicate that labour productivity in Scotland fell during the recession but subsequently increased to reach pre-recession levels. Over the same period, UK labour productivity also fell but has not yet recovered to pre-recession levels. It is important to understand these trends in historical context, using longer term data.

UK time series dates back to the 1970s and shows a constant long run growth rate of around 0.6% a quarter. At the start of 2013, UK productivity was 16.6% below its implied level if long run trends had continued. This is the largest deviation from its long run trend on record by far. The Scottish data is only available for a shorter time period. Over this shorter time period, Scotland had a growth rate of labour productivity of 0.5% a quarter. Even with the recent improvement in productivity to the levels seen just before the recession, Scotland is 7.1% below the levels implied by longer term trends.

Making up this lost ground – if possible – will require an improvement in the factors that drive productivity (i.e. human and physical capital investment, research and development and innovation, open trade and entrepreneurship).

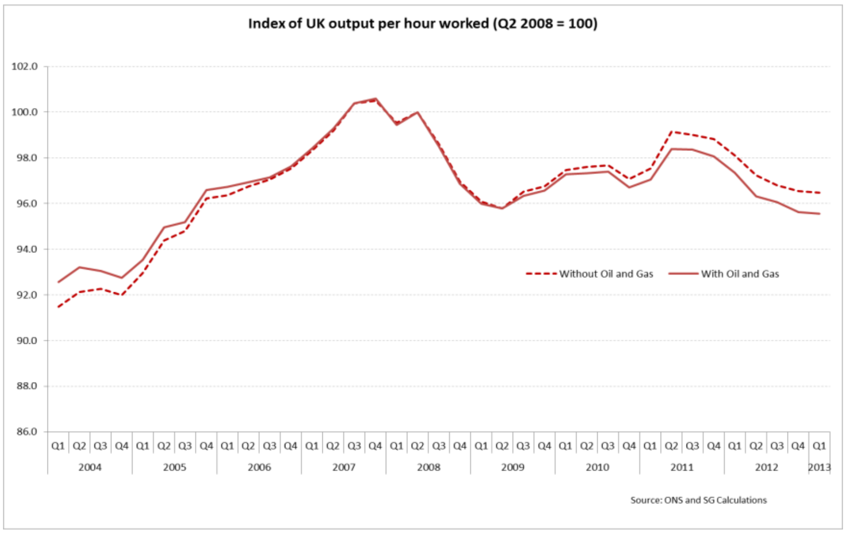





## Possible Drivers of Recent Trends in Labour Productivity

The potential implications of these trends are highly dependent on what is driving the relative changes in productivity.

The output figures used by the ONS to calculate UK output per hour worked include North Sea oil and gas output. This follows standard UK National Accounts definitions.




However, when examining productivity movements we are typically interested in the underlying efficiency of labour input to the normal production process, rather than in an extraction process like oil and gas (although we will be interested in productivity in the supply chain which this extraction supports).

Removing oil and gas output from the UK calculations results in a higher level of labour productivity, particularly since 2010. However, it does not change the finding that UK labour productivity, in contrast to the pattern seen after previous recessions and to Scotland, has not yet returned to pre-recession levels.

Whereas labour productivity trends in Scotland have followed a path that is more consistent with patterns observed in previous recessions, the UK's continued weak productivity performance is unusual, hence the productivity puzzle label.

Previous editions of State of the Economy have discussed the possible explanations.

1) A temporary demand side shock – the view that UK productivity weakness is demand-driven and will reverse once the recovery gains pace. However, as highlighted in the labour market section, UK employment is now above pre-recession levels (even as output is still below its pre-recession peak), implying that temporary demand factors on their own cannot fully explain the productivity puzzle.

2) A temporary supply side shock – the view that the UK supply-side has been temporarily weakened by the recession. The IFS[9] points out that low real wages may have encouraged firms to employ more workers than they would otherwise, with possible substitution of labour for capital if it has become relatively cheaper. Low levels of business investment mean these workers have less, or deteriorating capital, lowering their average productivity. Finally, temporary misallocation of capital from an impaired financial sector may be offering greater forbearance to low productivity firms and failing to direct investment capital to new firms. This interrupts the normal firm shakeout and creation process that would be expected to raise aggregate productivity. If the supply side shock is temporary, it implies scope for above-trend growth once demand takes off, but accompanied by a difficult adjustment process in the months and years ahead.

3) A permanent supply side shock – the idea that the UK has suffered a permanent reduction in potential output caused, for example, by a misallocation of capital resources disrupting growth in total factor productivity; high and persistent unemployment resulting in hysteresis; or the loss of parts of the high value-added financial services sector as a result of the crisis.

Overall, it is likely that the weakness in UK productivity reflects a combination of these factors. A lesser impact on the supply side in Scotland may provide some of the explanation for Scotland's relatively stronger performance but, as the next section on the output gap shows, in practice this is difficult to measure in a way that would allow firm conclusions to be drawn.

*Labour Market Differentials*

The larger impact of the recession on the labour market in Scotland compared to the UK may reflect subtle differences in labour market adjustments to the recession in each country. For example, hours worked in Scotland have fallen to a greater

[9] Productivity Puzzles', Disney, R., Jin, W. and Miller, H., in The IFS Green Budget 2013, Emmerson, C., Johnson, P. and Miller, H. (eds), IFS, February 2013: London.

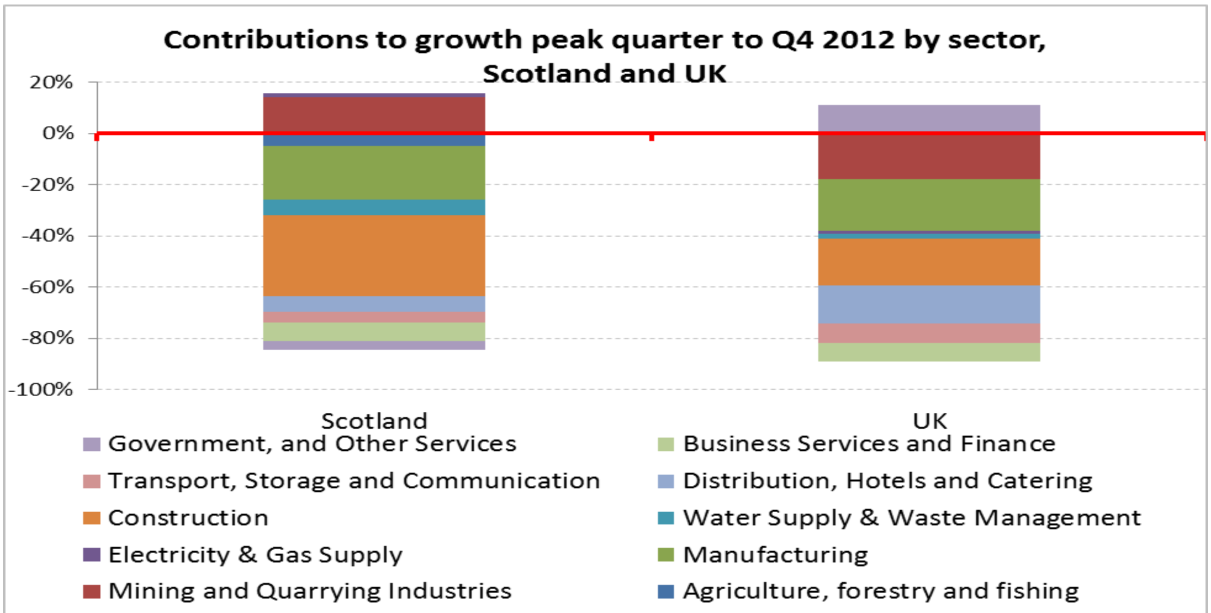
extent, whereas there is some evidence that the decline in real wages has been slightly greater in the UK[10].

*Sector Differences*

Differences in how output, employment and productivity have changed between sectors over the recession, and in the period since, may also provide some explanation for the relative differences in productivity. Aggregate labour productivity can be affected by low productivity sectors shrinking, high productivity sectors growing, or by productivity improving within a sector (as a result of movements in output or employment).

The change in output experienced in Scotland and the UK between Q2 2008 and Q4 2012 have displayed a different sectoral pattern. For example, relative to the UK, Mining and Quarrying; have had a positive impact on growth in Scotland. Electricity & Gas supply has also improved marginally, reflecting, in part, significant investment in renewables in recent years[11].

On the other hand, Construction[12] in particular, and Government and Other Services also, have had a larger negative impact on Scottish output than in the UK (for further discussion on the UK output data for this sector, see page 14). Because changes in the patterns of labour productivity differ at a sectoral level, this sector 'switching' may explain some of the observed differences between Scotland and the UK.



Source: Scottish Government calculations based on Scottish quarterly GDP estimates and ONS UK GDP estimates

[10] See data from ASHE in Labour Market Statistic Briefing, June 2013. Available here.

[11] Note, in order to be consistent with the productivity analysis these figures only show output growth up to Q4 2012. The most recent quarterly data (Q1 2013) shows growth in services (+0.8%) and production (+0.1%), within which manufacturing grew (+0.5%).

[12] Construction output in Scotland (-13%) fell by slightly less than in the UK (-14.6%) over the period, but construction accounts for a larger share of output in Scotland, hence the greater negative effect on output in Scotland compared to the UK.

To analyse how changes in sectoral output and productivity have affected aggregate labour productivity it is necessary to look at output per worker, rather than output per hour worked. This is because of a lack of sectorally disaggregated data on hours worked[13]. Using data on workforce jobs and sectoral output, this can provide an indication of the different effects sectors have had on aggregate productivity but does not uncover the causes behind the changes in productivity. Such issues will be discussed in future State of the Economy publications.

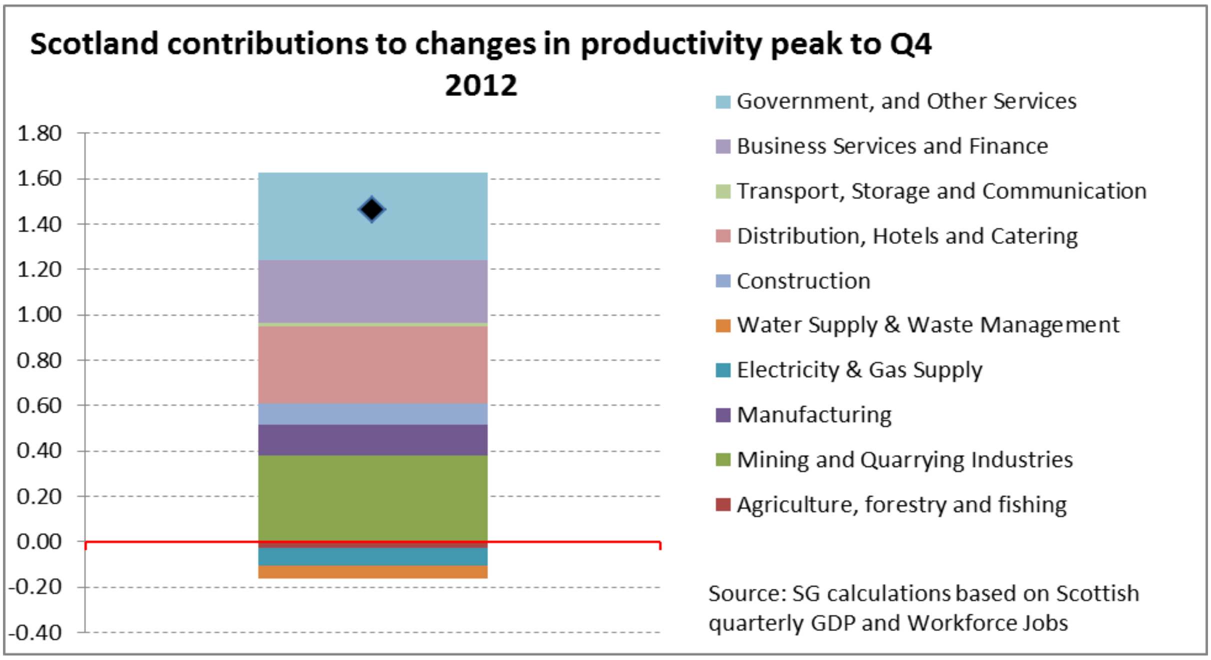
Productivity in a sector may increase due to an increase in output, a decline in workforce jobs, or a combination of the two.

The largest sectoral contributors to the increase in output per worker since 2008 have been Government and Other Services; Business Services and Finance; Distribution, Hotels and Catering; and Mining and Quarrying. Government and Other Services has seen a sectoral increase in labour productivity, consistent with relatively stable output and a fall in workforce jobs since 2008. This increase in productivity within the sector explains around 15% of Scotland's overall change in output per worker.

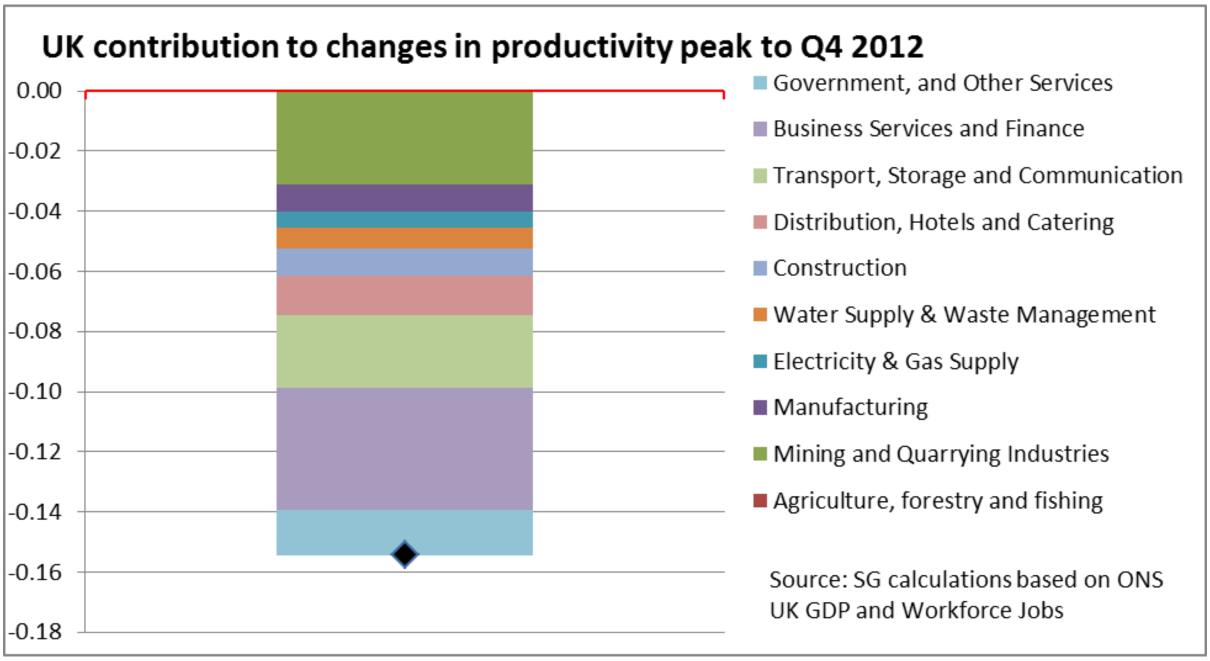
Business Services and Finance output has contracted by less than workforce jobs since 2008 and, as this is a large sector, the slight increase in sectoral productivity has made a positive contribution to aggregate output per worker. Distribution, Hotels and Catering – while typically having lower average levels of measured productivity compared to other sectors – has also seen a small increase in productivity over the period.

Finally, Scottish Mining and Quarrying output (which excludes offshore Oil and Gas, but includes onshore, related activities) has grown by around 35% since Q1 2008, whilst workforce jobs have increased only slightly. Its labour productivity has thus grown by around 30% over this period, leading to a boost to economy-wide output per worker. Although this is a small sector in the wider economy, the boost in output per worker contributed 25% of the aggregate increase in output per worker.

[13] Note that in the ONS data, there are marginal differences in the ratio of Scottish to UK labour productivity on the output per worker measure, compared to the output per hour worked measure of labour productivity.




The experience in the UK has been different. The largest contributor to its fall in productivity has been Business Services and Finance, accounting for 25% of the overall decline. This is because the sector accounts for around 30% of UK GDP, so changes in its output have large effects on the aggregate. Sector output has declined slightly since 2008, but employment in the sector rose over the same period leading to a 5% decline in productivity per worker, exerting downward pressure on aggregate output per worker. As discussed in the previous section, UK Mining and Quarrying, which includes offshore oil and gas output, accounts for around 20% of the fall in UK productivity.



The above highlights that sectoral output and employment differences in Scotland and the UK explain, at least part of, the differences in recent labour productivity performance between the two countries.

**Conclusions**

The economic data indicates that labour productivity in Scotland has followed a path that is typical during and after recessions. It has experienced a fall in the period of recession and subsequently bounced back to exceed pre-recession levels. In contrast, UK labour productivity remains below its pre-recession peak, countering the trend seen in previous recessions.

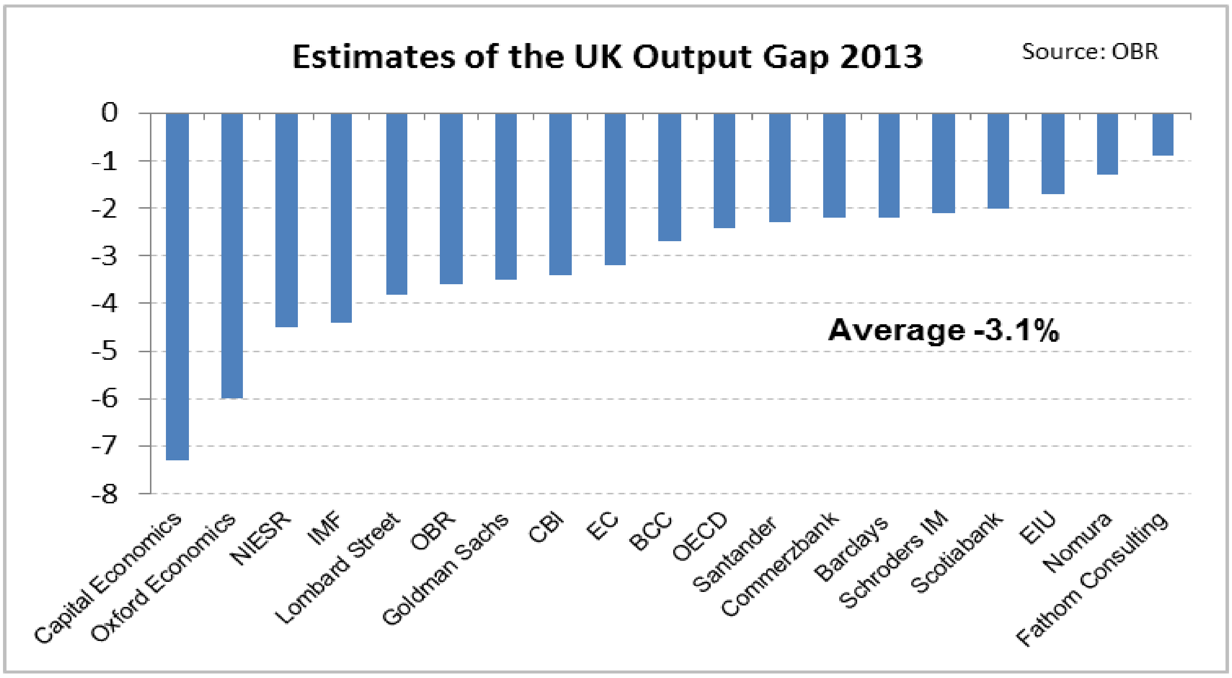
Although historically Scottish labour productivity has been slightly below that of the UK, these comparative trends resulted in convergence between the two countries in labour productivity in 2010 and 2011. It remains to be seen whether this convergence will continue.

The observed increase in labour productivity may be a temporary phenomenon due to short term movements in output and employment, or part of a longer run trend. If the effect is temporary, it may be partially unwound as employment returns to its pre-recession levels, with no long term impact on Scottish output.

If however the apparent improvement is at least in part permanent, that is, that the increase in labour productivity in Scotland is driven by a fundamental improvement in Scotland's underlying productivity over time, it may imply a boost to growth as demand recovers. However, there is a risk that this may be at the expense of an immediate pick-up in employment.

Nevertheless, even despite its recent improvement, Scottish labour productivity, along with that of the UK, is below the path implied by historical levels and growth rates. Moving back to trend productivity in both countries will require continuing improvements in the supply side of their economies, driven by factors such as human and physical capital investment, education, research and development and innovation, open trade and entrepreneurship.

# The Output Gap




This section of State of the Economy follows on from the discussion on recent trends in productivity to discuss a related economic concept, the output gap. It looks at the range of estimates available for the UK and, using similar approaches, calculates estimates for Scotland. It discusses the difficulties associated with the measurement of the output gap.

**Defining the Output Gap**

The output gap is related to productivity to the extent that trends in productivity determine the long-term path for potential economic output. The output gap summarises any 'gap' between potential and actual output in an economy. If the output gap is positive, it means the economy is operating beyond its productive potential, creating inflationary pressures as factor inputs are stretched. If the gap is negative, it means that there is spare capacity in the economy, therefore output can increase without inflationary pressure if demand picks up in the economy.

The output gap is of particular interest in this period of post-recession recovery because, although cyclical forces cause actual output to fluctuate around longer term potential output, the size of the output gap indicates both the direction and speed of future growth. If the output gap is small and/ or positive, it suggests the economy may be supply-constrained, which could leave little room for a take-off in growth when demand picks up.

The output gap is also important in informing economic policy. A negative output gap, depending on its size, indicates whether there is room for, or perhaps even a need for, expansionary fiscal policy in the economy (without generating inflationary pressure).

**Estimating the Output Gap**

Measuring the output gap is challenging and there are a range of approaches to its estimation, each of which has its own strengths and limitations. The range of estimates for the UK output gap (from -7.3% to -0.9%, with an average of -3.1%) demonstrates clearly the difficulties in reaching an accurate estimate.

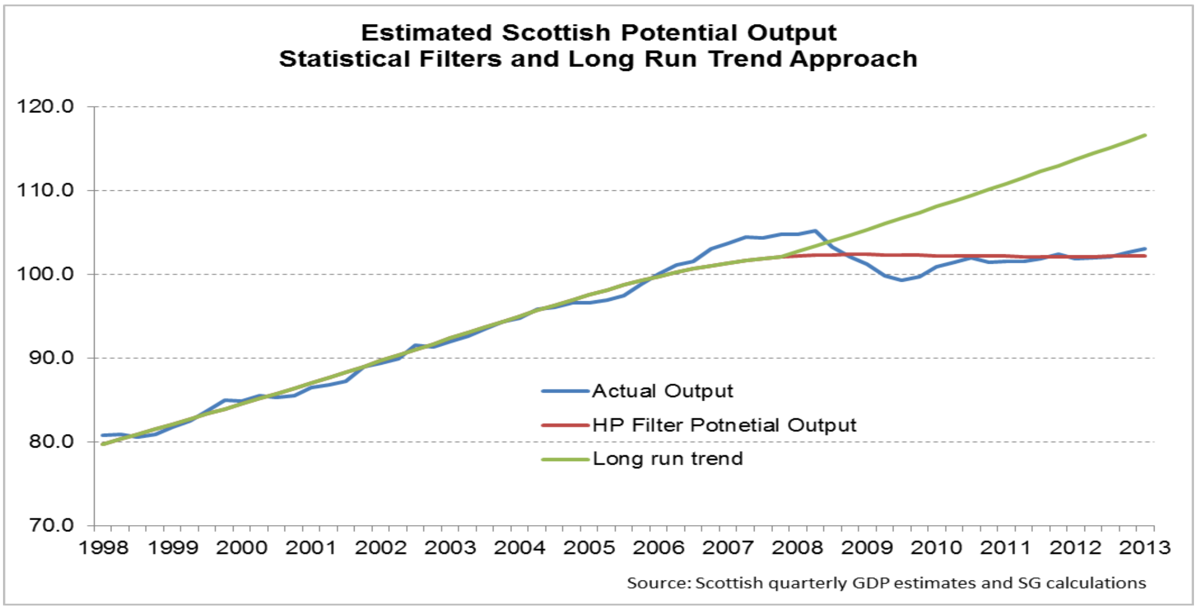
Different approaches to estimating the output gap have emerged because it is not possible to measure potential output in the economy directly. Instead, a variety of techniques endeavour to estimate potential output indirectly, and compare this to actual output to calculate the output gap.

In this section, a number of the techniques that are used to estimate the UK output gap are applied to Scottish data in order to compare estimates for Scotland and highlight the methodological strengths and limitations of each. It is becoming increasingly apparent that estimates of the output gap have become more uncertain during this prolonged period of recovery from the economic downturn, which the broad range of estimates only highlights. Approaches that were valid prior to the credit crunch may no longer be as robust.

**Output Gap Estimates for Scotland**

*Statistical Filters and Long Run Trends*

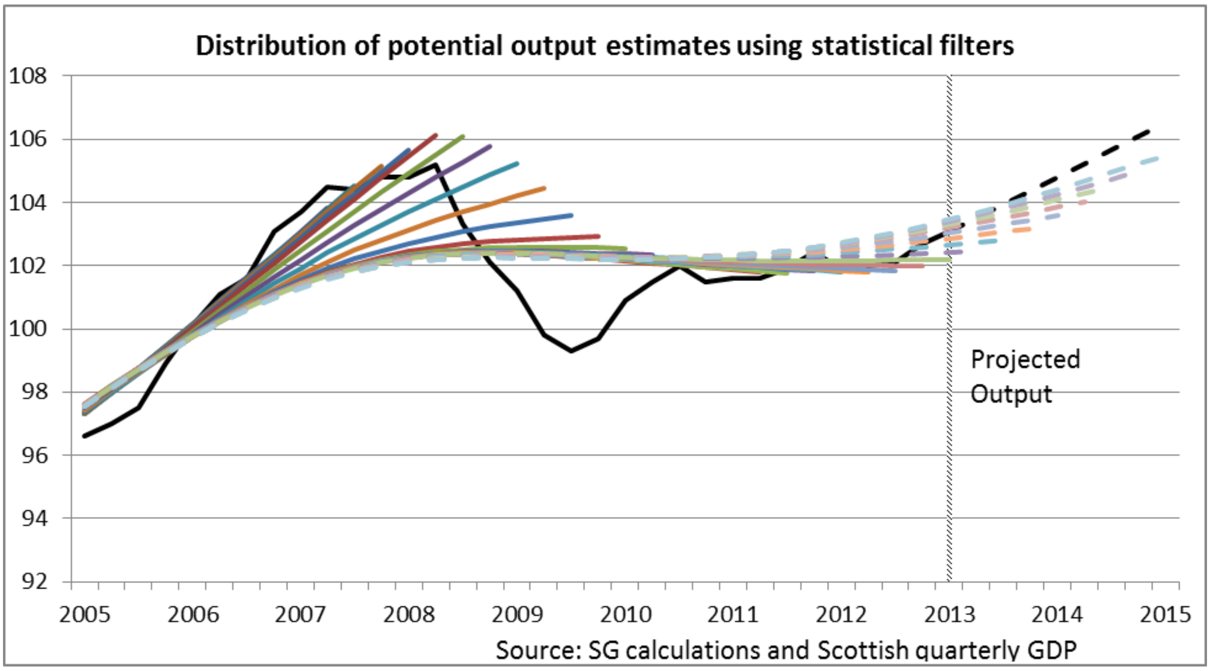
These approaches – statistical filters and long-run trends – are presented together to show the extremes in estimates of the output gap in Scotland. In the statistical filters approach, statistical techniques are applied to smooth out actual output and extract longer term trends. The long run trends approach projects forward trend output growth from Q1 1998 to Q4 2007, implicitly assuming that the recession has not negatively impacted the supply side of the economy and, therefore, potential output.




At one extreme, the statistical filters approach estimates that the Scottish economy was operating above potential output in Q4 2012, with an output gap of +0.5%.

However, one significant limitation of this approach is that it is unlikely to accurately estimate potential output at the current time. This is because statistical filters are sensitive to end-of-period data (i.e. what was happening to actual output when the projection is made). So the potential output estimate is, in effect, being 'dragged down' by the length and depth of the recession. The chart below shows how estimates of potential output are affected by what is happening to output when the projection is made. The black line is actual output in Scotland and the black dashed line simply projects this forward using historic growth rates. The coloured lines are estimates of potential output using a statistical filter in successive different quarters. Each one is based solely on the data that was available at that point in time, ignoring any data that was subsequently available. Moving through the recessionary period, as the actual output level falls in each quarter, so the corresponding estimate of potential output based on it becomes lower. This sensitivity of the estimates to what is happening to actual output when they are made implies that any potential output estimate we make today could also change as new data becomes available over the next few years.

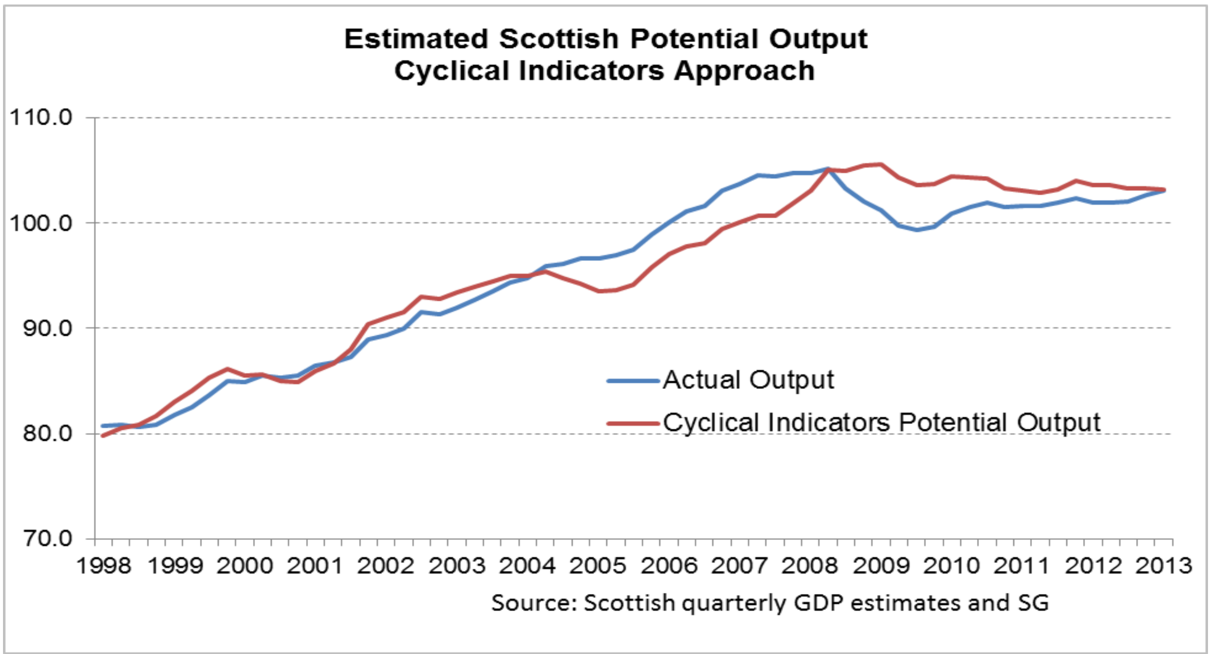
Taken together with current Scottish data on unemployment and output, which indicate that the Scottish economy is still operating below trend, these limitations mean that the statistical filters estimate is unlikely to be robust.




At the other extreme, the long run trends approach estimates that the Scottish economy is operating significantly below capacity, with an output gap of -11.4% in Q4 2012. However, the assumption that the recession has not damaged the supply side of the Scottish economy is difficult to reconcile with the severity and length of the recession, even taking into consideration the rise in Scottish labour productivity (which, as discussed in the previous section, may be a temporary effect). Consequently, this approach is likely to overestimate potential output and the size of the output gap.

*Cyclical Indicators Approach*

The second approach, which was until recently the primary approach of the Office for Budget Responsibility, is to use cyclical indicators (i.e. business surveys) to estimate the size of the output gap. Survey data on capital and labour capacity are collected from the Scottish CBI Industrial Trends survey, the Scottish Chambers of Commerce, the Scottish PMI and UK Bank of England Agents' Scores. These are aggregated together and weighted by sector and factor to give an indication of the size of the output gap in Scotland.




The cyclical indicators approach suggests that the output gap in Scotland is very small, at -0.6% in Q4 2012, indicating that the economy is operating almost at capacity. The cyclical indicators estimate of potential output suggests that the economy was operating above capacity from 2004 until 2008. When output declined sharply at the beginning of 2008, potential output levelled off and remained steady for the first year then declined slightly. So the output gap estimate using this approach is driven by both a gradual decline in potential output over recent years and a gradual increase in actual output. However, this approach gives higher estimates for potential output over the last five years than the statistical filters approach.

The key advantage of this approach is that data are more timely and are not influenced by being at the end of the period. However, the cyclical indicators approach also suffers from methodological limitations.

- Scottish surveys are limited in size and scope and may not give a complete enough picture to provide a reliable estimate.
- Most surveys ask if a firm is operating above or below capacity, so only give an indication of the existence of a positive or negative gap rather than its size.
- Although the surveys ask firms to judge capacity absolutely, in practice they may base answers on very recent experience or specific occurrences (e.g. a recent recruitment difficulty).
- During the recession, firms may have delayed purchasing or upgrading capital and may be judging spare capacity in a short to medium term sense, against

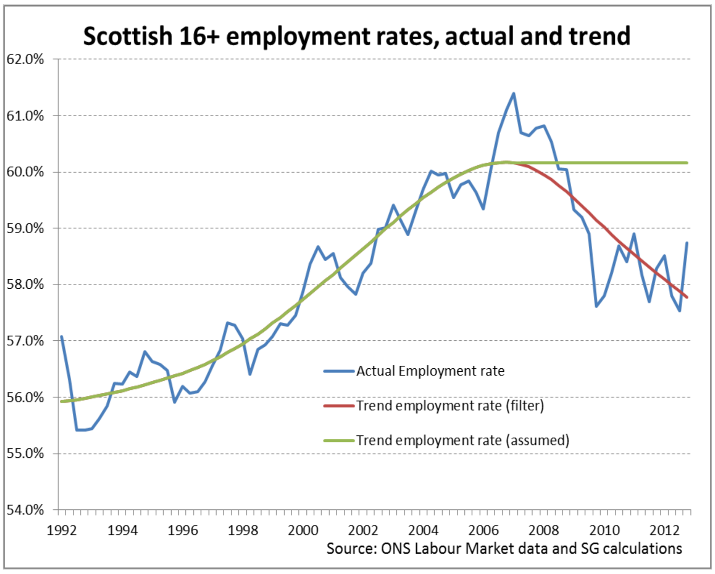
current low levels of capital. Estimates based on this will not take account of the medium-long term level of output that could be achieved when demand returns and firms begin to invest in capital again.

These limitations, taken with the Scottish data on unemployment, which indicate that the Scottish economy is still operating below trend, mean that the cyclical indicators estimate of the output gap for Scotland should be viewed with a degree of scepticism.

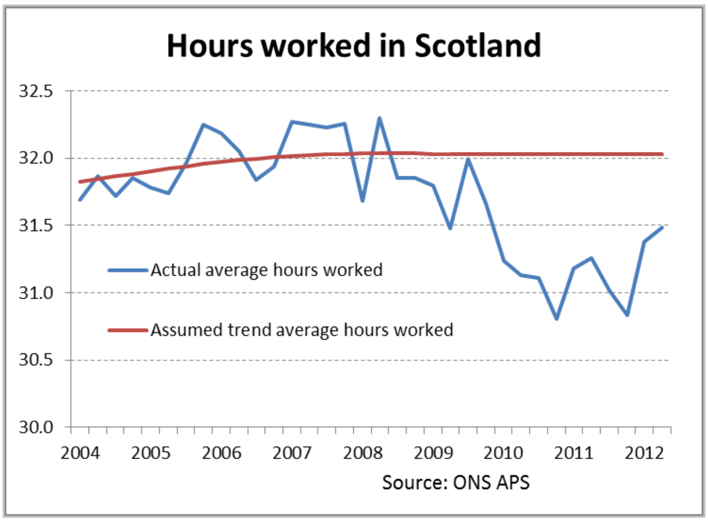
The OBR, concerned with the limitations of the cyclical indicators approach, recently opted to augment the approach with a production function approach (similar to the method employed by the OECD). The production function approach uses trends in levels of capital and labour, along with estimates of total factor productivity, to create an estimate of potential output.

*Labour Market Trends Approach*

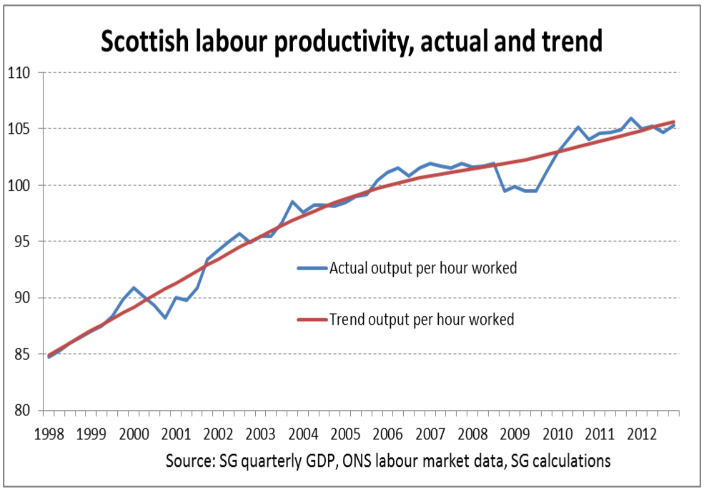
A lack of Scottish data on levels of capital means that the production function approach cannot be applied to calculate estimates of the output gap for Scotland. However, a similar method can be adopted using labour market data and extracting longer term trends from shorter term cycles (discussed here as the labour market trends approach). This method assumes that the labour market will eventually return to pre-recession trends and estimates what output would be given current levels of productivity. The approach to this calculation is set out in detail below.




Between 1992 and 2008, with some volatility, 16+ employment rates in Scotland gradually rose from around 56% to 60% (driven by structural trends such as more females entering work). This increase will have increased the level of potential output. Employment rates fell in the recession, but this is likely to be, to some extent, a cyclical change in employment, rather than structural. Once demand picks up in the economy, employment rates could reasonably be expected to return to close to their pre-recession levels and the assumed trend employment rate reflects this to some extent. It does not reflect any damage that may have occurred to the supply side of the economy (e.g. hysteresis arising from long term unemployment).



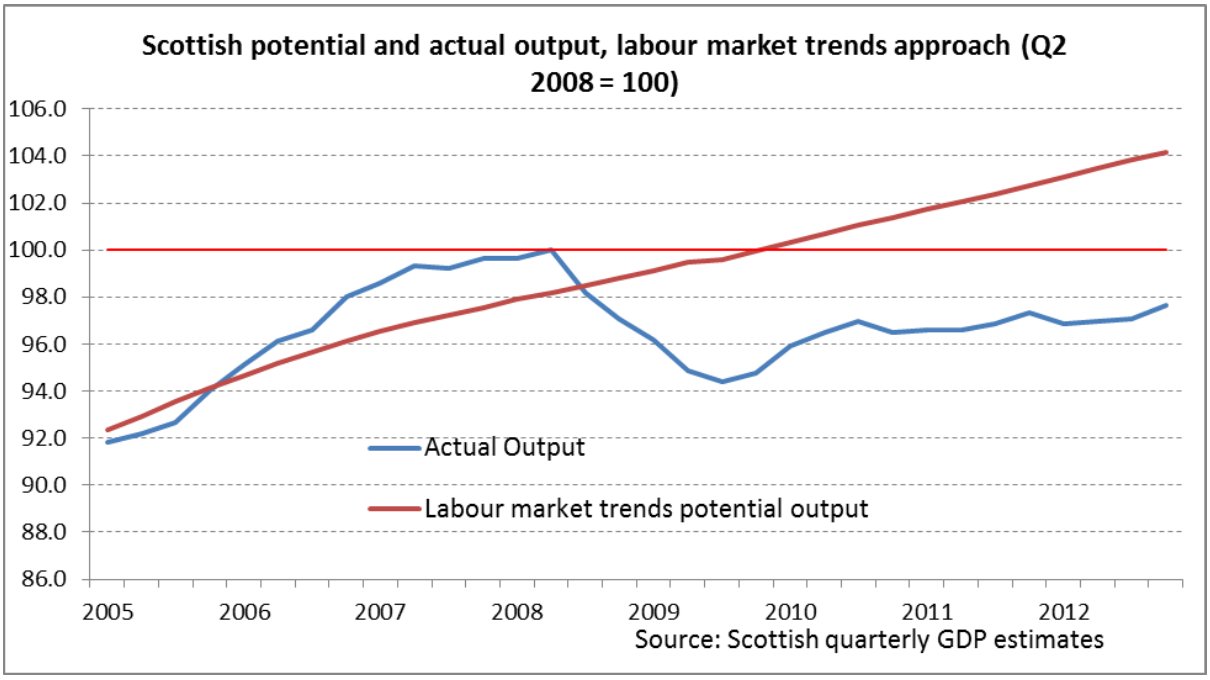

Average weekly hours worked by employed individuals were stable from 2004 until 2008, then declined during the recession, and in the period since. However, the trend weekly hours worked assumes that this reflects a lack of demand, rather than structural changes in the number of hours people work, and will rise again once demand and output recover.




As discussed in the section on labour productivity, output per hour worked in Scotland declined during the recession but recovered relatively quickly, and is now above pre-recession levels. The estimate of the output gap is based on the most recent figure for output per hour worked in Scotland, so implicitly accepts the finding that Scottish labour productivity returned to close to trend growth following the recession. However, it must be noted that if this higher level of labour productivity is a temporary phenomenon, it will overestimate potential output and, therefore, the size of the output gap. If, however, productivity has genuinely continued to grow close to trend, it does imply that the level of potential output has also grown.

This approach to calculating potential output combines these labour market estimates together in the following calculation:

Potential output = (16+ population in Scotland * trend 16+ employment rate * average weekly hours * number of weeks in a quarter * actual output per hour)




Using this approach, the output gap in Scotland is estimated to be -6.3% in Q4 2012. This is driven by continued (trend) increases in employment and labour productivity which have increased potential output, although with some flattening off due to the slowing in the rate of productivity growth.

This approach has two key drawbacks. Firstly, it does not consider the impact of capital, as estimates are not yet available for Scotland. Movements in the level of capital stock in Scotland could affect its potential output. Secondly, it is not possible to know for certain at this stage in the recovery process whether movements in any of the components of the estimate are structural (i.e. permanent) or cyclical (i.e. temporary). This analysis implicitly assumes that the downward swings in the labour market are temporary, whilst the growth in productivity is more permanent.

## Conclusions

| Approach | Scotland | UK |
|---|---|---|
| Long run trend | -11.4% | -13.3% |
| Labour market trends | -6.3% | -3.3% |
| Cyclical Indicators | -0.6% | -1.4%* |
| Production function | n/a | -2.7%* |
| Statistical Filter | +0.5% | +0.2% |

*OBR March 2013 Economic and Fiscal Outlook estimate

Five different approaches to estimating the output gap in Scotland and the UK have been explored above. These give a very broad range of figures for the output gap at the current time. As discussed, the ‘long run trends’ approach and the statistical filters approach give two ‘outlying’ estimates and should be viewed with caution. Ignoring these two approaches, the output gap in Scotland is estimated to be somewhere around the range -0.6% to -6.3%.

As an illustration, the approaches that have been used above for Scotland give an estimate for the UK output gap in the range of -1.4% to -3.3%. This is well within the range of independent forecasts of -0.3% to -7.9%.

The cyclical indicators approach suggests a small negative output gap in Scotland and a slightly larger negative gap in the UK. As discussed by the OBR in its December 2012 Economic and Fiscal Outlook, this cyclical indicators approach may produce too narrow an estimate of the output gap in the current climate due to the way the surveys capture business sentiments on capacity.

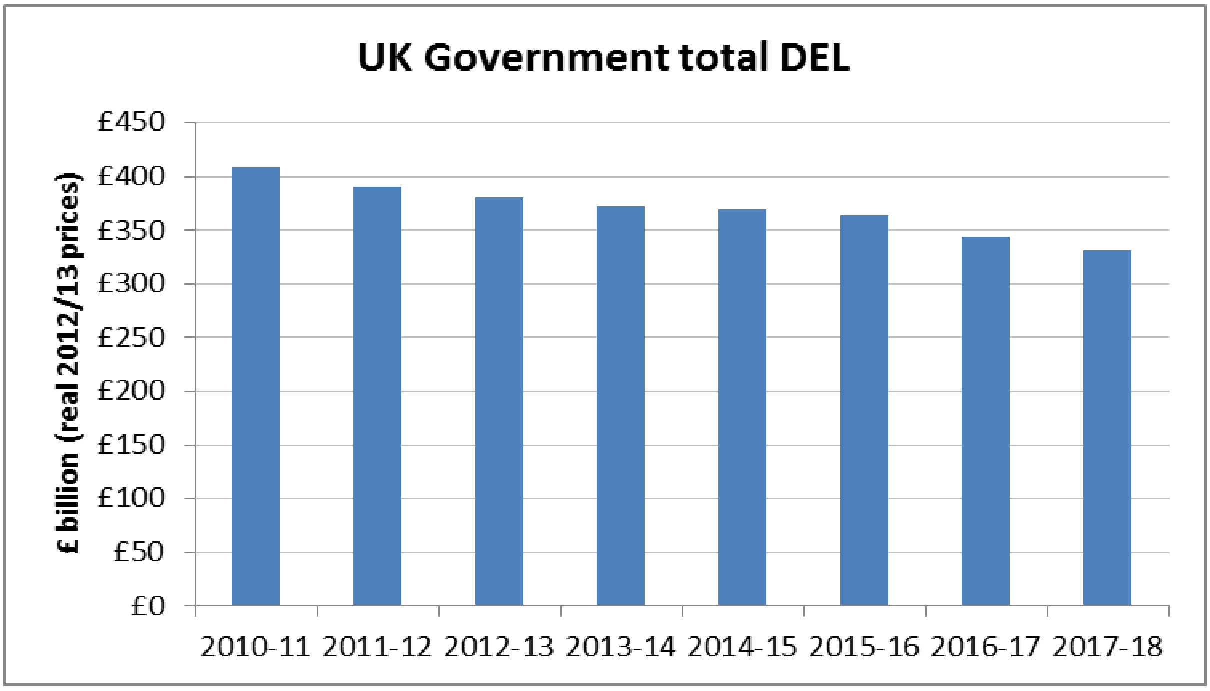
The labour market trends approach makes some assumptions about trends in the labour market and productivity in Scotland. This approach suggests that Scotland has a somewhat larger output gap than the UK, thanks to an apparent relative increase in labour productivity. If this is the case, Scotland may enjoy a period of strong growth relative to the UK as a whole as it takes advantage of this additional capacity. However, this effect will be limited until demand returns to the Scottish, UK and global economies and any dampening effect on the supply side of the economy of tight credit conditions has eased. It may also mean, however, that output can expand with only limited pick-up in employment levels.

As highlighted in the discussion on productivity above, it is not yet clear whether the increase in Scottish productivity and relative convergence with the UK is a permanent or temporary effect. If this turns out to be a temporary effect which is eventually unwound, the current output gap will be on the narrow side. However, to the extent that the increase in productivity is more permanent, this will mean a higher level of potential output in Scotland and a larger amount of spare capacity. In our view, given this analysis, the experience of previous recessions, and anecdotal evidence from recent surveys and business sentiment, the output gap is likely to lie in the middle of the range of estimates.

Although the degree of spare capacity in the economy has been generally assumed to be a useful guide to the direction and speed of near term economic growth, it could be argued that this relationship has broken down in recent years. The range of estimates of the potential output gap reflect both the nature of this recession and the uncertainty relating to the extent to which economic capacity has been permanently lost.

In this regard, the analysis set out above provides a helpful analytical framework for monitoring developments in the Scottish economy in the months and years ahead.

# UK Spending Review




Previous editions of State of the Economy have highlighted government deleveraging as a constraint on demand. This section highlights the recent UK Government Spending Review, which has indicated that these constraints are likely to continue for an extended period.

The UK Government Spending Round 2013 (known as the 'Spending Review'), was set out by the Chancellor of the Exchequer in a statement to Parliament on 26 June 2013. The Spending Review sets out the UK Government's plans for government spending, including departmental settlements, for the financial year 2015/16. This section outlines the main points from the Spending Review.

**UK Outlook for Public Expenditure**

In the March 2013 Budget, the Chancellor announced that UK Government underlying borrowing is now expected to be approximately £76 billion more this year than forecast at the June 2010 Emergency Budget. It was also announced that a further year of cuts is planned, extending the period of cuts to 2017/18, a total of eight years. As highlighted by the Institute for Fiscal Studies in its Green Budget (February 2013), eight consecutive years of public spending cuts is unprecedented in the UK.

Total UK Government departmental expenditure will fall by 1.4% in real terms in 2015/16. This overall reduction is made up of a 2.0% real reduction in resource spending, and a 3.5% real increase in capital spend, including financial transactions.

**UK Spending Round and Outlook for Scottish Government Expenditure**

Although a total UK expenditure limit has been set for the years to 2017/18, no departmental budgets have been set. The latest Spending Review set out departments' budgets for 2015/16, the year of the next General Election.

Under the current constitutional arrangements, the impact of the continued and extended fiscal consolidation programme on the Scottish Government's budget depends on the allocation of spending across Whitehall departments through the operation of the Barnett Formula. This determines how changes in spending in England in devolved areas are reflected in the block grants of the devolved administrations in Scotland, Wales, and Northern Ireland. As health and education form a relatively large part of Scottish Government spending, the decision to continue to protect these areas by the UK Government means that the reduction in the Scottish Government budget is smaller than for many other UK Government departments.

The Scottish Government budget will fall by 0.8% in real terms in 2015/16. This consists of a 1.1% real reduction in the resource budget, which funds current departmental expenditure and a 2.6% real increase in the capital budget, which funds government investment. However, the increase in the capital budget is driven by the inclusion of financial transactions. Strictly speaking this is capital funding that can only be used for loans and equity investment and which will have to be repaid over a number of years. They involve less discretion than traditional forms of capital budget allocations. When such transactions are excluded, the Scottish Government capital budget is forecast to fall by 1.8% in real terms, and the overall budget by 1.2%. Compared to 2010/11, when the current Government's original spending plans were first outlined, by 2015/16 the conventional capital budget will have fallen by 26.6% in real terms, and the total budget by 9.7%.

The Spending Review announcement also covered the introduction of new Scottish Government borrowing powers contained in the Scotland Act. The Scottish Government will have the power to borrow up to £296m to support infrastructure investment in 2015/16.

**Spending beyond 2015/16**

Without taking account of any constitutional considerations, Scottish Government expenditure beyond 2015/16 depends on decisions made by the UK Government. This Spending Review has set out totals for UK departmental expenditure, but not plans for individual departments.

The UK Government also announced in the Spending Round that there will be new limits introduced on Annually Managed Expenditure (AME). This relates to spending which is not fixed, such as welfare or benefit spend, which will change as income or employment levels change. Over £100 billion of AME will be subject to the limit, which will exclude the State Pension and the most counter-cyclical elements of AME such as job-seekers allowance. As detailed spending plans beyond 2015/16 have not been set out, it is not clear whether future AME cuts will offset possible future further reductions in departmental spending.

**Conclusion**

The UK spending review announcement confirms the programme of fiscal consolidation is now expected to last 8 years. This will continue to constrain the impact of Government demand in the economy.

# Future Prospects

# Future Prospects

| Forecasts (Annual GDP) | | Scotland 2013 | Scotland 2014 | UK 2013 | UK 2014 |
|---|---|---|---|---|---|
| Sco | Fraser of Allander Institute (June 2013) | 0.9 | 1.6 | - | - |
| Sco | Scottish ITEM Club (June 2013) | 0.8 | 1.4 | 0.9 | 1.8 |
| UK | OBR (UK Budget – March 2013) | - | - | 0.6 | 1.8 |
| UK | European Commission (May 2013) | - | - | 0.6 | 1.7 |
| UK | IMF (July 2013 Update) | - | - | 0.9 | 1.5 |
| UK | OECD (May 2013) | - | - | 0.8 | 1.5 |
| UK | HM Treasury Average UK Independent Forecast (July 2013) | - | - | 1.0 | 1.7 |

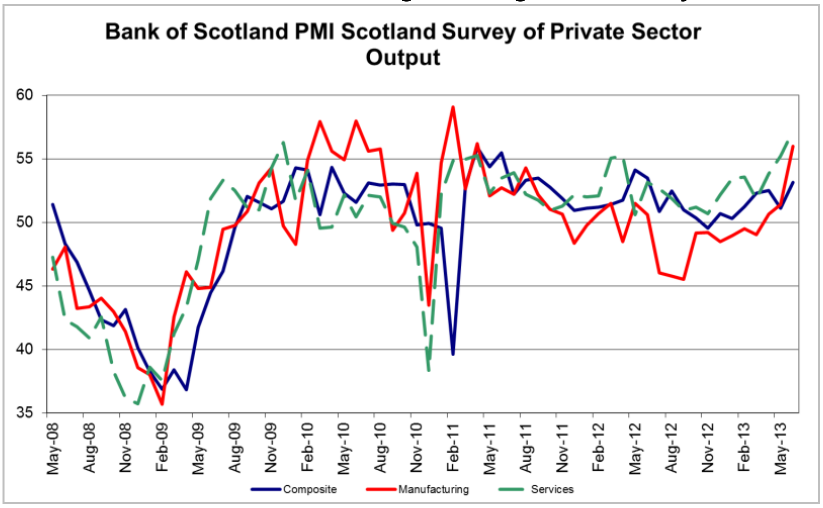
**Future Prospects – Scotland**

The macroeconomic indicators in Scotland provide grounds for cautious optimism, with output growing in the last two quarters and Scottish GDP moving closer to its pre-recession peak.

In line with the recent, positive, quarterly GDP growth rates for Scotland, the latest forecasts also predict positive GDP growth for the whole of 2013. In June 2013, the ITEM club forecast Scottish GDP to grow 0.8% in 2013, up from its previous forecast in December 2012 of 0.7%. The ITEM club reported that the upwards revision was driven by the strong Scottish output performance in the final quarter of 2012. Earlier in June, the Fraser of Allander Institute left its own forecast for 2013 output growth unchanged at 0.9%. The forecasters expect annual growth to pick up into 2014, moving back towards, although still below, pre-recession annual growth rates. The ITEM Club (June 2013) expected growth of 1.4% in 2014, while the FAI forecast 1.6%.

Following these results the Scottish Retail Sales Index, published in July, reported that both the volume and value of retail sales at basic prices in Scotland increased during Q2 2013 by 0.5% and 0.9% respectively (Great Britain + 0.7% and +1.2%). Both the volume and value registered an annual increase (of 2.4% and 3.6%, respectively). These figures are to be welcomed if they indicate a pick-up in consumer confidence, although not if they interrupt the household deleveraging process at a time when real wages are not growing.

The data from the Scottish business surveys over the first half of 2013 support a cautiously positive outlook for 2013. Data for the first quarter from the Scottish CBI, the Scottish Chambers of Commerce, Scottish Engineering, and Lloyds TSB indicated continued fragility in output and activity among private sector firms, particularly in the manufacturing sector. However, they also reported increasing optimism for the second quarter. The Scottish PMI results over the first three months of 2013 indicated expansion in activity in all three months, but this was driven by services rather than manufacturing, which was still contracting. Moving into the second quarter, the survey evidence was mixed, but indicated some degree of upturn in exports and sub-sectors of manufacturing. The PMI for April, May and June showed continued expansion in output, with strong recent performances in both services and manufacturing. The surveys also reported continued growth in optimism, indicating that confidence in the business sector is returning.

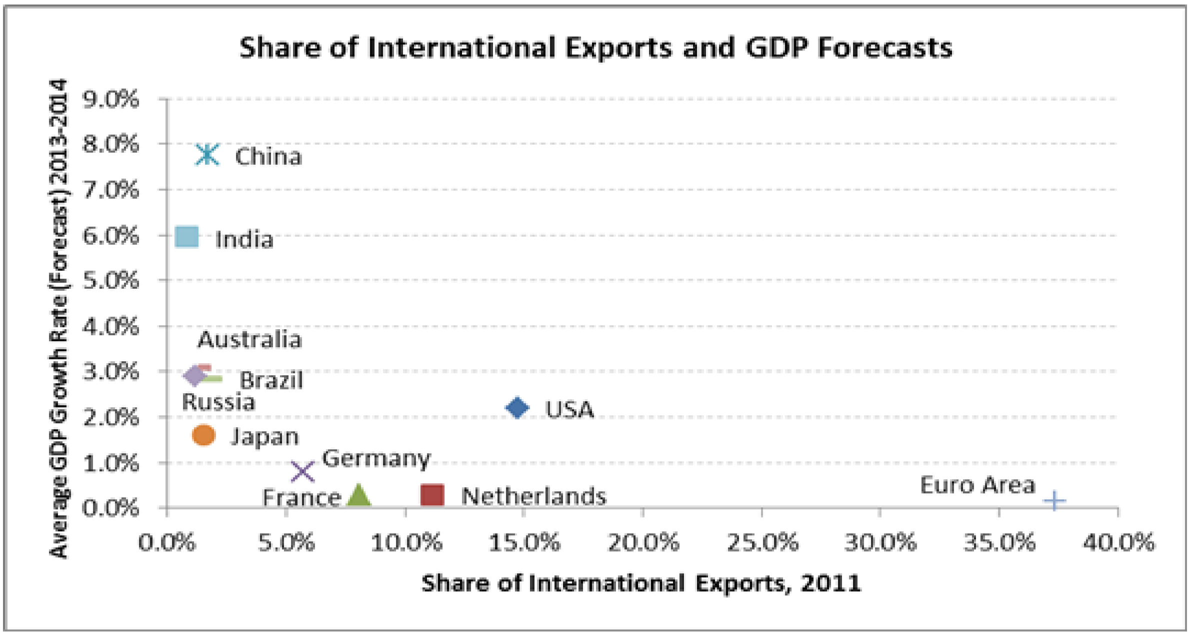



The average independent forecast for Scotland in 2013 is 0.8%, marginally below the UK forecast of 1.0% for 2013.

**Future Prospects – Global Economy**

| | Previous IMF Forecasts (%) (April 2013) | | Latest IMF Forecasts (%) (July 2013) | |
|---|---|---|---|---|
| | 2013 | 2014 | 2013 | 2014 |
| **World Output** | 3.3 | 4.0 | 3.1 | 3.8 |
| **Advanced Economies** | 1.2 | 2.2 | 1.2 | 2.1 |
| **Euro Area** | -0.3 | 1.1 | -0.6 | 0.9 |
| **US** | 1.9 | 3.0 | 1.7 | 2.7 |
| **UK** | 0.7 | 1.5 | 0.9 | 1.5 |
| **China** | 8.0 | 8.2 | 7.8 | 7.7 |
| **Brazil** | 3.0 | 4.0 | 2.5 | 3.2 |
| **India** | 5.7 | 6.2 | 5.6 | 6.3 |
| **Russia** | 3.4 | 3.8 | 2.5 | 3.3 |

Prospects for the global economy are uneven, with the recovery expected to continue in some regions, but falter in others. The most recent IMF World Economic Outlook Update was published in July 2013. Its forecast for global output growth was downgraded to 3.1% for 2013 and 3.8% for 2014. The Fund also revised down its 2013 and 2014 forecasts for some advanced economies, notably the US, and all of the BRICS. Its forecast for the UK in 2013 was revised up slightly.




The IMF's latest forecasts for the Euro Area for 2013 were also revised downwards to -0.6%, joining forecasts from the OECD (-0.6% in 2013) and the European Commission (-0.4 in 2013). Although growth is expected to move into positive territory towards the end of 2013 and into 2014, it is still expected to be weak for the foreseeable future. This reflects the scale of the short and long term challenges that the Euro Area faces in terms of reforming the banking sector, restoring Member States' competitiveness, reviving business confidence and investment, stimulating job-creation and reforming labour markets in order to tackle unemployment, and bringing public finances, household and corporate indebtedness under control. Given that the Euro Area is the market for more than a third (37.3%) of Scotland's exports, its ongoing economic difficulties pose a significant challenge to the Scottish trade portfolio.

In contrast, the US is forecast by the IMF to see growth of 1.7% in 2013, and 2.7% in 2014, albeit revised down slightly from previous forecasts. Risks to the recovery remain in the US, particularly from its fiscal legislation, which could trigger fiscal tightening at the same time the Fed has indicated it may begin the process of monetary tightening. However, the ongoing economic improvement in the US, along with the appreciation of the dollar and depreciation of sterling, provides a positive opportunity for Scottish exporters to build on.

The share of Scotland's exports going to the BRICs countries has increased over the last decade, from 3.5% in 2002 to 5.5% in 2013, though remains small overall. Forecasts for the countries within the group have been revised down, driven by a range of factors including internal structural problems (e.g. inflation in China and India) and continued weakness in their own export markets.

# Summary of Future Prospects

**Summary of Future Global Prospects**

- Global growth is likely to remain fragile and modest through the remainder of 2013 but significantly stronger than 2012, although still below the previous trend level.
- Forecasts for global growth in 2013 are still relatively subdued at 3.1 per cent, based on continued weakness in countries' domestic demand and the on-going recession in the Euro Area, as well as the fact that most emerging economies are growing slower than initially expected.
- However, with the US economic recovery gaining momentum, this has the potential to be a catalyst for the wider global recovery, albeit risks remain from a number of sources.
- Therefore, global growth in 2014 has the potential to gain momentum, which would lift confidence and feed through to a sustained improvements in other economic indicators such as employment and unemployment across economies, particularly the Eurozone.

**Future Prospects – Scottish Economy**

- The recovery in Scotland is also gaining momentum as evidenced by the recent positive quarterly growth rates and the general improvement in the Scottish labour market. The latest independent forecasts predict positive output growth in Scotland for 2013, although the rates of growth still remain significantly below previous trend levels.
- Signs of recovery in the US and UK spell positive news for Scotland, as the two countries are Scotland's most important single-country trade partners. However, this has to be balanced against the continued risk from weak growth in the Euro Area, which accounts for over a third of Scotland's international exports, and is expected to impact on trade for the foreseeable future.
- However, the recent output growth and underlying nature of the recession in Scotland, suggest the potential for Scotland's recovery to gain traction through-out 2013 and the economy as a whole to return to pre-recession levels of output in 2014. This growth will be required to see a sustained recovery in the labour market, particularly employment, and to support improvement in real wages.