

The Scottish economy

Forecasts of the Scottish economy

As the winter weather caught shoppers by surprise before Christmas, it also appeared to have an impact on the UK growth figures. While the Scottish economy had seen growth through Q1, Q2 and Q3 2010, preliminary UK GDP figures for Q4 showed a -0.5% contraction, and that the “thaw” in the UK growth position remains weak. While much of the Q4 figures were linked to the bad weather conditions through December, we had anticipated that, among other things, the run up to Christmas and the announced VAT increase starting in January 2011 would have brought some consumer expenditure forward into Q4 2010. Commentators were typically expecting this single quarters figure to be revised upwards but it would be a significant revision for this preliminary estimate to become a positive growth figure. In fact, the most recent Q4 estimate is a contraction of 0.6%. This serves to indicate that – as anticipated – the return to growth after the recession of 2008-9 will continue to be choppy and weak. The National Institute’s latest Economic Review (from January 2011) predicts that “the majority of the temporary loss” due to the weather from Q4 2010 will be regained in Q1 2011. In line with convention, we will have Scotland’s Q4 2010 GDP estimate in April 2011, which will give us our first indication for the rate of growth in the Scottish economy in 2010. We continue to forecast growth in Scotland for 2010 of 1.0% in our central scenario, unchanged from November’s publication. We do however “narrow” the range in our alternative scenarios around the central scenario, with between the high and low growth cases, as would be anticipated with the release of more data covering to the end of 2010. Since our last forecast the recent slight improvement in labour market figures means that we have revised down (up) our estimates of unemployment (and employment) at the end of 2010. Growth in 2011, 2012 and 2013 continues to be uncertain as the global economic situation remains weak, with Scottish exports, for example, typically disconnected from the major growth economies, public sector fiscal consolidation most significant in 2011, and welfare spending reductions directly hitting household finances towards the end of our forecast period.

Monetary and fiscal policy climate

The UK monetary policy environment continues to be supportive, despite high profile debates in the media and within the MPC itself, about the appropriateness of its monetary policy stance. CPI inflation stood at 4% in January 2011, well above its 2% inflation target, in part due to increases in energy and food prices, rising import prices, and the VAT increase starting in January 2011, however, core inflation remaining sluggishly around 1%, and there is unprecedented policy tension within the MPC. The Bank’s

Governor, Mervyn King, noted in February's Inflation report that there is a downside risk to impacting on growth prospects from increasing interest rates, but that market expectations were for increases of one quarter percent from early summer 2011, and perhaps a further rise before the end of the year. The Governor has noted that a period of above-target inflation will continue over much of the first half of 2011. In the opinion of the MPC, the "Committee judges that a reasonable central view is that measured inflation will begin to fall back next year". The Bank's (nine-member) MPC appears to be more split than ever, with growing fears of losing credibility over inflation, but concerns of interest rate increases – the major instrument in the Bank's control – at a time when the growth of the UK economy is not assured. It appears that the Q4 2010 GDP figures for the UK, combined with relatively weak survey data – although typically, the evidence is mixed – on industrial production in the start of 2011 could delay until later in the year any increases in interest rates. Interest rates remain at 0.5%, where they have been kept since March 2009. Concern about the true size of excess capacity in the economy will continue to be seen as a technical exercise, but is crucial for the MPC's decisions about the timing of anticipated future interest rate rises.

On the fiscal side in Scotland, on the 9th of February 2011 the Scottish Parliament approved its one year Budget for 2011-12. The total size of the budget for the year is £33,620 million (Total Managed Expenditure), split between Resource Departmental Expenditure Limits (DEL) of £25,400 million, Capital DEL of £2,607 million and Annually Managed Expenditure of £5,612 million. Capital spending has borne the brunt of planned expenditure reductions. A real terms decline of the order of 22% in this year from 2010-11 levels will see project spending being reduced across a number of high-profile areas. Most of the reduction in Capital DEL spending projected over the UK Government's spending review period (i.e. to 2014-15) takes place in this first year.

As we discussed in November's *Commentary*, the corollary of slightly smaller than expected reductions in the public sector budget available following the CSR was for a greater share of the UK's fiscal consolidation to come from reductions in the welfare spend, which will directly impact on household incomes and expenditures. These are forecast to fall more heavily on the later years of the UK parliamentary cycle, up to 2014/15. The continued forecasted decline in government budgets over the next three years however, will continue to impact on the levels of activity in the Scottish economy, not only in the public service sectors, but in all sectors which rely on the public sector as the destination of goods and services. Further, it is anticipated that the public sector will continue to seek to reduce headline employment numbers as budgets are reduced. The extent to which these workers feed into unemployment will have an important consequence for our short- and medium-term forecasts of the labour market in Scotland, and we continue to monitor

this situation closely (as is documented in the *Overview of the Labour Market* section of this *Commentary*).

The Scottish economy

The last quarter for which data are available is Q3 2010, released on 19th January 2011. Gross Value Added (GVA) in Scotland rose by 0.5% during Q3, following Q2's significant increase of 1.3%. The revising down of Q3 2009 to -0.1% from zero growth increases the length of the recession in Scotland from four to five quarters. The broad sectoral composition of the recent quarter's growth, however, remains unbalanced. The production sector, covering 17.1% of the Scottish economy, registered a contraction of 0.3%, while the Services sector (producing 73.7%) increased by 0.1%. The standout sector – for the second quarter in succession – was the Construction sector. This sector is only responsible for just under 8% of the economy, but its rise of 6.2% in Q3 was enough to contribute 0.5% to Q3 GVA. Growth in the public sectors of 0.4% on the quarter made a contribution to growth; however a contraction in "Business services and finance" more than offset this. What was particularly striking from the preliminary UK GDP figures for Q4 2010 was the return of small decline in the UK construction sector, with little activity elsewhere to stimulate growth.

Across the production sectors – which in aggregate contracted by 0.3% - most of the economic good news came from the manufacturing sector growing by 0.7%. This was led by strong performance in the "Chemicals and man-made fibres" (+3.7%) and "Food and tobacco" (+2.6%) sectors. Weak performances in "Electricity gas and water supply" (-4.1%), "Metals and non-metal products" (-2.8%) and "Mining and quarrying" (-2.3%) were largely responsible for the decline in the GVA contribution of production in the Scottish economy. Labour market developments in Scotland to the end of December 2010, published in February are reviewed in the Labour Market section of this *Commentary*.

Growth in the UK regions in 2009

With the publication of UK Regional Accounts in December 2010, relating to the calendar year 2009, we have been able to examine the performance of the Scottish economy in this year compared to other UK regions. Often this is more illuminating than comparing Scotland to the UK as a whole, since industrial structures across the regions will vary in interesting ways, which might be masked at the national level. Here we examine some of the recent evidence for questions linking regional growth performance to industrial structure. Much of the public discourse has argued that the industrial structure of the UK economy, and its regions, had become too "unbalanced", relying heavily, the argument goes, on the financial services sector as the driver of growth.

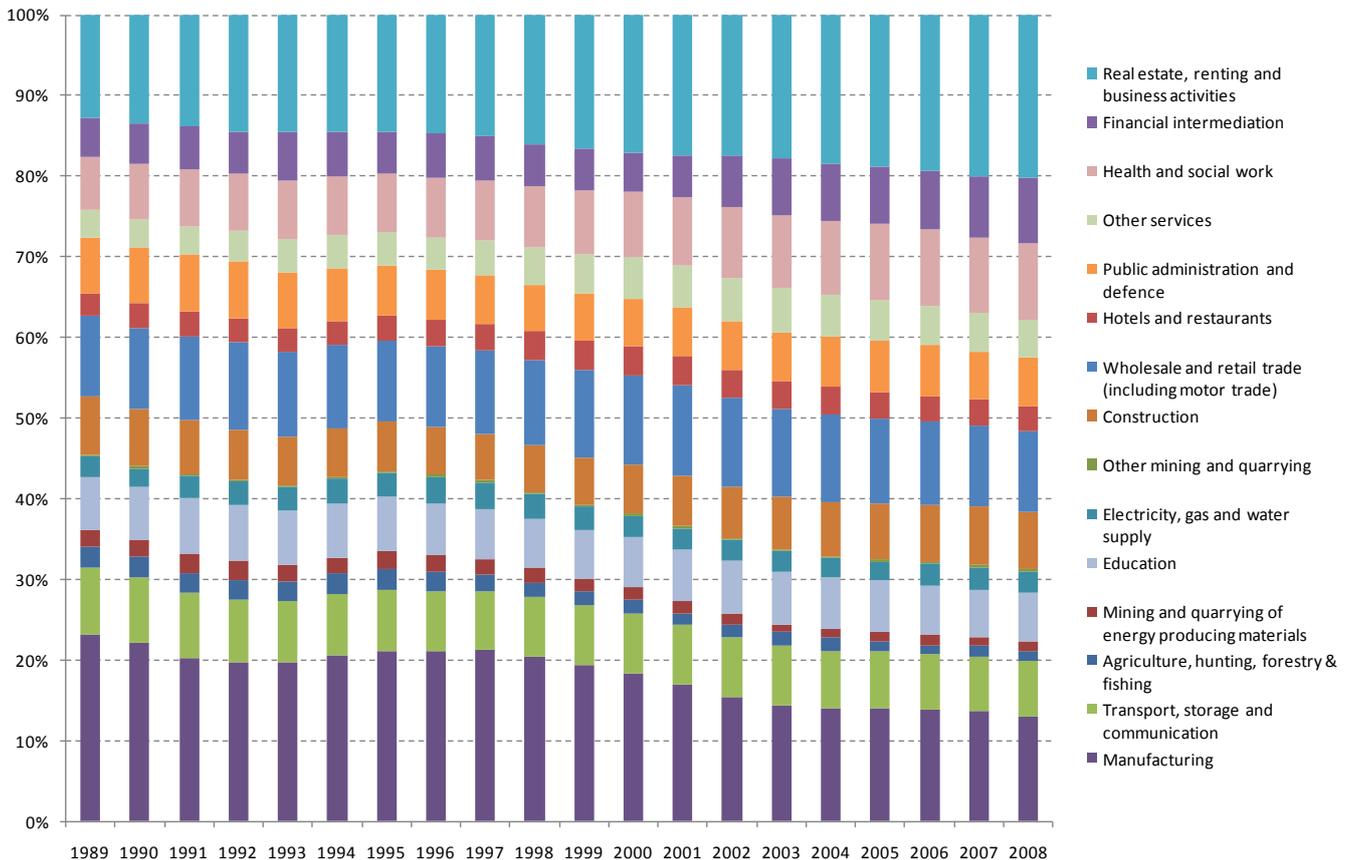
We therefore have undertaken a modest initial attempt to consider three points, which we list below:

- How has the industrial structure of the Scottish economy (and its diversity) varied over the last decade?
- Was there any relationship between the level of diversity of a regions industrial structure and that regions growth performance during 2009, or over the last decade?

- Was there any relationship between the size of the financial services sector in a region and that regions growth performance during 2009, or over the last decade?

Firstly, we note that economic diversity is difficult to measure in practice. Most would agree that the concept of diversity can be nebulous. Stirling (1994) raises three

Figure 1: Industrial structure of GVA in Scotland, 1989-2008



Note: for this the data used are the UK Regional Accounts, rather than the accounts for Scotland published by the Scottish Government.

aspects of diversity which, taken together, serve to illustrate the most pertinent issues around this term (although in his example, he is interested in the diversity of the electricity generation mix). Stirling’s work illustrates neatly how diversity is a property of the whole system, rather than anything which an individual element can confer. This is a simple point, but crucial for the discussion which follows. We shall use the example of industrial structure to illustrate the three dimensions of diversity raised by Stirling (1994). The first point simply refers to the number of alternative items – in this case, economic sectors – which exist in the region. Other things being equal a higher number of sectors would be expected to indicate greater regional industrial diversity. Secondly, the similarity of the sectors is crucial. If, for example, there are a multitude of sectors in the region selling goods to household consumption (for example) then

regional activity is more heavily exposed to variations in household income/expenditures. Finally, the notion of “balance” indicates whether each of the different sectors enjoy equal weights in activity. With exactly equal weights for sectors which were sufficiently different, in an extreme case, regional economic activity could be considered diverse. A dominant sector in a region, however, would not typically indicate a diverse mix of industries.

There exists an array of measures which we could use for diversity. For the purposes of this note, we use one of the simplest measures,

$$D_t = 1 - \sum_{i=1}^N p_{it}^2$$

Figure 2: Diversity of the Scottish industrial structure, 1989-2008

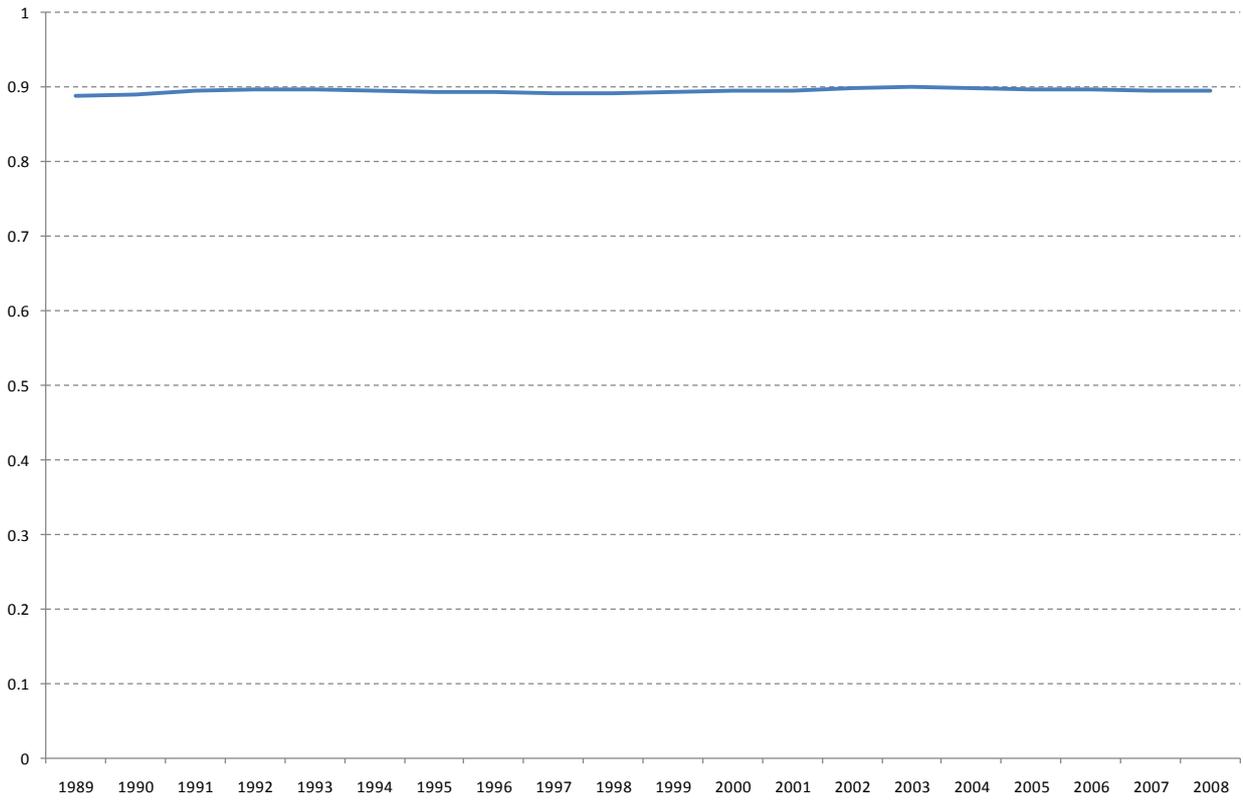
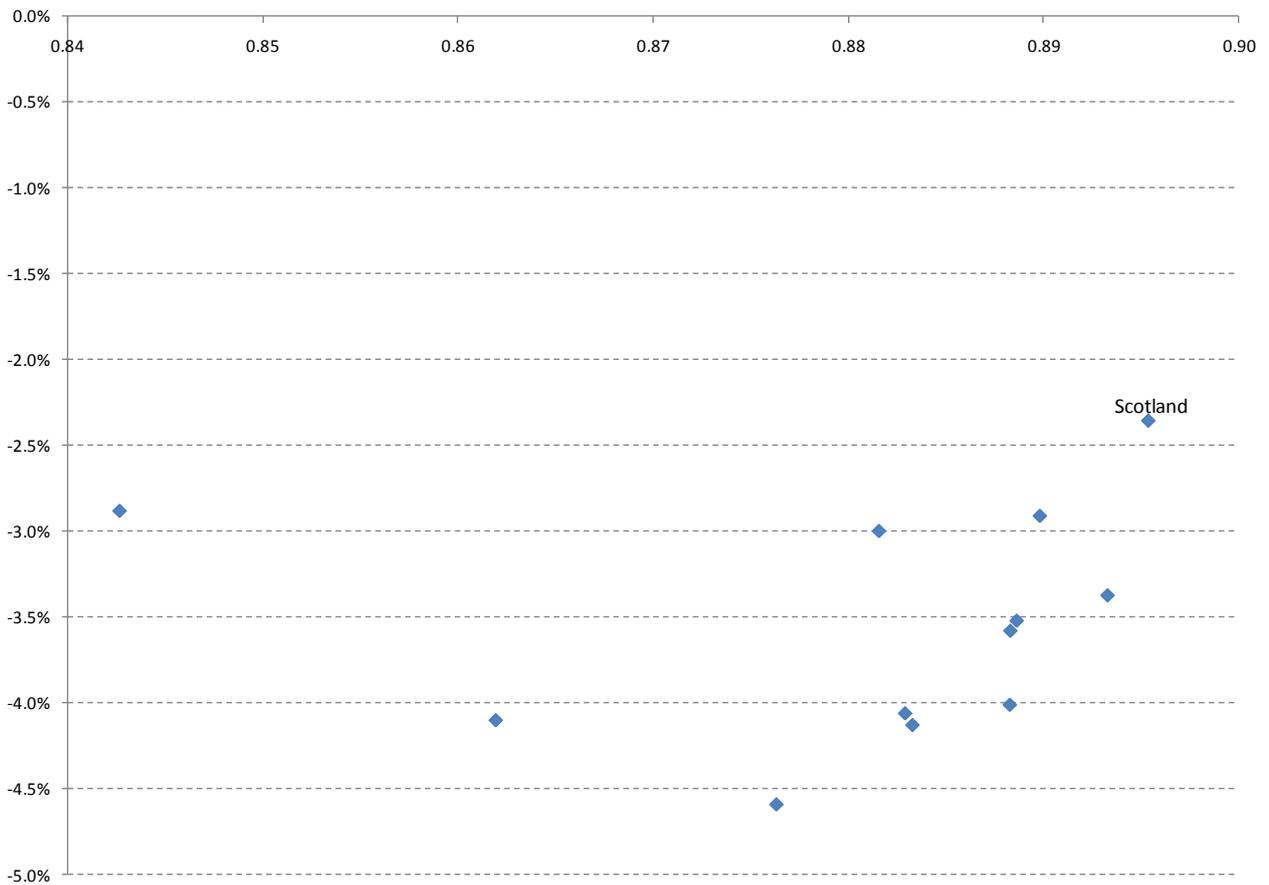


Figure 3: 2008 regional industrial diversity and real 2009 GVA growth, UK regions



where N is the number of different categories (i.e. sectors) and P_{it} is the share of total GVA in sector i in year t .

Under this measure, a region with a perfectly concentrated industrial structure (i.e. a single industry producing all GVA), the index returns a value of 0. The maximum value for diversity increases with the number of sectors being considered: for fifteen sectors the maximum value of the index is 0.93.

Addressing the questions we set above, we can see the following. Firstly, we see from Figure 1 that between 1989 and 2008 the industrial structure of the Scottish economy in aggregate remained relatively stable – for the sectors identified in the regional accounts publication. This does not play down the variation in growth rates within individual sectors over the period, but acknowledges that the economy as a whole – and for the sectors identified by the Regional Accounts publication – structure has not evolved perhaps as greatly as discourse would suggest. We do note however that in this short time period, and by these figures, the share of GVA in Scotland produced in the Manufacturing sector shrank from 23% to 13%. At the other end of Figure 1, the share of Scottish GVA produced in the “Financial intermediation” and “Real estate, renting and business activities” increased from 18% to 28% of GVA (largely driven by an increase from 13% to 20% in the “Real estate, renting and business activities” sector). The diversity index (shown in Figure 2) shows that on this measure (and for this sectoral aggregation) regional diversity was also relatively stable over these twenty years. Alternative aggregations of the Regional Accounts data for Scotland confirm the stability of regional industrial diversity over this period.

Figure 3 indicates that greater regional industrial diversity was not associated with a shallower decline in regional GVA during 2009. London (the least diverse of the 12 regions considered here) had broadly the same decline in real GVA as the North East (-2.9%), but this latter region had significantly greater diversity in 2008. If anything, the observations in Figure 4 indicate that greater regional industrial diversity could be linked with lower average regional growth (over the period 1998-2009), however removing the data for London from this sample removes this negative relationship, and illustrates the weakness of this relationship. If one impact of increased economic diversity was decreased average growth rates then this could be an important counterargument to proponents of economic diversity. Aggregating the Regional Accounts to fewer industrial sectors, while changing the specific of the diversity measure, does not change the relationship described above.

Figure 5 and Figure 6 consider the link between the size of the financial services sector in the regional economy and its growth performance during 2009 and over the decade from 1998 to 2009.

Again, as with diversity, the results suggest that there was no link between the share of financial services in the regional economy and the decline seen in 2009. Once again, the potential for the share of financial services to be related to higher average regional growth rates is largely due to the data for London. Remove this single observation and there appears to be little to suggest a relationship between financial services and regional growth.

Update on Okun's Law

In our last *Commentary*, we discussed the empirical relationship between the rate of growth of GVA and the change in the unemployment rate. This relationship – known as Okun's Law (Okun, 1962) – posits that such an empirical relationship exists and can be used to suggest both the rate of growth which would be consistent with a stable unemployment rate, and the rate of change in the unemployment rate for a given growth rate. This relationship typically shows increases (decreases) in the growth rate being associated with a falling (rising) unemployment rate.

The initial results we reported in the last *Commentary* suggested that for both Scotland and the UK such a relationship could be estimated – albeit using Scottish quarterly GVA data only available back to 1998. Those results indicated that for Scotland an annual growth rate of 2.04% would be required for employment to be stable, while the figure was very slightly lower for the UK at 2.02%. Our initial results last time suggested that there had been a break in this relationship since 2008, with unemployment rate changes being larger than would be suggested by a stable line of best fit. As we now have Q3 2010 data, we can estimate this relationship again and see if these conclusions appear to hold. We are particularly interested in this, since recent positive labour market developments, specifically a declining unemployment rate, together with a quarterly growth of 0.5% in Q3 could indicate that this relationship is changing. The Okun's Law relationship between (percentage point) changes in the quarterly Scottish unemployment rate and Scottish GVA growth rate between Q1 1998 and Q3 2010 are shown in Figure 6, along with the line of best fit through these points (Okun's Law is typically estimated with a straight line in this way).

These data continues to suggest that the variables estimated last time apply over the sample. The level of annual growth consistent with a stable unemployment rate is 2.00% (0.497% growth in a quarter), marginally lower than the 2.02% reported in the last commentary.

Note firstly that in all the last nine quarters (i.e. since the start of the 2008-9 recession) the unemployment rate has been increasing (i.e. we have no points below the horizontal axis) and the increases have been greater than those which would be suggested by the simple Okun's relationship (i.e. all these points are above the line of best fit over the whole sample).

Figure 4: 2008 regional industrial diversity and average regional GVA growth (1998-2009)

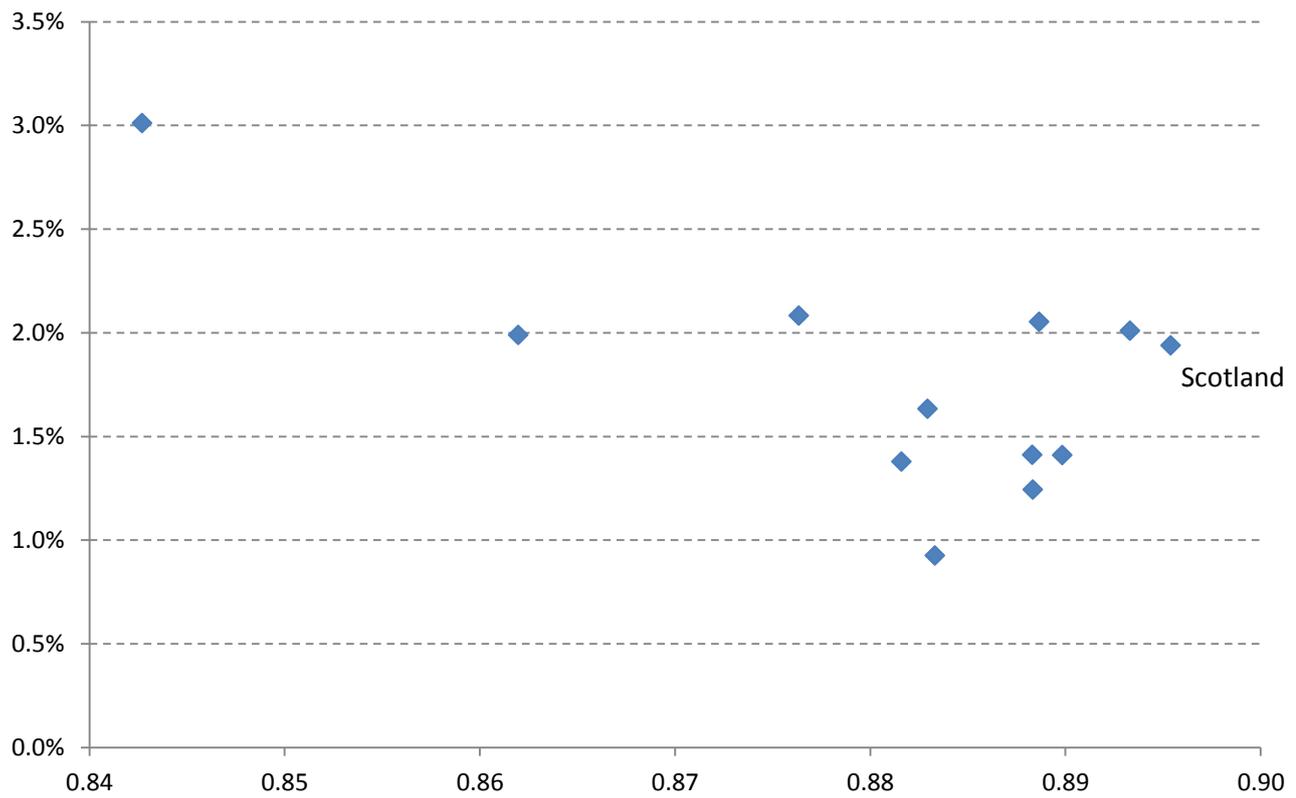
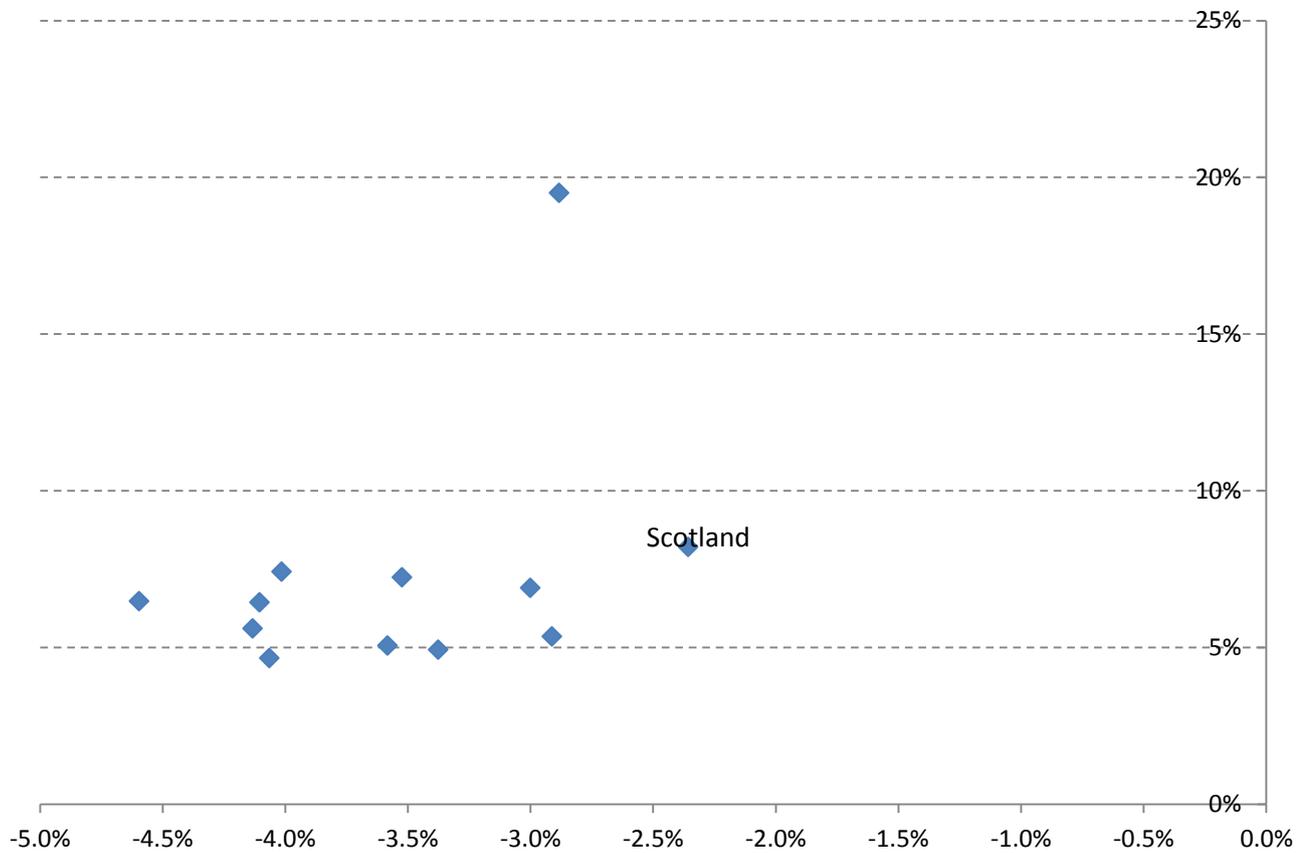


Figure 5: Share of financial services sector in GVA in 2008 and 2009 GVA growth, UK regions



Looking at the path that these variables have taken during the period since Q3 2008, also marked on Figure 7, we can break the nine quarters of activity into three stages.

From Q3 2008 we observe a clockwise movement of negative growth and increasing unemployment rates for three quarters to Q2 2009. From Q3 2009 we see three periods of broadly flat growth (climbing up the y-axis), combined with increases in the unemployment rate of up to 0.5% to Q1 2010. The last two quarters we see positive growth however with no reductions in the unemployment rate in that quarter. The rate of increase in the unemployment rate in these last two quarters is lower however than those seen in either of the previous two stages.

A paper published in February's "Economic and Labour Market Review" (Chamberlin, 2011) examined – for the UK – the empirical basis and estimates of Okun's Law over the most recent recession and previous recessions. This paper acknowledged that the unemployment rate – as used in Okun's measure – is an imperfect estimate of the summary of the amount of labour being used in the economy, and that changes in output "can result from a number of sources and not just limited to the degree of idle labour in the economy" (Chamberlin, 2011, p. 125). Their "production function" approach decomposes changes in output to changes not only in the unemployment rate, but also labour productivity, average hours worked, the activity rate and the available population. We intend to examine the implications of this work for Scotland in the next few months and report the findings in later Commentaries.

Chamberlin's (2011) results over the period of the 2008-9 recession indicates that, compared to earlier UK recessions in 1979-1981 and 1990-1991, output per hour has made a greater contribution to the peak-to-trough decline in GDP than in earlier recessions. This work also supports a "labour hoarding" argument to explain the relatively muted unemployment rate increase in the face of the decline in GVA. Compared to the recession of the early 1990s, for instance, UK GDP fell by 6.5% between 2008Q1 and 2009Q3 with an increase of 2.7 points in the unemployment rate. In the early 1990s the unemployment rate increased by 2.9 points for a fall in output of only 2.5%.

Final demands and recent trends

The Fraser of Allander Institute forecasting model acknowledges the drivers of economic activity in the Scottish economy to be (household) consumption, (central and local) government spending, investment, tourism and exports (to the rest of the UK and the rest of the World). For all three scenarios considered – High, Central and Low - recent movements in each of these measures, and most up-to-date survey evidence for future trends, are discussed below.

As we noted in the last Commentary, the data produced by the Scottish Government as part of the Scottish National

Accounts Project (SNAP) have provided a vast amount of information about the dynamics of the Scottish economy since the first quarter of 1998. We have updated our forecasting model to reflect the values in this publication, taking account of other data sources and publications where these data are more detailed, or have greater coverage. Our primary new use of the SNAP data in this issue concerns the dynamics of the household expenditure and income variables, a real Investment series and exports to the rest of the world. The new (partial and experimental) Quarterly National Accounts for Scotland publication makes the direct comparison between Scotland and UK figures possible. We look forward to continued examination of all those data in the Quarterly National Accounts for Scotland over the coming months and future Commentaries.

Consumption

With the continued publication Scottish Quarterly National Accounts as part of the Scottish National Accounts Project (SNAP), we are able to identify changes in household expenditure in Scotland and the UK. Figure 8 shows how total household expenditure has changed in real terms (using the UK deflator) over the years 1998 to 2009. We can see that, while Scotland has broadly tracked the UK as a whole, between 2005 and 2007 Scottish household expenditure growth was greater than in the UK as a whole. The decline in household expenditure from these data was greater in Scotland than in the UK – falling by 4.4% in Scotland but only 3.4% in the UK. Nominal data for Q1 to Q3 of 2010 from SNAP suggest that Scottish household expenditure growth has typically been lower than for the UK as whole.

Having data such as these allows us to much better understand the history and model the future of the Scottish economy and will have wide applications across policy and academic spheres. We can only use and report on some of these data in the Commentary for reasons of space, but interested readers are directed to the SNAP data on the Scottish Government website.

Clearly as the largest net component of final demand for Scottish goods and services, the future behaviour of the households sector will be crucial for the next phase of the recovery in the Scottish economy. As the OECD notes in its November 2010 Economic Outlook, "private consumption will play a crucial role for the overall recovery in OECD economies as temporary cyclical factors and fiscal support measures are fading" (p. 22). One important dimension of this is the household savings rates, which reflect the differences between total household incomes and total expenditures. Broadly speaking, this will include moneys going to savings accounts or other investment vehicles or for the repayment of capital on credit cards. The extent to which households have retained their expenditures on an annual basis is clear from Figure 8 above. As household incomes have also suffered during the recession through increasing unemployment, reduced working hours and declining salaries (including bonuses), the behaviour of the

Figure 6: Share of regional GVA in financial services sector in 2008 and average regional GVA growth (1998-2009)

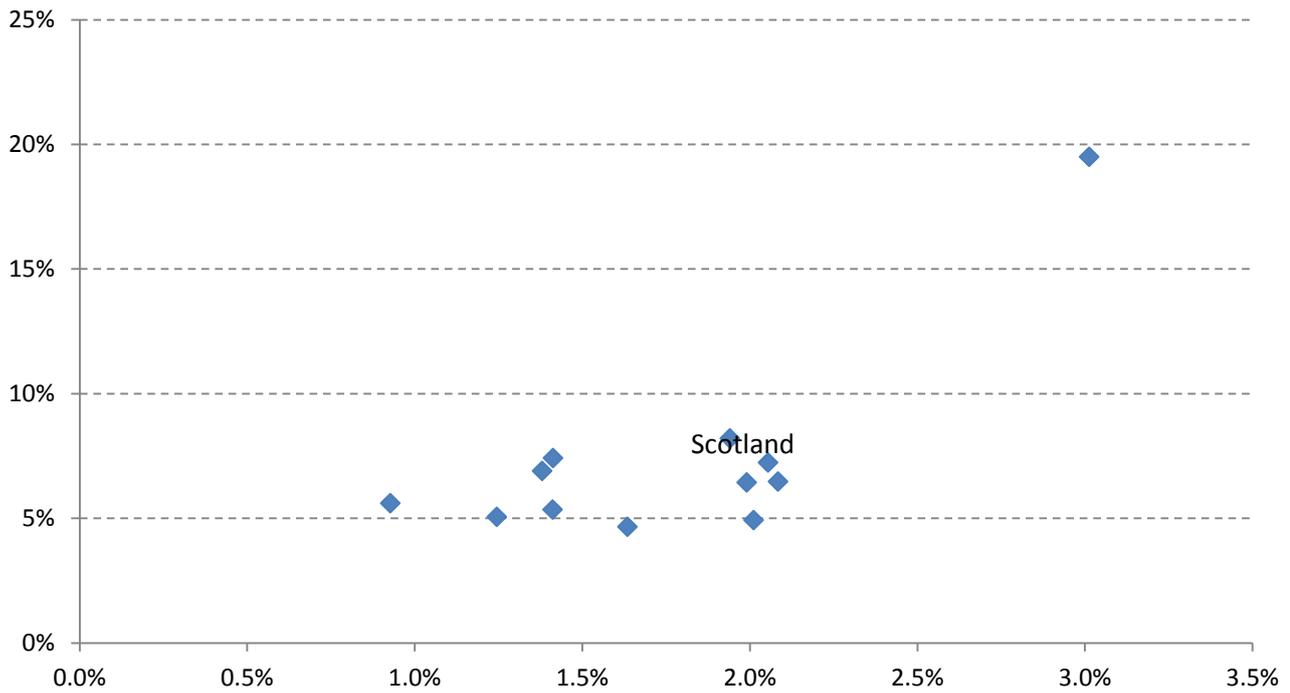


Figure 7: Relationship between unemployment rate change (in percentage points) and GVA growth in Scotland, 1998Q1 to 2010Q3

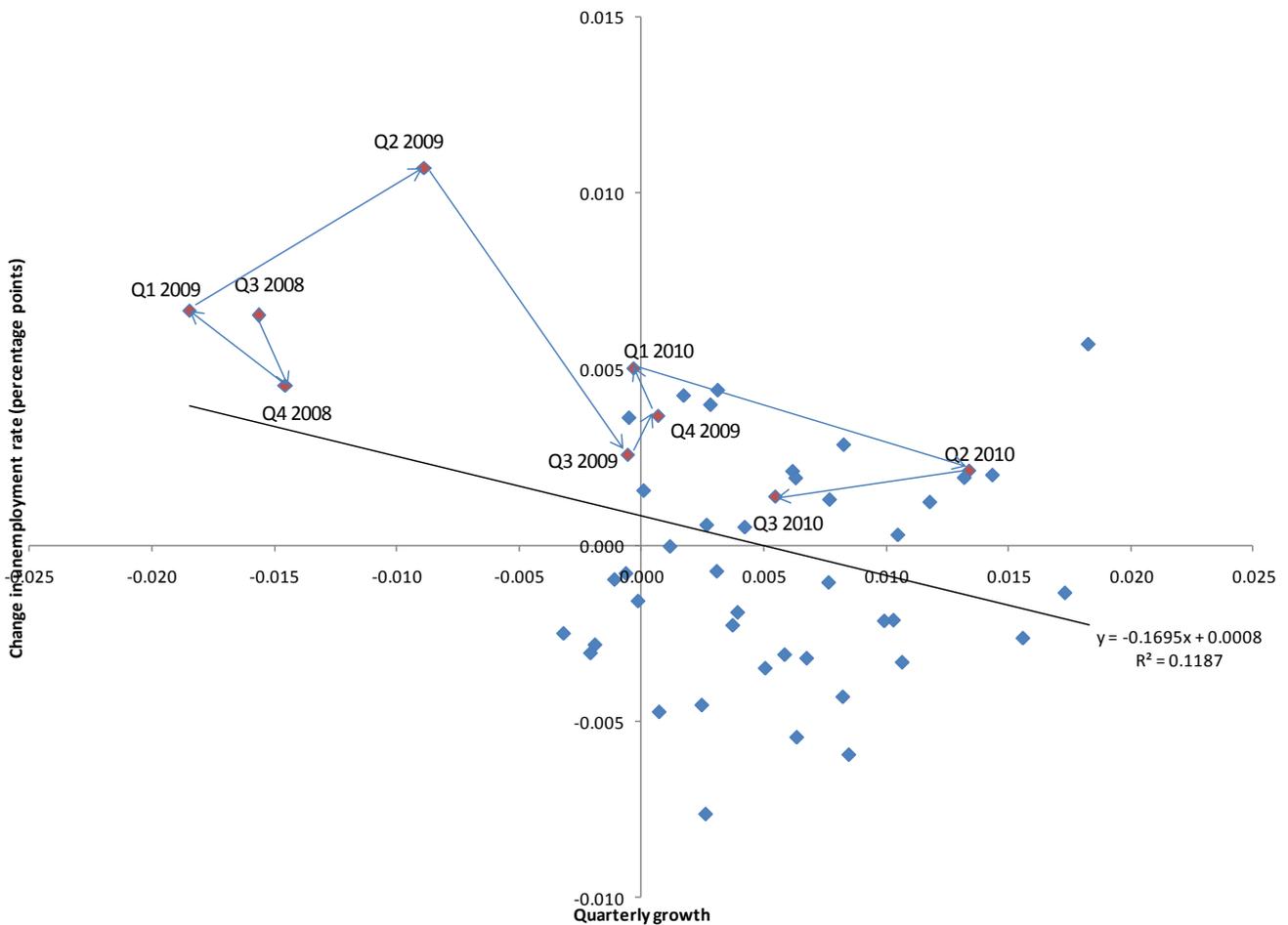
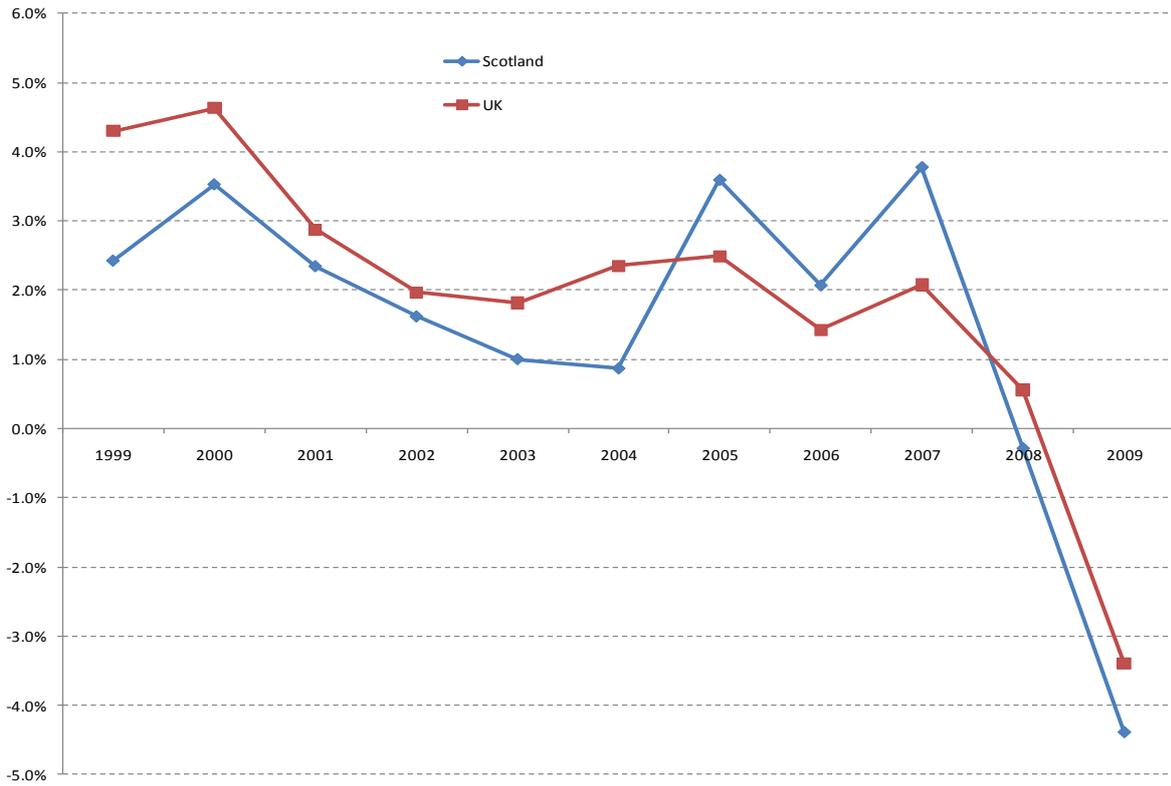
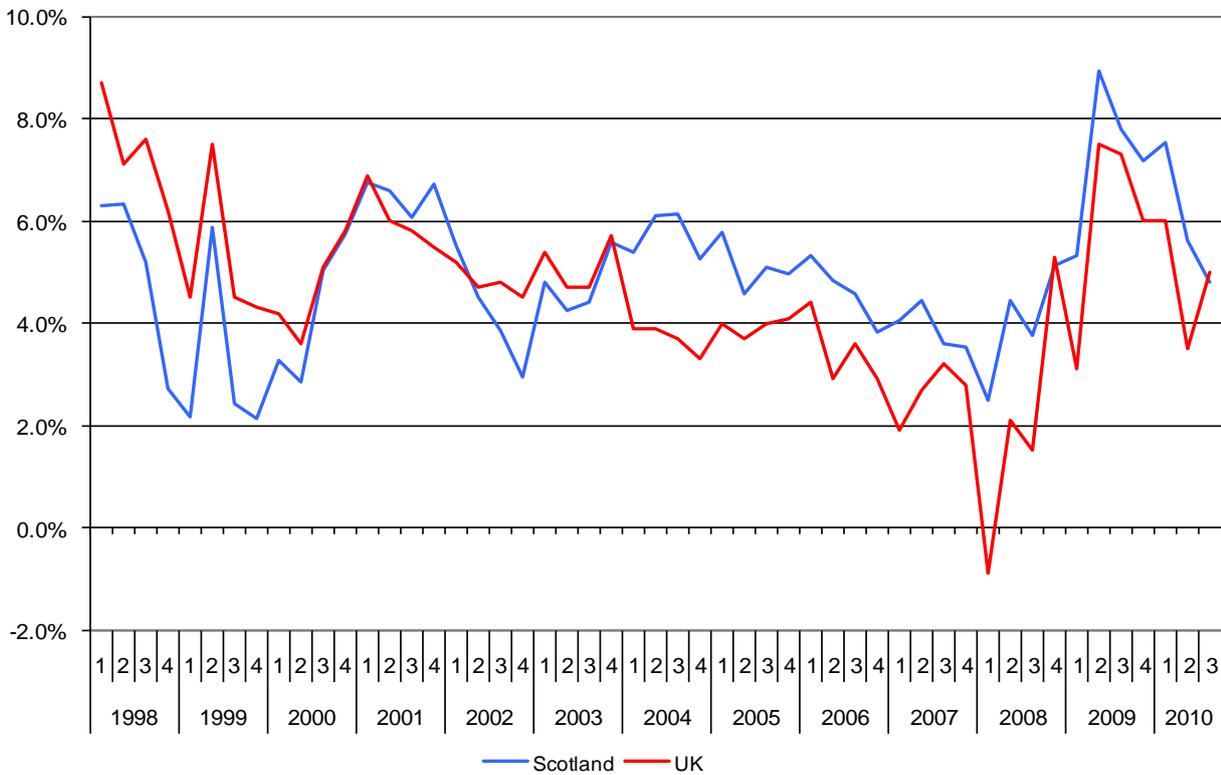


Figure 8: Growth in annual household expenditure p.a. Scotland and UK, 1998 to 2009



Source: Scottish National Accounts Project and National Statistics.

Figure 9: Household savings ratios for Scotland and the UK, Q1 1998 to Q3 2010



Source: Scottish National Accounts Project and National Statistics.

household savings rate will be crucial for household expenditures. The major question is whether or not savings rates have peaked or if further reconciliations to households “balance sheets” are needed. As a fraction of household gross incomes, the (seasonally adjusted) gross savings ratios for Scotland and the UK between Q1 1998 and Q3 2010 are shown in Figure 9.

One crucial point from Figure 10 is that the Scottish savings rate has (since 2004) been above that for the UK as a whole. The height of the pre-crisis consumer spending bubble is evidenced for the UK by a slightly negative gross saving rate in Q1 2008, although in that same quarter the savings rate in Scotland was 2.5%. The surge in savings rates as households curtailed spending meant that the savings rate increased and peaked at 8.9% and 7.5% in Q2 2009 for Scotland and the UK respectively. Since then, the savings rates have typically fallen, but there is evidence of a recent increase for the UK so that in Q3 2010 the data suggests broadly comparable values of 4.8% in Scotland and 5.0% in the UK: broadly comparable to a crude average over the last twelve years of 5.0% and 4.6% respectively.

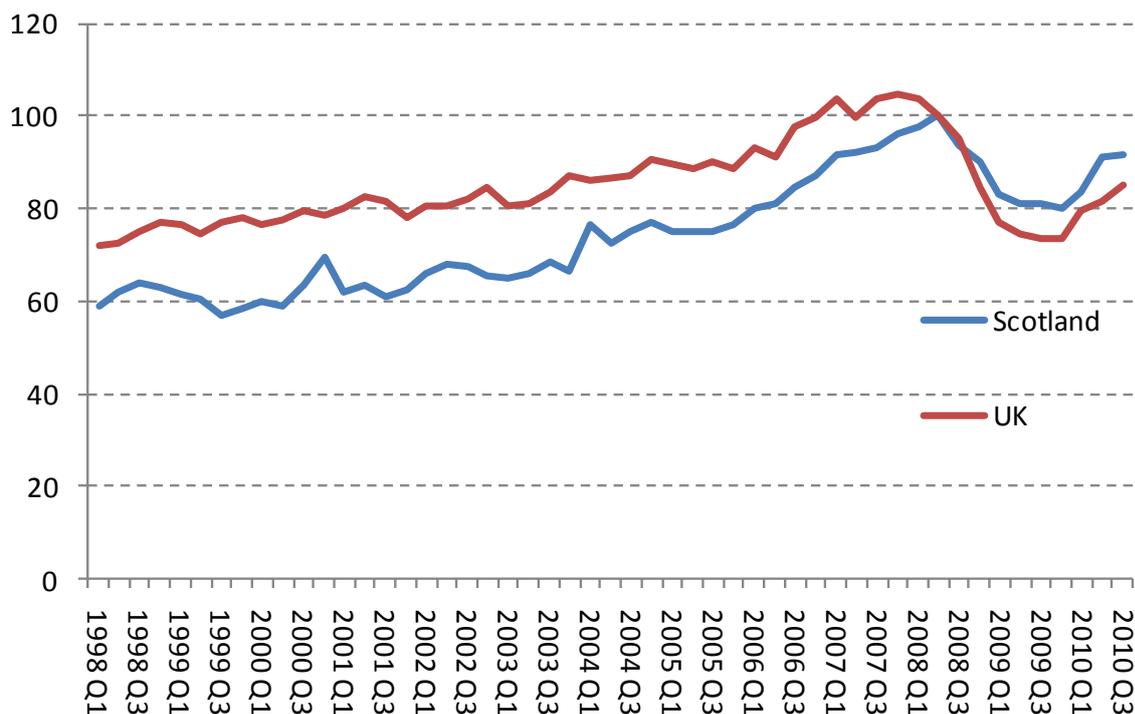
Between Q2 2009 and Q2 2010, we can see clearly the effect that increased savings rate has had on the level of consumption expenditure. If the household saving rate had been 5.0% rather than the higher values over this period, a total of £2.3 billion worth of expenditure would have been made in the Scottish economy. We should allow for some portion of these expenditures – a high amount of household expenditures (around 60%) are typically spent on imports – not being made directly on Scottish goods and services.

These simple calculations would therefore suggest that around £1.4 billion worth of demand for Scottish goods and services was removed from the Scottish economy during this period as a result of households reining in their expenditures. This is the equivalent of 1% of GDP in 2009. The most recent survey evidence suggests that weak consumer confidence and demand, as well as the VAT increase introduced in January 2011, and rising costs have been major themes affecting the retail sector, as well as more temporary phenomenon such as the bad weather before Christmas. Lower consumer confidence in Scotland than the UK will contribute to make 2011 a difficult year for retail in Scotland.

Government spending

We noted the significant declines in Resource and Capital DEL outlined in October’s Comprehensive Spending Review in November’s commentary to which readers are referred for further information. The large reduction in Capital DEL in 2011-2, with more than half of the reduction over the whole Spending Review period in this year, will lead to significant reductions in the demand for construction activities in the Scottish economy. Further, reductions in government spending will impact across the whole economy – not only in the public sectors – as sectors respond to the lower expenditures, for instance, lower incomes and expenditures by workers in the public sector as the public sector pay freeze erodes real incomes. We will examine the time path of government spending, and its role in the wider economy, further in later Commentaries. As alluded to in the introduction, it is anticipated that employment in the public

Figure 10: Investment expenditures in Scotland and the UK, 1998Q1 to 2010Q3 (2008Q2=100)



sector will reduce as budgets for the financial year 2011-12 are introduced across the devolved and reserved areas of competence.

Investment

Taking figures for Gross Fixed Capital Formation (GFCF) from the SNAP QNAS data, we can calculate (using UK investment deflator series) a series of real GFCF in Scotland and the UK between 1998 and 2010Q3. Rebasing this to have the peak of investment activity as 100 we can see the effect of the credit crunch on investment in Scotland and the UK. Scottish investment in Q3 2010 was around 10% below its pre-recession peak, while in the UK as a whole investment spending in the same quarter was just less than 20% below its peak. At its credit-crunch worst, investment spending in Scotland was 20% below peak, while the UK figure was almost 30% down at its lowest point. Interestingly both these lowest quarters were in 2009Q4. Taken together, these data appear to suggest that the downturn in investment spending in the Scottish economy began later, was not as deep, and did not decline as fast as investment spending in the UK as a whole.

Tourism

Data from the International Passengers Survey – published on the 10th of February 2011 – revealed that for the UK as a whole the tourist market remained challenging. The spending in the UK by overseas tourists in the twelve months to December 2010 was flat in nominal terms, while UK residents spending abroad fell by 4% over the same period. These data do not cover domestic (i.e. UK) tourism expenditures in the UK, however the overseas tourism market is an important one for the Scottish tourist industry.

VisitScotland's figures for the UK tourist spending in Scotland between January and September indicate that it has seen a reduction in visits of 5% on the year earlier, with expenditure falling by 9%. The average length of stay was down 5.3%, with the average spend per night remaining broadly flat due to the reduction both in spend and the number of nights. Occupancy figures across most types of accommodation remained broadly flat compared to 2009, driven partly by discounting in the sector.

Looking forward, the surveys of firms involved in Scotland's tourism provision appears weak, both for accommodation and bar/restaurant trades. Discounting continues for a third of hotels in the first quarter of 2011, with the primary business constraint the lower numbers of tourists demanding accommodation and services. Lower occupancy figures continues to be an experience across all types of accommodation also, with self-catering properties particularly hurt towards the end of 2010.

Exports to the rest of the UK

The UK economy as a whole remains Scotland's largest trading partner, providing the demand for over 60% of

Scottish exports. Interestingly, as the SNAP data suggests, this share has declined over the last eight years, as exports to the rest of the world have strengthened following the collapse in exports to the rest of the world between 2001 and 2002. Preliminary data for 2010 Q4 suggested that the UK economy shrank by 0.5% in this quarter, well below predictions of growth of around 0.2-0.4%. The ONS noted that this was particularly affected by the wintry weather conditions and would have been anticipated to be "flat" (i.e. 0% growth) without the adverse weather. What would appear to be clear however, when the preliminary data is such a substantial fall, is that the level of growth seen in Q2 and Q3 – largely driven by investment and construction dynamics – was not maintained into the end of 2010.

Recent forecasts for the UK economy continue to predict a strong rebound, although most forecasters are appearing to emphasise the potential downside risks to their scenarios for growth. The Office for Budgetary Responsibility's November 2010 forecast was for growth of 1.8% in 2010, and 2.1% in 2011. This is around the upper end of non-city forecasts for available in February 2011. The median new (i.e. in the last three months) forecast from HM Treasury's collection of city and non-city forecasting organisations is for 1.9% growth in the UK in 2011, largely driven by a growth in investment (median growth forecast = 3.9%), and strong (ROW) export growth (median = 6.6%). Domestic (i.e. UK) demand growth is forecast to be sluggish at 1.3% in the median forecast. The median of new growth forecasts for 2012 is 2.0%, some way below the OBR's forecast of 2.6%. The range of forecasts for 2012 – covering 1.4% to 3.0% at the UK level – shows that the OBR's forecast is towards the top of this range. Compared to the median new forecasts the OBR's 2012 growth figures predict higher investment spending (6.6% growth in the OBR against a median growth of 4.3%) and higher export growth (7.1% against 6.1%). Interestingly, the OBR's figure for household expenditure growth in 2012 is slightly below median new forecasts.

The Global Connections Survey data reveals the cash values of the products exported to the rest of the UK by Scottish companies, by product. For instance this estimates that £10.2billion of the £45.2billion of exports sold to the rest of the UK in 2009 by Scottish firms, was provided by the "Financial intermediation" sector. While this is useful information – and trends can be identified from this, albeit current price, series – these data do not identify the destination of these products by activity. It would be incredibly useful, for instance, to know how Scottish goods and services are used in the rest of the UK, i.e. for investment spending, for household consumption, as intermediate inputs to production, and so on. Without this, we can only speculate about how the different drivers of growth in the rest of the UK might impact on the demand for goods and services produced in Scotland.

Table 1: GDP growth forecasts for 2011 and 2012 for top five export markets for Scottish products in 2009, % year on year change, plus United Kingdom and Euro Area

	Share of Scottish exports to rest of the world in 2009	2011		2012	
		IMF (January 2011)	OECD (November 2010)	IMF (January 2011)	OECD (November 2010)
USA	15.5%	3.0%	2.2%	2.7%	3.1%
Netherlands	9.6%	n/a	1.7%	n/a	1.8%
France	7.5%	1.6%	1.6%	1.8%	2.0%
Germany	6.1%	2.2%	2.5%	2.0%	2.2%
Belgium	4.0%	n/a	1.8%	n/a	1.8%
Others					
Asia	9.8%	8.4% ¹	n/a	8.4% ¹	n/a
European Union	n/a	1.7%	n/a	2.0%	n/a
United Kingdom	n/a	2.0%	1.7%	2.3%	2.0%

Sources: International Monetary Fund, World Economic Outlook Update (25th January 2011), OECD Economic Outlook No. 88 (November 2010) and Global Connections Survey (21st January 2011).

Notes: ¹ The growth forecasts for “Developing Asia” is used for Asia here. The IMF forecasts stronger growth in China in both 2011 and 2012.

Exports to the rest of the world

The only exhaustive survey of Scottish exports to the rest of the world is the Global Connections Survey (GCS), which reported figures for 2009 on the 21st of January 2011. This publication sets out the total (cash) value of Scottish exports to overseas (i.e. non-UK) markets, and the sectoral distribution of these. A total of £21.1 billion of Scottish goods were exported in 2009, split 45:55 between exports to the twenty-seven countries of the EU and exports to non-EU countries. The single largest destination market for Scottish exports was the USA, as it has been back to 2005. Exports to the rest of the world were up by £530 million in cash terms, an increase of 0.9% in real terms. This real terms increase is only slightly above the 0.8% average real growth in the value of exports to the UK for the period since 2005.

Real exports between 2005 and 2009 by industry are given in Figure 11. For each manufacturing industry, the current price values from the Global Connections Survey have been deflated by a implied deflator index for each manufacturing sector based on published real value for sectoral exports and a constant price series for that sector. Non-manufacturing exports are deflated using the same procedure but for a UK service export series.

We can see from this that exports by the “Manufacturing of food drink and beverages” sector are the largest in real terms (at £3.2 billion in 2005 prices) and increased by 13% in the year to 2009. In the same year, exports by the “Coke and refined petroleum” sector fell by 21% in real terms, perhaps reflecting declining energy demands through the recession. Exports of “Business services” have risen over the last four years to now be the second highest value of exports in 2009, while exports by the “Electrical and instrumental engineering” sector have fallen from top position down to the fourth highest category of exports.

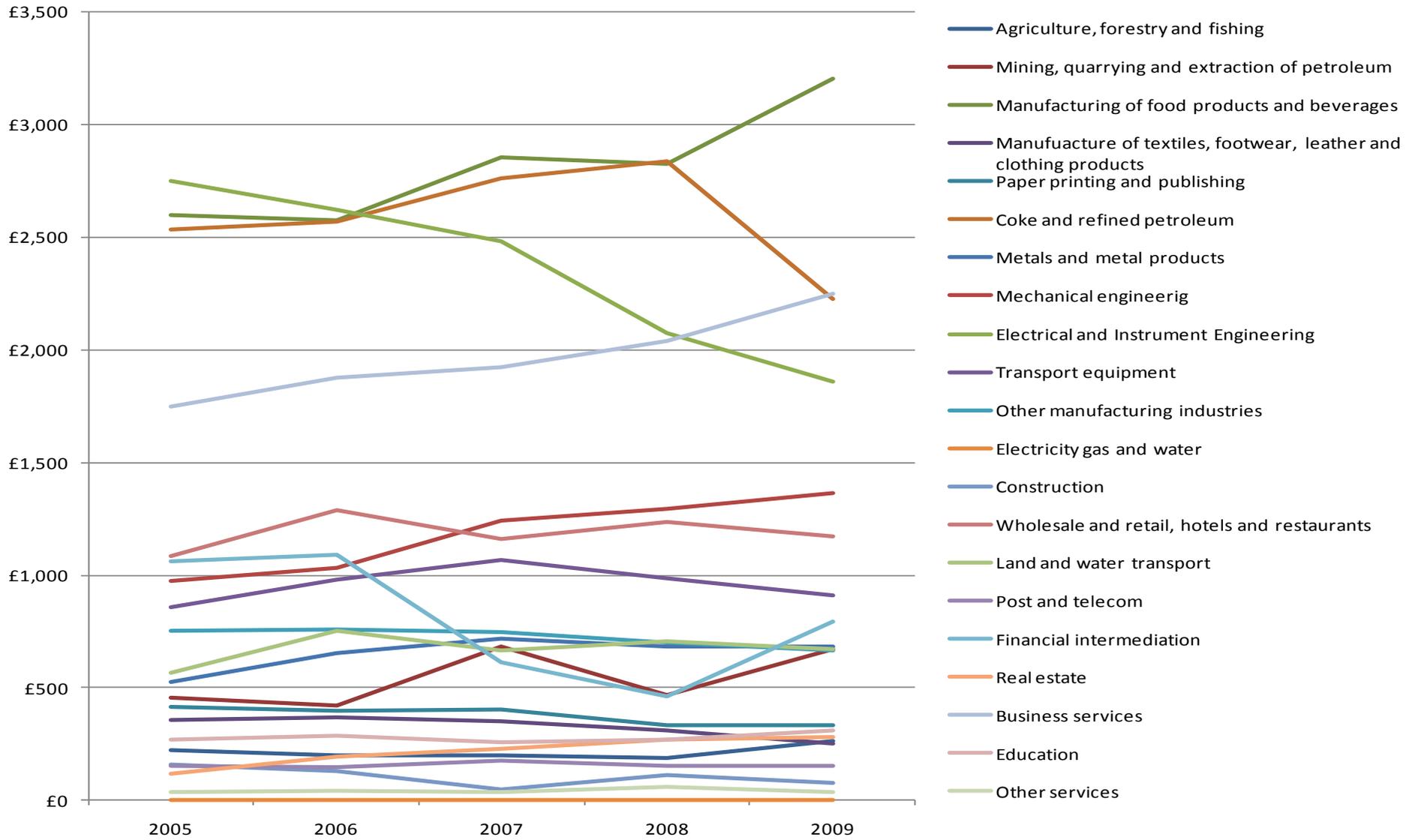
Looking at the individual markets served by Scottish producers, it is clear that Scotland’s exports are however – as was discussed by commentators around the release of the UK trade figures in February 2011 – largely detached from the main areas of growth around the world.

Several caveats should be noted however. Firstly, several of the companies surveyed by the GCS indicate that the immediate destination of the goods leaving Scotland might not be the final destination of the products. The GCS gives no indication of which of the export destinations could be an en-route destination for Scottish goods. Our instinct would suggest that the position of the Netherlands as the second largest destination for exports could be consistent with its position as a major international transport and freight hub. Secondly, exports in five sectors (including financial intermediate and pension funds) are not allocated to a specific region due to lack of reliable company information. These “unallocable” exports have increased significantly in 2009 (up 58%) so could offset much of the decline in exports to particular regions observed.

With the above caveats in mind, the growth forecasts for 2011 and 2012 in the top five destination markets for Scottish exports during 2009 are given in Table 1.

The more regular survey of Scottish exports to the rest of the world is the Index of Manufactured Exports (IME) and the most recent results were released on 12th January 2011. These cover only the manufacturing sectors, which are estimated to produce almost two-thirds of (non-UK) Scottish exports. This reported a real terms decrease in the value of total exports of 0.7% in the third quarter of 2010, an increase of 0.7% over the year to September 2010. The strongest increases over the year were in the “Food drink and tobacco” sector where both the “Food” and “Drink” sectors exports increased, by 8.8% and 10.8% respectively.

Figure 11: Real exports by industry to the rest of the world, (2005 prices, £million)



“Metals and metal products” also saw a greater than 10% increase in its exports over the year. Scottish engineering sectors continue to struggle for export growth, with exports down by 0.5% in the quarter and down 9.4% over the year. Since this category of exports accounts (in 2007 weights) for over 45% of Scottish manufacturing exports, this shows the difficulties continuing to experience by the Manufacturing sector, and stresses the potential difficulties in export led growth providing a stimulus to the Scottish economy in the short-term.

Forecasts of the Scottish economy

As with the forecasts published in the last seven *Commentaries*, we give three alternative scenarios for growth, employment and unemployment in the Scottish economy and in this Commentary we now forecast from 2010 and 2013. We give a “Central” case, with “High growth” and “Low growth” as two respectively upper and lower growth alternatives. We intend these to capture the range of outcomes that are possible, given that there are considerable uncertainties surrounding any specific single or point estimates. While we do not give explicit probabilities for each of these outcomes, we see the “Central” scenario as being that which is most likely, while “High growth” and “Low growth” reveal the possible range of outcomes for the Scottish economy from 2010 to 2013. As we have noted in previous Spring *Commentaries*, we will know the outcome for Scottish GVA growth in 2010 with the publication of Q4 2010 figures in April 2011.

The forecasts: Detail

In the three scenarios considered, the following elements are assumed to influence the factors of demand, and therefore economic activity, in the Scottish economy:

Households

In the Central scenario, we forecast that the significant contraction seen in household spending in 2009 does not repeat itself in 2010 and the years to 2013. However, household savings continue to be above average as fears over job security continue. Further, household income growth is forecast to remain slow as public-sector workers see real-terms income reductions as nominal incomes remain flat for two years and inflation damages purchasing power. Household expenditure growth on non-discretionary items remains limp as increases in the prices of energy, food and transport costs, continue to squeeze household budgets, along with the VAT increase to 20% introduced in January 2011. The reductions in welfare spending outlined in the October 2010 Comprehensive Spending Review are predicted to significantly affect household incomes through 2012 and 2013, denting household expenditure growth.

Government

In the “Central” scenario, the increase in Government spending in Scotland seen in 2010 (on 2009 levels) expires and we predict annual falls in Government expenditures on

goods and services for each of the next three years. These are “front-loaded” in that the major reduction is seen in 2011, but there are further reductions in spending in 2012 and 2013. It continues to be the case that the likelihood of the Government sector providing a stimulus to demand and therefore output growth over the next three years remains unlikely.

Exports

In the “Central” scenario, we predict a slow return to recovery in the UK, with household consumption and government expenditure remaining weak. Continued demand for Scottish manufacturing goods for capital replacement and investment expenditures in the UK keep demand for these products strong. Further, the use of Scottish-produced goods in output produced in the “rest of the UK” will cause the Scottish economy to benefit from a UK-wide export recovery to the rest of the world. In the “high” scenario, the recovery of investment and exports growth is faster than anticipated in our “Central” case, and close to the rate predicted by the OBR.

Tourism

Tourism spending, comprising around 2% of Scottish GDP (by expenditure) is predicted to remain flat as UK (including Scottish) households’ demands for travel is flat in 2011 and recovers through 2012 and 2013, driven in part by the continued weak value of the pound making overseas travel expensive. Discounting on the part of the industry continues to maintain, and perhaps grow, occupancy, particularly in the low and medium ends of the market. The high-end tourism market, led by business and discretionary spending, is slower to recover, but from 2012 and 2013 sees market share recovering as confidence returns to the business sector by the end of the forecast period.

Investment and stocks

Recent survey evidence indicates that the market for new investment projects remains weak, and will be largely driven by private sector investment programmes. New investment is mainly directed towards replacement, rather than new process/products, reducing potential investments. The most recent survey evidence confirms a weakening of investment confidence compared to the last quarter, and would indicate that the strength of an investment-led recovery remain weak. Construction firms, heavily involved in new investment projects typically, also reveal an overwhelming majority of firms predicting a fall in their activity in 2011 compared to 2010.

Results

Gross Value Added

All three scenarios forecast Scottish GVA growth for the calendar years 2010 to 2013. As noted in previous

Figure 12: GVA growth 2009 and forecasts for 2010 to 2013, annual real

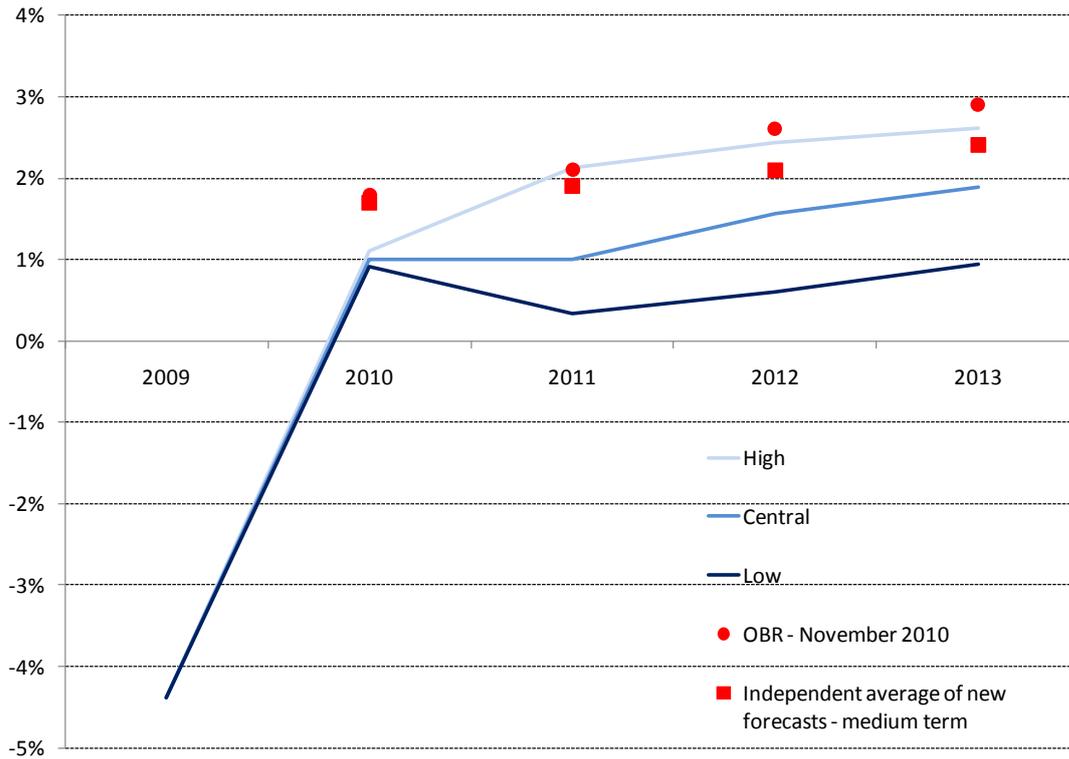
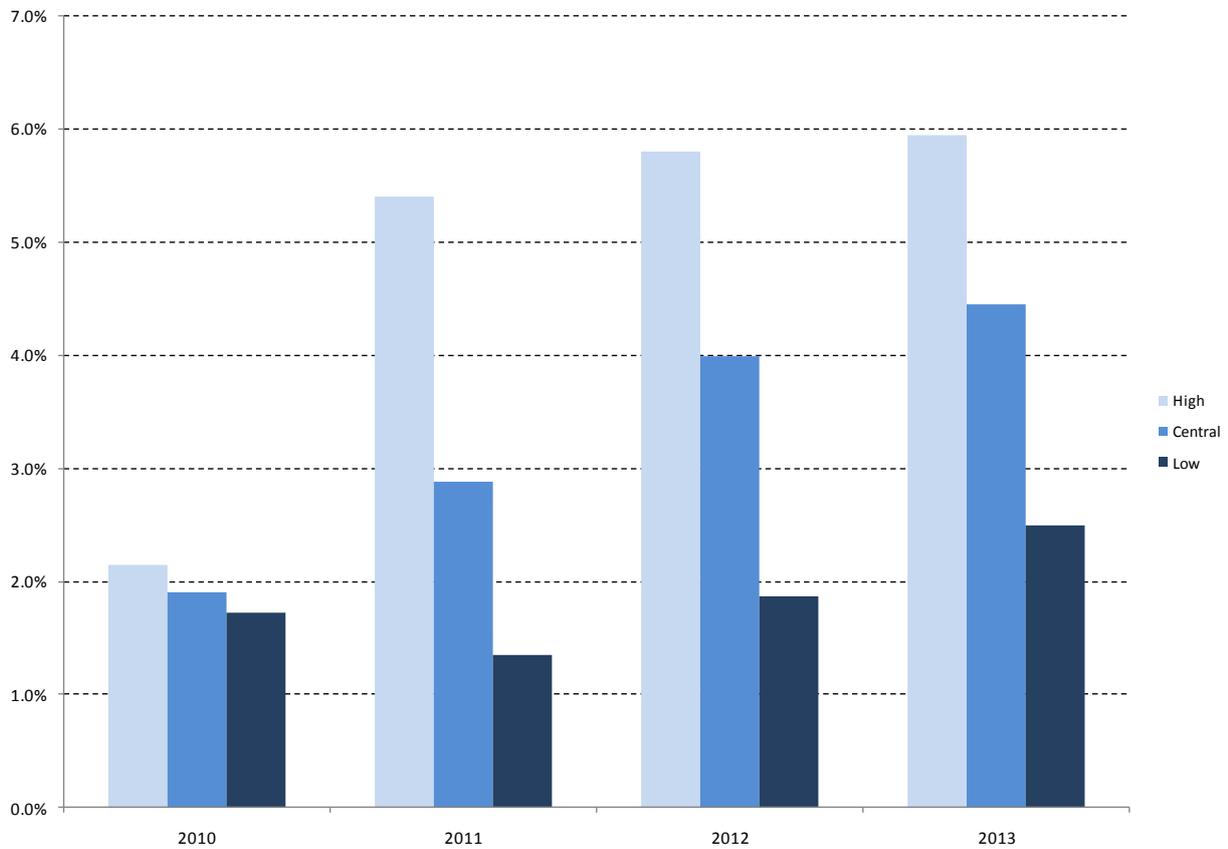


Figure 13: Forecasts of GVA growth in Production, 2010 to 2013



commentaries, we are predicting year-on-year figures so, despite 2010 having ended, we will not know the figures for GVA growth in Scotland until the publication of Q4 2010 GVA growth in April 2011. The significant growth seen in Q2 and Q3 2010 are likely to dominate the annual 2010 growth figures, so we can considerably narrow the prediction for 2010 growth from that published in November 2010's commentary. Having predicted 1.0% growth in 2010 back in November, we retain this as our central growth forecast for 2010. The high and low growth forecasts for GVA growth in 2010 now range from 1.1% to 0.9%.

These three scenarios are presented in Figure 12, alongside (for comparison) the forecasts for the UK between 2010 and 2013 made by the Office for Budget Responsibility. Forecasts for UK growth in 2010, 2011 and 2012 were collected by HM Treasury in February 2011 and the median of the forecasts in the last three months is also shown in Figure 12.

Our forecasts for growth in 2010 are all now lower than the OBR and consensus forecasts for the UK for the same period, in part driven by the slower return to growth in household expenditures in Scotland than the UK and also, the marginally greater reduction in Government spending in Scotland compared to the UK as a whole in this year. We are now forecasting that the Scottish economy will see growth of 1.0% in both 2010 and 2011 in the central scenario, slower than the UK as a whole is forecast to grow in the median and OBR's forecasts. The growth forecast of 1.0% in 2011 is 0.1% lower than we forecast in November, in part due to the worsening outlook for consumer confidence in Scotland and the UK. While these UK forecasts are single point estimates, our forecast for Scotland is within the range of forecasts for the UK economy.

Under the Central scenario, GVA growth in 2012 is forecast at 1.6% - slightly lower than the 1.9% forecast in November – and below the long-run average growth rate of the Scottish economy, while in 2013 we are forecasting growth of 1.9%. Our headline GVA forecast in the "Central" scenario, and the forecasts for the broad industrial sectors under this scenario, are given in Table 2. Table 3 shows the headline GVA growth forecasts under each of the three scenarios. We present forecasts for GVA change in Scotland at broad industrial groupings under each of our three scenarios. The sectors highlighted are "Production", "Services" and "Construction". Figure 13 shows the GVA changes in Production under the three scenarios in each year to 2013, while Figure 14 and Figure 15 show the GVA changes in each year in "Services" and "Construction" in each scenario respectively.

Across production sectors (shown in Figure 13), we are forecasting relatively robust recovery in 2010 in our three scenarios of around 2% in each scenario. Going forward, the assumed growth in world trade – albeit not recovering to levels seen before the 2008-9 recession – mean that we are

now forecasting growth of between 3% and 4% in our central scenario in 2011 and 2012. The importance of the UK market for Scottish goods and services, and the relatively weak recovery in 2011 and 2012 forecast, mean that it is largely exports to the rest of the world which are assumed to drive this strong growth over the three years from 2011.

The services sector, on the other hand (shown in Figure 14), we are forecasting to be damaged by the continued slow increase in domestic demand (households and government) over the next three years. Services GVA growth reaches 1.2% in 2012 and 1.5% in 2013 in our "Central" scenario, with growth ranging from 0.4% to 1.9 and 0.7% to 2.1% in our "Low" and "High" scenarios in each of these years respectively.

We forecast in our central scenario that the number of jobs in Scotland at the end of 2010 will be 2,242,000, up slightly from the September 2010 figures, as the most recent employment series indicates a rise over the final quarter of 2010. Total job numbers at the end of 2010 are now forecast to be 20,000 higher than at the end of December 2010, well above even our high growth forecasts for 2010 published in November. It is a surprising feature of the labour market response over the recession and recovery that the "jobless recovery" seen through 2010 are perhaps now operating to increase job numbers and decrease unemployment. This lag between output growth and jobs growth would be consistent with a labour hoarding argument where unemployment rates would increase less than would be expected for a given contraction in output – as hours worked reduced, rather than employee numbers – which has been observed for the UK (Bell and Blanchflower, 2011). Using this argument, we would anticipate that growth therefore in the early stages would not lead to reductions in the unemployment rate, as firms would utilize existing labour stocks rather than hiring workers. The recent decline in the unemployment rate has arguably arisen from increased hiring – following GVA growth with a lag – but of non full-time workers, as is argued elsewhere in this *Commentary*.

This will clearly have implications in the extent to which growth in employee job numbers (which are forecast here) differ from measures of the number of people in work.

In "Central" the number of jobs is forecast to grow in 2011 by around the same number of jobs in 2010, up around 20,000. In 2012 and 2013, our central scenario forecasts jobs growth of 31,700 and 39,800 respectively. Total jobs at the end of 2013 are forecast to be 2,333,000, broadly comparable to the number of employee jobs in the Scottish economy at the end of 2004, and around 60,000 fewer than jobs at the end of 2007. Table 5 shows the net jobs growth forecast between 2010 and 2013 across our three scenarios.

Table 2: Forecasts of GVA growth in the Scottish economy, Central scenario, 2010-2013

	2010	2011	2012	2013
Gross Value Added	1.0%	1.0%	1.6%	1.9%
Production	1.9%	2.9%	4.0%	4.5%
Services	0.7%	0.7%	1.2%	1.5%
Construction	2.2%	0.6%	1.0%	1.3%

Table 3: Forecasts for headline GVA growth in the Scottish economy, three scenarios, 2010-2013

	2010	2011	2012	2013
High	1.1%	2.1%	2.4%	2.6%
Central	1.0%	1.0%	1.6%	1.9%
Low	0.9%	0.3%	0.6%	0.9%

Table 4: Forecasts of Scottish employee jobs (000s) and net employee jobs change in central scenario, 2010 to 2013

	2010	2011	2012	2013
Total jobs (000s), Dec	2,242	2,261	2,293	2,333
Net annual change (jobs)	20,013	19,780	31,741	39,808
% change from previous year	0.9%	0.9%	1.4%	1.7%
Agriculture (jobs, 000s)	32	33	34	35
Annual change	2,800	685	1,120	1,409
Production (jobs, 000s)	214	221	230	241
Annual change	- 23,011	6,434	9,237	10,781
Services (jobs, 000s)	1,858	1,870	1,890	1,916
Annual change	16,650	11,827	20,018	25,864
Construction (jobs, 000s)	137	138	139	141
Annual change	23,673	834	1,366	1,754

Table 5: Forecast Scottish net jobs growth in three scenarios, 2010 to 2013

	2010	2011	2012	2013
High	22,267	42,626	51,025	57,262
Central	20,113	19,780	31,741	39,808
Low	18,357	5,895	11,586	19,256

Figure 14: Forecasts of GVA growth in Services, 2010 to 2013

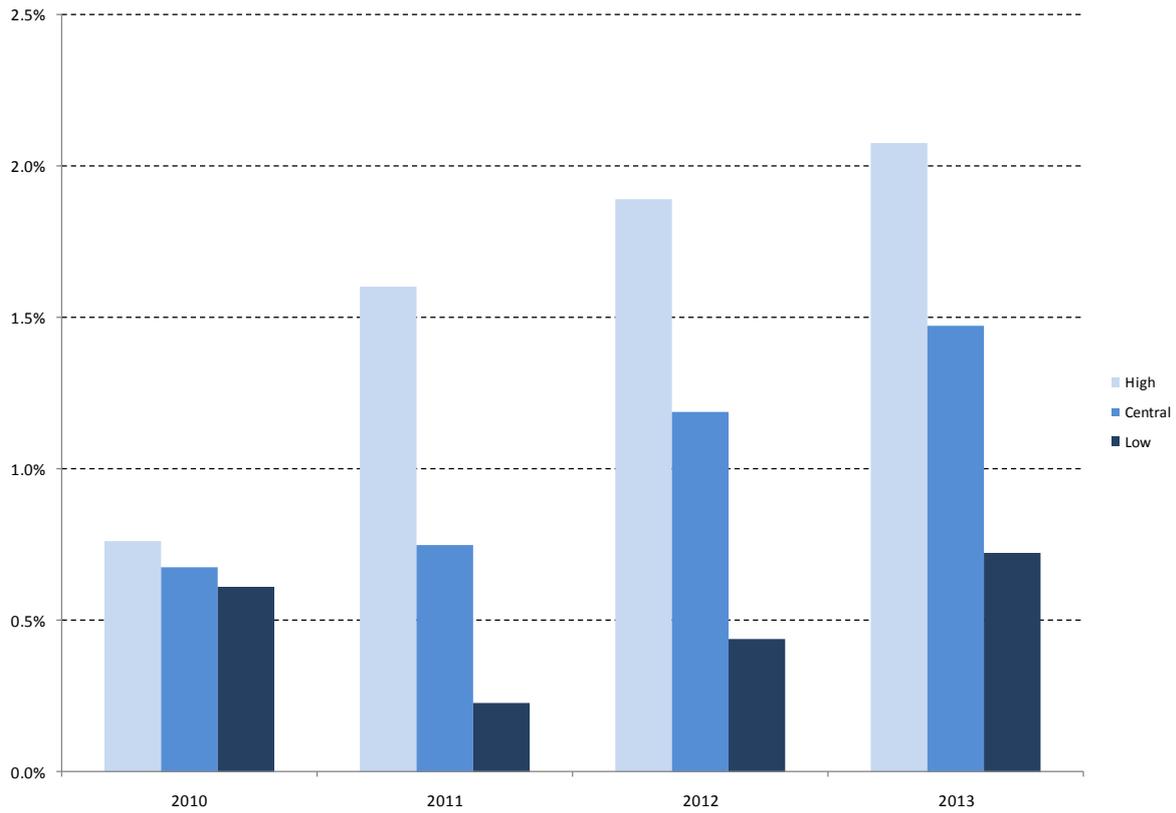
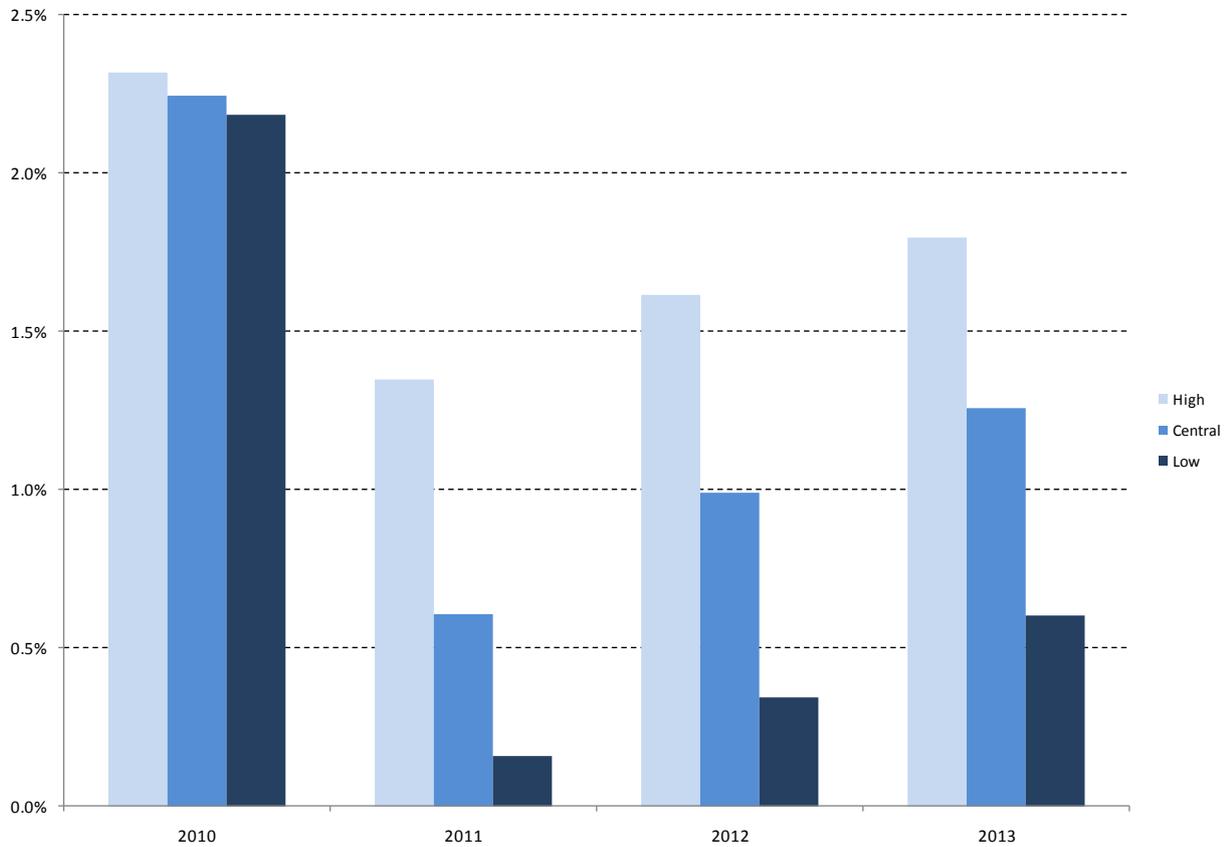


Figure 15: Forecasts of GVA growth in Construction, 2010 to 2013



Looking at the sectoral breakdown of these jobs, the Construction sector is forecast to see an increase through 2010 of around 24,000, largely offsetting the decline of 23,000 in the Production sectors. Services job numbers are forecast to increase from 2009 levels by around 17,000 in the Central scenario. In the years from 2011 onwards, with muted job creation, jobs growth is forecast to focus in the “Production” sectors and “Services” sectors.

Unemployment

We present our 2010 to 2013 forecasts for unemployment, as measured by the ILO definition, as well as those receiving unemployment benefits, in Table 6. The preferred measure of unemployment is the ILO definition, as given by the Labour Force Survey, as it reveals the extent of labour which is unemployed and

Table 6: Forecasts of Scottish unemployment in “Central” scenario, 2010 to 2013

	2010	2011	2012	2013
ILO unemployment	215,000	234,072	224,945	212,657
Rate ¹	8.0%	8.8%	8.4%	7.9%
Claimant count	138,300	150,849	144,967	137,048
Rate ²	5.0%	5.3%	5.0%	4.7%

Notes: ¹ = rate calculated as total ILO unemployed divided by total of economically active population aged 16+. ² = rate calculated as claimant count recipients divided by sum of claimant count and total jobs. The latest estimates of the figures published in Table 6 were published in February 2011 in the Labour market statistics for Scotland. These estimated the ILO unemployment rate at the end of 2010 and the claimant count rate in December as 8.0% and 5.0% respectively. November’s Commentary had forecast these values at the end of the year as 9.3% and 5.2%, meaning that our forecast errors were 1.3% and 0.2% respectively.

Figure 16: Scottish ILO unemployment rate and claimant count unemployment rate, 1992-2010 and forecasts to 2013 under three scenarios

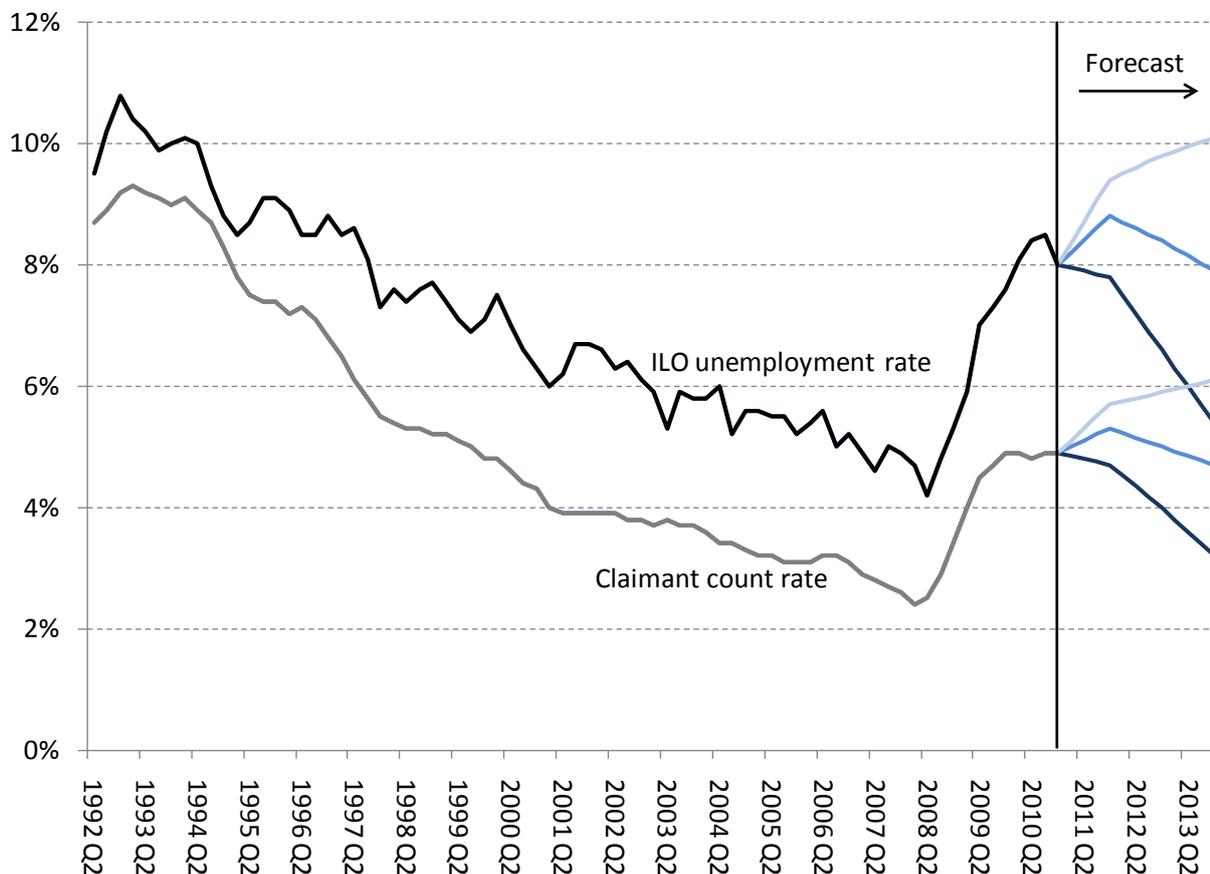


Table 7: ILO unemployment rate and claimant count measures of unemployment under three scenarios, 2010 to 2013

	2010	2011	2012	2013
ILO unemployment rate				
High	7.9%	7.8%	6.6%	5.4%
Central	8.0%	8.8%	8.4%	7.9%
Low	8.1%	9.4%	9.8%	10.1%
Claimant count				
High	4.8%	4.7%	4.0%	3.2%
Central	4.9%	5.3%	5.0%	4.7%
Low	4.9%	5.7%	5.9%	6.1%

available for work, rather than that portion of the available labour force in receipt of unemployment benefit. As such, it is a better measure of the extent to which labour resources are not currently employed in productive activity in Scotland. Table 7 shows the ILO and claimant count measures of unemployment over the period 2010 to 2013 in each of the three forecast scenarios.

We diagrammatically show the forecasted path of ILO and claimant count unemployment under each of the three scenarios in Figure 16.

References

Bell, D.N.F. and Blanchflower, D. (2011), "Underemployment in the UK in the Great Recession", *National Institute Economic Review*, No. 215, January 2011, p. R23-R33.

Chamberlin, G. (2011), "Okun's Law revisited", *Economic and Labour Market Review*, February 2011, p. 104-132.

Okun, A.M. (1962), "Potential GNP: Its measurement and significance", American Statistical Association, *Proceedings of the Business and Economics Statistics Section*, pp. 98-104.

Stirling, A (1994), "Diversity and ignorance in electricity supply investment: addressing the solution rather the problem", *Energy Policy*, Vol 22 (3).