MONETARY BULLETIN

2012•4

Contents

The objective of the Central Bank of Iceland's monetary policy is to contribute to general economic well-being in Iceland. The Central Bank does so by promoting price stability, which is its main objective. In the joint declaration made by the Government of Iceland and Central Bank of Iceland on 27 March 2001, this is defined as aiming at an average rate of inflation, measured as the 12-month increase in the CPI, of as close to 2½% as possible.

Professional analysis and transparency are prerequisites for credible monetary policy. In publishing *Monetary Bulletin* four times a year, the Central Bank aims to fulfil these principles.

Monetary Bulletin includes a detailed analysis of economic developments and prospects, on which the Monetary Policy Committee's interest rate decisions are based. It also represents a vehicle for the Bank's accountability towards Government authorities and the public.

The framework of monetary policy and its implementation and instruments are described in the chapter entitled "Monetary policy and instruments", on pp. 77-79 of this edition of *Monetary Bulletin*.

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Icelandic letters:

ð/Ð (pronounced like th in English this)
þ/Þ (pronounced like th in English think)
In *Monetary Bulletin*, ð is transliterated as d and þ as th in personal names, for consistency with international references, but otherwise the Icelandic letters are retained.

Symbols:

*	Preliminary or estimated data.
0	Less than half of the unit used.
-	Nil.
...	Not available.
.	Not applicable.

Statement of the Monetary Policy Committee 14 November 2012

The Monetary Policy Committee (MPC) of the Central Bank of Iceland has decided to raise the Bank's interest rates by 0.25 percentage points.

The Bank's macroeconomic forecast indicates that output growth in 2012 will be somewhat weaker than was projected in August. In 2013, however, it is expected to be stronger than previously forecast; hence the outlook over the forecast horizon is broadly unchanged in spite of global headwinds. The economic recovery will continue, with growing investment and stable private consumption growth, and the slack in the economy will disappear during the forecast horizon.

Inflation has been somewhat lower than was forecast in August. Looking ahead, a greater margin of spare capacity in the economy compared to August and a significantly lower exchange rate of the króna will have offsetting effects on inflation developments. On the whole, the inflation outlook is deemed broadly unchanged. Uncertainty about exchange rate developments during the forecast horizon leads to corresponding uncertainty about developments in inflation and inflation expectations. Inflation expectations are still above the Bank's inflation target, although they have fallen somewhat by some measures.

The accommodative monetary stance has supported the economic recovery in the recent term. The rise in interest rates since August 2011 and the decline in inflation have withdrawn a considerable amount of that accommodation. As spare capacity disappears from the economy, it is necessary that monetary policy slack should disappear as well. The degree to which such normalisation takes place through higher nominal Central Bank rates will depend on future inflation developments. The current baseline forecast indicates that the Bank's present nominal interest rate is sufficient to bring inflation back to the inflation target during the forecast horizon. However, this depends, among other things, on whether the outcome of the forthcoming wage settlement review at the beginning of next year is consistent with inflation declining to the target.

Output growth outlook weaker this year but broadly unchanged for the forecast horizon as a whole

The global outlook growth has deteriorated somewhat, and uncertainty has escalated since the publication of the August Monetary Bulletin. *The outlook for terms of trade this year and export growth throughout the forecast horizon has worsened. The króna has weakened since August, after appreciating since April. Revised figures from Statistics Iceland indicate that output growth in 2011 was weaker than previously estimated and that the economic recovery in the first half of 2012 was weaker than in the August forecast. The Bank's revised forecast therefore estimates this year's growth at 2.5%, which is ½ a percentage point later than in August. The downward adjustment is due mainly to a stronger contraction in public consumption than previously projected. On the other hand, output growth is projected to be stronger in 2013 than was forecast in August, or 2.9%. For the horizon as a whole, it is expected to average just over 3%, which is in line with average long-term growth. According to the baseline scenario, GDP will reach its pre-crisis peak in the latter half of 2014 and will be close to the level forecast in August by 2015, the end of the forecast horizon. The most recent indicators suggest a slower labour market recovery than previously assumed, although unemployment has continued to decline. Jobs have increased in number, however, fuelling the decline in the jobless rate. The labour market situation is forecast to continue improving gradually, with rising total hours worked and falling unemployment. Inflation has proven to be lower than was projected in August, but the outlook for the forecast horizon is broadly unchanged since then, owing to the offsetting effects of lower initial inflation and a larger margin of spare capacity, on the one hand, and a weaker króna and larger-than-anticipated increases in indirect taxes at the beginning of 2013, on the other. Inflation is now expected to return to target somewhat earlier than in the August forecast. Considerable uncertainty surrounds the exchange rate and inflation outlook and the sustainability of the domestic economic recovery, particularly in view of the troubled global outlook.*

I Economic outlook and key uncertainties

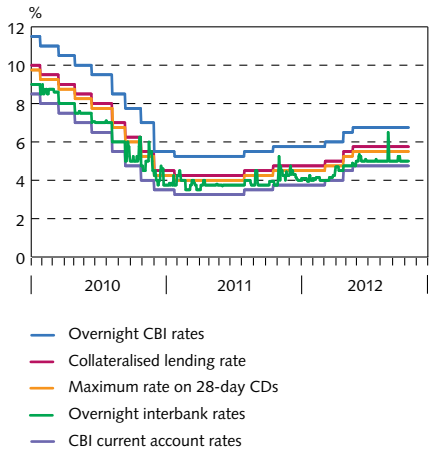
Highlights of the Central Bank's baseline forecast

Central Bank interest rates unchanged since August …

In August, when the last *Monetary Bulletin* was published, the Central Bank of Iceland Monetary Policy Committee (MPC) decided to hold the Bank's interest rates unchanged. The Committee came to the same conclusion at its October meeting. Therefore, prior to the publication of this *Monetary Bulletin*, the current account rate was 4.75%, the maximum rate on 28-day certificates of deposit (CDs) was 5.50%, the seven-day collateralised lending rate was 5.75%, and the overnight lending rate was 6.75%. The Bank's interest rates have risen by 1.5 percentage points from the trough in August 2011 and by 1.25 percentage points from this time last year.

Short-term interbank interest rates have generally followed Central Bank rates. Just before the publication of this *Monetary Bulletin*, they were about 5%, just below the Bank's effective policy rate (the average of Central Bank deposit rates), and had risen by 1.25 percentage points in the previous year. As before, interbank rates fluctuated in the lower half of the Bank's interest rate corridor, owing to relatively abundant financial system liquidity.

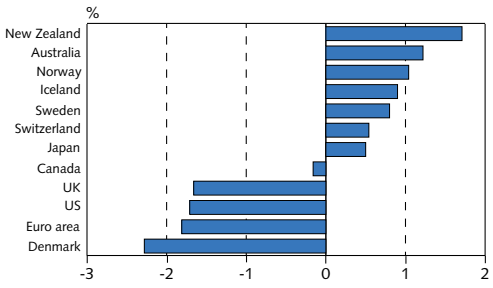
Chart I-1
Central Bank of Iceland interest rates and short-term market interest rates
Daily data 1 January 2010 - 9 November 2012



Source: Central Bank of Iceland.

1. The analysis presented in this *Monetary Bulletin* is based on data available in mid-November.

Chart I-2
Real interest rates in various industrialised countries
Effective central bank interest rates less annual inflation[1]



1. For Iceland, the rate is based on the average of interest rates on deposits and the maximum bid rate for 28-day CDs.
Sources: Macrobond, Central Bank of Iceland.

… but the Bank's real rate continues to rise despite being below the neutral level

The Central Bank's real interest rate has continued to rise and is now about 0.7% in terms of either current inflation or the average of various measures of inflation and inflation expectations. It has risen by 0.3 percentage points since August and about 1.4 percentage points in the past year and has therefore kept pace with the Bank's nominal rate. In terms of current inflation only, however, the Bank's real rate has risen more sharply, or by about 2.2 percentage points in the past year. The monetary stance has therefore tightened, especially as the current year has progressed. Most likely, though, it is still somewhat below the level that is consistent in the long run with full factor utilisation and, as such, should support the economic recovery. At the same time, asset prices have continued rising and private sector debt has kept falling.

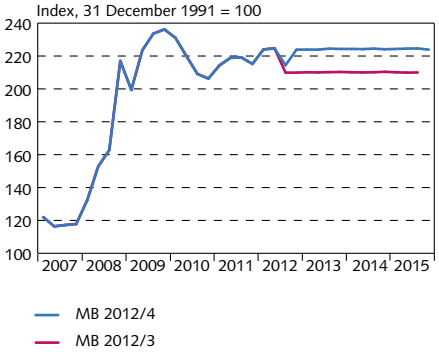
As Chart I-2 shows, the Bank's real rate is similar to that in Norway and Sweden but somewhat lower than in Australia and New Zealand. It is considerably higher than in the developed countries with the lowest rates, however. Even though real interest rates vary in developed countries, they have risen in almost all of them in the past year even though nominal rates have either remained unchanged or declined. This is because inflation has fallen faster than nominal rates have. At present, the real rates of developed countries' central banks are an average of 1 percentage point higher than they were a year ago. An important factor here is that, in many countries, nominal interest rates are close to zero, leaving limited scope for further rate cuts, although the effective nominal policy rate in Denmark has actually been negative since mid-summer. Major central banks around the world have therefore eased the monetary stance through unconventional means instead of through nominal rate cuts, as is discussed in Section II. Interest rate developments and private sector financial conditions are discussed in greater detail in Section III.

Turnaround in ISK exchange rate following an appreciation since April

After a strengthening episode beginning in April, the króna began to weaken in mid-August. Just before this *Monetary Bulletin* went to press, the trade-weighted exchange rate index (TWI) measured 227 points, which represented a depreciation of almost 9% since August. Over the same period, the króna fell by about 9.7% against the euro, from just under 148 kr. per euro to almost 164. These developments in the exchange rate are probably due primarily to currency outflows stemming from firms' and institutions' foreign loan payments. The tourism-related foreign exchange inflows that would have offset this pressure are tapering off, however, and terms of trade have worsened this year. To some extent, it can be assumed that the depreciation is also due to market expectations that this summer's strong exchange rate was not sustainable, given the difficult debt position and other factors. Uncertainty related to capital account liberalisation could also have weakened the króna.

In Q3, the exchange rate of the króna was 2% lower than was assumed in August. As before, the Bank's baseline forecast is based on

Chart I-3
The ISK exchange rate against trade-weighted index - comparison with MB 2012/3

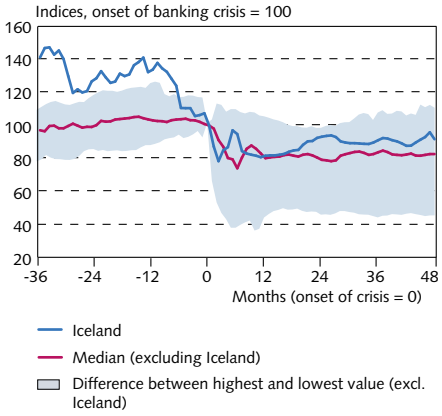


Source: Central Bank of Iceland.

the technical assumption that the exchange rate will remain broadly unchanged from the time the forecast is prepared until the end of the forecast horizon. Consequently, it is assumed that the króna will trade at about 162 against the euro throughout the forecast horizon and that the TWI will remain around 224, which is about 6.5% weaker than was projected in August but roughly 2.5% stronger than in the May forecast. This implies that the real exchange rate would be virtually unchanged throughout the forecast horizon but almost 15% above the autumn 2009 trough. As Chart I-4 shows, this is not inconsistent with the experience of 15 other countries in the wake of serious financial crises, although the rise in the real exchange rate from its post-crisis trough was relatively steeper in Iceland than it was on average in the other countries. Four years after the crisis struck, Iceland's real exchange rate is just over 8% below the level in September 2008, at the onset of the crisis, whereas the average for the comparison countries is about 17%, as the real exchange rate fell more sharply in Iceland during the run-up to the crisis than it did in the other countries.[2] Further discussion of developments in the exchange rate and the foreign exchange market can be found in Sections II and III.

Chart I-4

Developments in the real exchange rate in the wake of a financial crisis[1]



1. Real exchange rate in Iceland and 15 other countries following a systemic banking crisis. The names of the countries and the date of the crisis in each one can be found in Footnote 2 of Section I in MB 2012/4.
Sources: IMF, Macrobond.

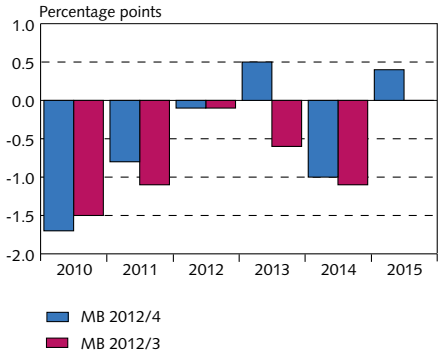
Global outlook worsens, and export growth prospects are poorer than in August ...

As the year has progressed, the economic recovery has receded in several of Iceland's main trading partner countries. The global GDP growth outlook has deteriorated since August, and uncertainty has escalated in spite of stimulus measures by governments and central banks. The outlook for the euro area, Iceland's most important export market, is particularly bleak. Iceland's terms of trade have worsened as well and appear likely to deteriorate further this year than was projected in August. That notwithstanding, the forecast for terms of trade in coming years is more favourable than in August. The outlook is also for weaker export growth this year than in the last forecast, mainly due to Statistics Iceland's revision of 2011 export figures. Exports are expected to grow only modestly in the upcoming two years, or about 1½-2% per year, which is less than in the August forecast. They will pick up somewhat in 2015, however, with increased aluminium exports.

Imports of inputs for aluminium production will be somewhat weaker than was forecast in August, owing to reduced investment in energy-intensive industry, which is the main reason for slower import growth during the forecast horizon in comparison with the August forecast. The contribution of net trade to output growth will therefore be larger than was projected in August. Further discussion of the global economy, exports, and external conditions can be found in Section II.

Chart I-5

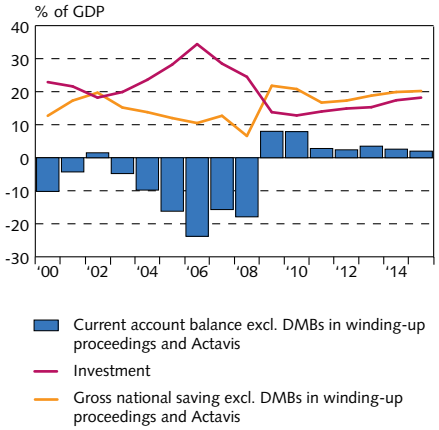
Net exports - contribution to GDP growth



Sources: Statistics Iceland, Central Bank of Iceland.

2. The 15 countries are (date of onset of crisis in parentheses): Argentina (December 2001), Brazil (December 1998), Ecuador (November 1998), Finland (September 1991), Indonesia (August 1997), Ireland (September 2008), Latvia (September 2008), Malaysia (August 1997), Mexico (December 1994), Philippines (August 1997), South Korea (August 1997), Sweden (September 1991), Thailand (July 1997), Turkey (November 2000), and Uruguay (December 2001). For further information, see Box I-2.

Chart I-6
Current account 2000 - 2015[1]



1. Central Bank baseline forecast 2012 - 2015.
Sources: Statistics Iceland, Central Bank of Iceland.

… but improvements in terms of trade over the forecast horizon prompt an upward revision of the forecasted trade surplus

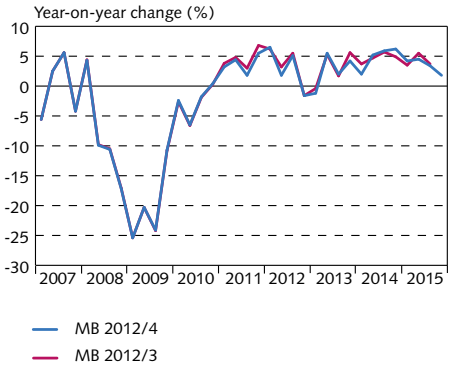
The surplus on goods and services trade is expected to measure about 6½% of GDP this year, which is broadly in line with the August forecast. It is projected to grow somewhat in 2013 but measure just over 6% of GDP in 2014-2015. This is a somewhat brighter outlook than was assumed in August, owing primarily to improved prospects for terms of trade and the expectation of somewhat weaker import growth, which in turn is due to reduced importation of aluminium manufacturing inputs, in line with slower growth in aluminium production.[3]

The outlook for the current account balance improves in tandem with the expectation of a larger trade surplus. The current account balance excluding the deposit money banks (DMBs) in winding-up proceedings and the effects of pharmaceuticals company Actavis is projected to be positive by an average of approximately 2½% throughout the forecast horizon but diminish over the course of the horizon, as in previous Central Bank forecasts, reflecting the fact that national saving will not keep pace with growth in domestic investment. The external balance is discussed further in Section VII.

Outlook for slower growth in domestic demand this year despite signs of stronger business investment than forecast in August

Revised Statistics Iceland figures published in September imply weaker private consumption growth in 2011 than previous numbers had indicated, owing to the availability of more detailed information on foreign tourists' share in domestic consumption expenditure. Private consumption is expected to grow by about 3% in 2012, as was forecast in August. Weaker growth in 2011 implies a lower level of consumption than in the August forecast, however. By the same token, a larger contraction in public consumption is now expected. On the other hand, a recent Central Bank survey of domestic firms' investment plans indicates that investment will be stronger this year than previously assumed. This is due primarily to investment in sectors other than transport (e.g., ships and aircraft) and energy-intensive industry and related fields, which is estimated to increase by about 7% this year, as opposed to 0.8% according to the August forecast. Although investment related to energy-intensive industry is projected to be weaker than in August, total business investment is expected to grow by over 13% this year, as opposed to the 10% provided for in the August forecast. This is due principally to stronger investment in ships and aircraft. Because of a poorer outlook for residential investment and public investment, however, total investment is expected to be broadly in line with the August forecast. The prolonged low level of public and residential investment is also the main reason the ratio of investment to GDP will remain below the historical average throughout the forecast horizon.[4] As a consequence, it is assumed that growth

Chart I-7
Domestic demand - comparison with MB 2012/3



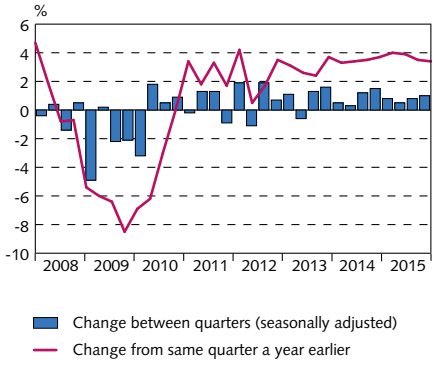
Sources: Statistics Iceland, Central Bank of Iceland.

3. As is discussed in Box VII-1, changes in the outlook for developments in terms of trade are generally the most important factor in the changed outlook for the trade balance in the Bank's forecast.
4. Developments in investment in the wake of Iceland's financial crisis are placed in international context in Box I-2.

in domestic demand will measure about 2.8% this year instead of the 3.2% projected in August. In addition to the poorer outlook for 2012, revised figures from Statistics Iceland indicate that growth in 2011 was weaker than previously measured.

Domestic demand is expected to grow somewhat more slowly in 2013 as well, or by 2.6% instead of the 3% in the August forecast, driven by slower investment growth. It is expected to rebound a bit in 2014, and domestic demand is projected to grow by just under 5%, which is in line with the August forecast. Solid growth of about 3½% is also forecast for 2015. Domestic demand growth during the forecast horizon is therefore projected to average about 3½% per year, which is in line with its long-term average rate prior to the onset of the crisis in 2008. Further discussion of private and public sector demand can be found in Sections IV and V.

Chart I-8
GDP growth
Q1/2008 - Q4/2015[1]



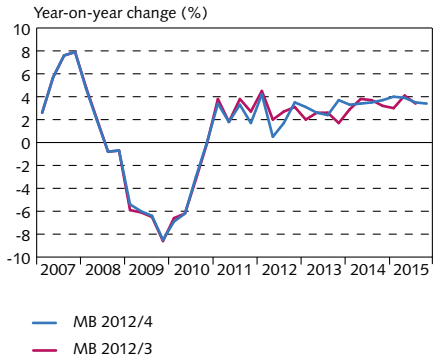
1. Central Bank baseline forecast Q1/2012 - Q4/2015.
Sources: Statistics Iceland, Central Bank of Iceland.

GDP growth outlook for 2012 revised downwards since August ...

According to revised figures from Statistics Iceland, output growth measured 2.6% in 2011, as opposed to the previous estimate of 3.1%. This revision is due mainly to the above-mentioned revision of national expenditure growth but is offset by a somewhat more positive contribution from net trade. Revised figures for Q1/2012 and the first figures for Q2 also indicate less robust economic activity in the first half of the year than was forecast in August. According to Statistics Iceland, GDP growth measured 2.4% in H1/2012, as opposed to 3.2% in the August forecast. This weaker growth is due principally to a revision of Statistics Iceland numbers for Q1, as well as an unexpectedly large negative contribution from inventory changes in the first half of the year.

The likelihood that the post-crisis recovery would be uneven has been discussed in previous issues of *Monetary Bulletin*, and this has indeed proven to be so. For instance, GDP contracted by approximately 1% between Q1 and Q2, on the heels of nearly 2% quarter-on-quarter growth in Q1.[5] According to the current forecast, quarterly GDP growth will measure just under 2% in Q3 and just under 1% in Q4. This corresponds to about 2.6% growth year-on-year in H2/2012 and 2.5% for 2012 as a whole, as opposed to 3.1% in the August forecast. The weaker output growth forecast for 2012 is due to the expectation of a larger contraction in public consumption.

Chart I-9
GDP growth - comparison with MB 2012/3

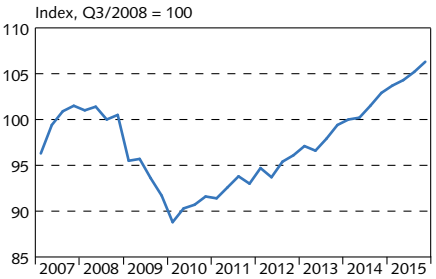


Sources: Statistics Iceland, Central Bank of Iceland.

... but the outlook for the next three years has improved ...

As is discussed above, investment in the energy-intensive sector is expected to be weaker than previously projected for the majority of the forecast horizon, which means that importation of inputs for aluminium production will be reduced. As a result, the contribution of net trade to GDP growth will be more positive in 2013 and GDP

Chart I-10
Seasonally adjusted GDP
Q1/2007 - Q4/2015[1]



1. Seasonally adjusted Central Bank figures. Central Bank baseline forecast Q3/2012 - Q4/2015.
Sources: Statistics Iceland, Central Bank of Iceland.

5. This refers to the Central Bank's seasonally adjusted figures. According to seasonally adjusted figures from Statistics Iceland, the contraction in Q2 measured about 6.5%. As is discussed in Box IV-1, the approach used by Statistics Iceland produces seasonally adjusted figures that are insufficient for interpreting intra-year economic developments. Thus the Bank uses its own seasonally adjusted figures, which give a more credible picture of intra-year developments.

growth itself will be somewhat stronger during the year in spite of slower growth in domestic demand. GDP growth for 2013 is estimated at 2.9% instead of the 2.2% assumed in the August forecast. It is expected to gain momentum in 2014, measuring about 3.5%, in line with the August forecast, and to remain at about that level in 2015. Average growth during the forecast is therefore just over 3%, which is well in line with average long-term growth. As in the Bank's previous forecasts, domestic demand is the main driver of output growth, particularly private consumption and business investment, which contribute in roughly equal measure.

... and the GDP level will therefore be broadly in line with August projections by the end of the forecast horizon

GDP now measures almost 1% lower than in the Bank's August forecast, owing to Statistics Iceland's revision of GDP growth figures for 2011 and H1/2012. The current forecast assumes that GDP will be about 12% higher by the end of the forecast horizon than in 2012, which is a slight upward revision of the August forecast. GDP will therefore be roughly at the level provided for in the August *Monetary Bulletin* by the end of the current forecast horizon.

According to seasonally adjusted Central Bank figures, GDP has grown by about 5½% since bottoming out in Q1/2010. It is still about 7½% below its pre-crisis peak (at year-end 2007) and just over 6% lower than when the financial crisis struck in autumn 2008.[6] According to the forecast, it will return to the pre-crisis peak in the latter half of 2014 and will be almost 5% above that level by the end of the forecast horizon.[7]

6. As is discussed in Box I-1, post-crisis developments in output growth have been well in line with the Central Bank's forecast immediately after the crisis struck in November 2008.

7. GDP will be weaker, however, than it would have been had it grown in line with long-term trend growth before the crisis. In that sense, a portion of GDP has been lost permanently in the financial crisis. In this context, however, it must be borne in mind that potential output had risen far above sustainable levels during the pre-crisis boom. As such, a portion of the loss reflects an inevitable adjustment to pre-crisis overheating. For further discussion, see Box IV-1 in *Monetary Bulletin* 2011/4.

Box I-1

Post-crisis economic developments and Central Bank forecasts

Appendix 2 discusses the accuracy of the Central Bank's output and inflation forecasts for 2011. This Box looks farther back and examines how post-crisis developments in output growth compare with the Bank's November 2008 forecast, the first one prepared by the Bank after the crisis struck.

November 2008 output growth forecast virtually spot-on

The state of the economy and the outlook for the future were extremely uncertain in November 2008, and there was actually very little on which to base forecasts, as the scope of the financial collapse was virtually unprecedented in Iceland or elsewhere. As a result, the output forecast published in *Monetary Bulletin* 2008/3 was prepared under highly uncertain conditions.

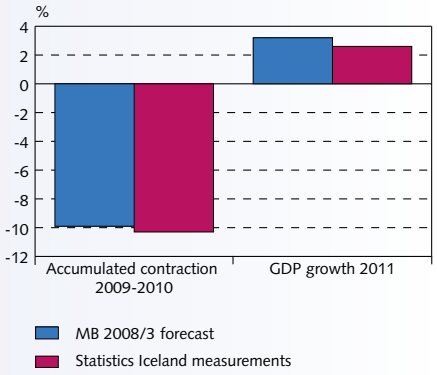
The Bank forecast that a sharp contraction of 8.3% in 2009 would be followed by a further contraction of 1.7% in 2010 but that growth would turn positive again in 2011, by 3.2%. According

to the latest measurements from Statistics Iceland, the contraction in 2009 was somewhat less than forecast, or 6.6%, while the contraction in 2010, at 4%, was larger than projected. An examination of the entire 2009-2010 contraction reveals, however, that the Bank's November 2008 forecast was almost spot-on: the forecast provided for an accumulated 9.9% loss of output, whereas Statistics Iceland measurements indicate that the contraction was 10.3%. The forecast of 3.2% output growth in 2011 was also very close to Statistics Iceland's measurement, which was 2.6% (the previous Statistics Iceland estimate, from June 2012, assumed 3.1% growth for 2011).

A closer look at the quarterly developments in GDP reveals even more clearly how accurate the November 2008 forecast was. As is mentioned above, the contraction in 2009 was overestimated. From Q1/2010 through the end of the forecast horizon, however, GDP develops almost exactly in line with the Statistics Iceland measurements, and at the end of the horizon, in Q3/2011, it is almost identical to the Statistics Iceland measurement (the difference is 0.01%). The deviation in the annual output growth forecast for 2010 therefore reflects only the base effects from the previous year; that is, that the actual contraction in 2009 was smaller than that in the forecast.

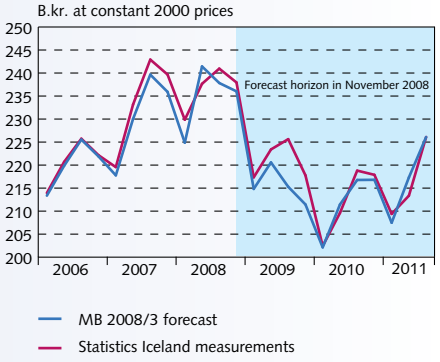
Finally, Chart 2 shows that the forecast of the trough of the downturn materialised in full, both as regards timing (Q1/2010) and the output level at that time. The estimate of output loss from the pre-crisis peak to the post-crisis trough is therefore borne out almost entirely: the peak-to-trough loss was forecast at 16.3%, while the actual loss was 16.7%.

Chart 1
MB 2008/3 forecast of contraction and post-crisis recovery



Sources: Statistics Iceland, Central Bank of Iceland.

Chart 2
Gross domestic production - comparison to MB 2008/3



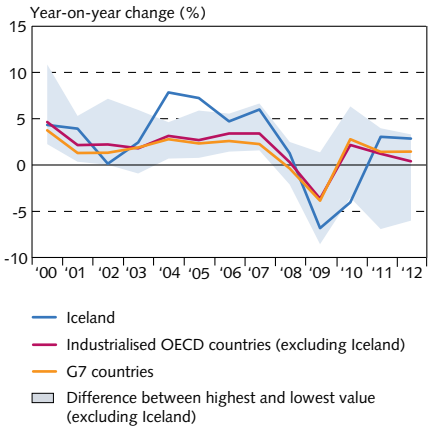
Sources: Statistics Iceland, Central Bank of Iceland.

Iceland's 2012 output growth outlook compares reasonably well with other developed countries

The contraction in the wake of the financial crisis was stronger in Iceland than it was on average in developed OECD countries, and the recovery immediately thereafter was slower. As is discussed in Box I-2, this is unsurprising in view of the imbalances that accumulated beforehand and the fact that Iceland suffered both a serious banking crisis and a currency crisis. Research findings indicate that the economic contraction following a twin banking and currency crisis is, on average, up to three times greater than that following a conventional banking crisis and that a twin crisis lasts an average of twice as long.[8]

Iceland's output growth was among the strongest in developed OECD countries in 2011 (Chart I-11) and the first half of 2012 (see Chart I-12). Iceland also compares favourably in terms of the outlook for 2012, according to the IMF, which projects that only two OECD

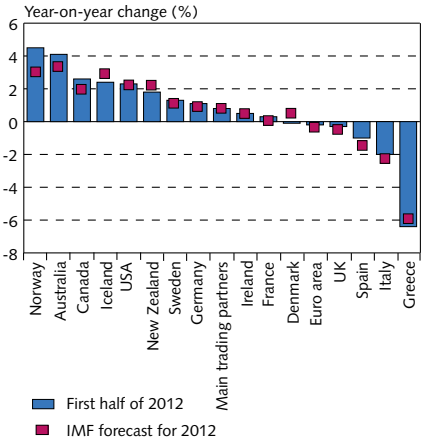
Chart I-11
GDP growth in 24 industrialised OECD countries 2004 - 2012[1]



1. IMF forecast for 2012.
Source: IMF.

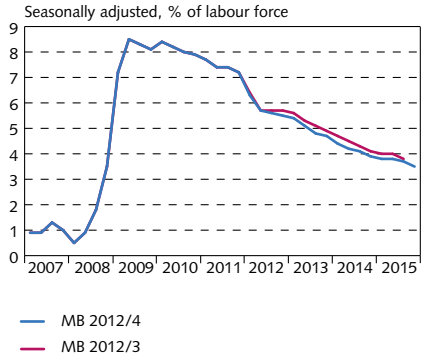
8. See, for example, M. Bordo, B. Eichengreen, D. Klingebiel, and M. S. Martinez-Peria (2001). Is the crisis problem growing more severe? *Economic Policy*, 16, 51-82.

Chart I-12
GDP growth in the first half of 2012 and outlook for GDP growth in 2012



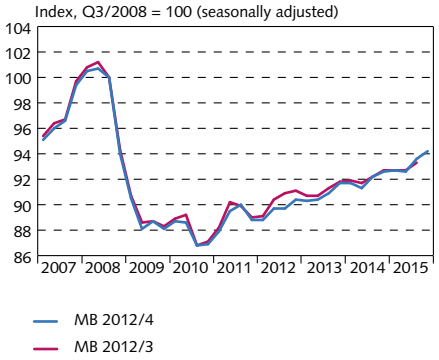
Sources: Eurostat, IMF, OECD, Statistics Iceland.

Chart I-13
Unemployment - comparison with MB 2012/3



Sources: Directorate of Labour, Central Bank of Iceland.

Chart I-14
Total hours worked - comparison with MB 2012/3



Sources: Statistics Iceland, Central Bank of Iceland.

countries – Australia and Norway – will perform better. The outlook for the euro area, Iceland's most important export market, is poor, however, particularly in the southern part of the region. As is discussed in Section II, the IMF forecasts a contraction in 10 of the 35 countries it classifies as developed, all of them in Europe. Growth is expected to exceed 2% in only 11 of the 35 countries (Chart II-2). Further discussion of Iceland's GDP growth and outlook can be found in Section IV.

Gradual labour market recovery expected despite drop in total hours worked in Q3

Registered unemployment measured 4.8% in Q3, while seasonally adjusted unemployment was 5.6%. According to the Statistics Iceland labour market survey, seasonally adjusted unemployment was about 6%. Unemployment has therefore continued to decline, by almost 2 percentage points year-on-year according to registered unemployment figures and by 1 percentage point according to the labour market survey. As Box VI-1 indicates, the reduction in unemployment from the peak is due largely to a pick-up in jobs in the wake of the economic recovery. Long-term unemployment has declined as well, and the labour participation rate has risen slightly.

In spite of these positive developments, recent indicators could suggest a slowdown in the labour market recovery. For instance, a survey carried out by Statistics Iceland indicates that total hours worked have risen more slowly as the year has progressed, and that they even contracted year-on-year in Q3. Over the year as a whole, however, the number of jobs has increased. This drop in average hours worked is not consistent with a conventional labour market adjustment after a contraction and could indicate that the economic recovery is weaker than previously thought. Surveys indicate, however, that firms plan to meet increasing demand by lengthening working hours.

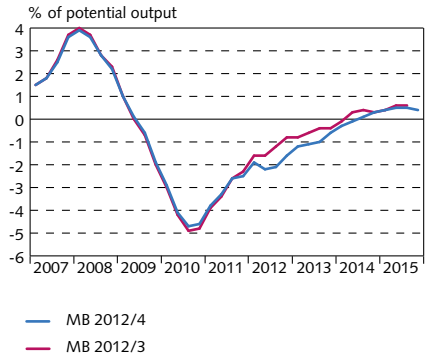
According to the baseline forecast, unemployment will continue to fall. It is projected at roughly 4.7% in Q4/2013 and about 3.5% by Q4/2015, the end of the forecast horizon. This is similar to the outlook assumed in the August forecast. According to the forecast, total hours worked will increase again in Q4/2012. It is expected that they will still be about 6½% below the pre-crisis peak (in mid-2008) by the end of the forecast horizon. The forecast assumes that total hours worked will continue to grow gradually, at a rate somewhat below output growth. Productivity will therefore increase throughout the period. On average, productivity growth is projected to exceed long-term trend growth by a slight margin during the forecast horizon. This will not suffice, however, to prevent unit labour costs from rising markedly this year, although they are expected to rise more modestly for the remainder of the forecast horizon. Further discussion of the labour market can be found in Section VI.

Margin of spare capacity greater than previously estimated

Based on revised GDP figures from Statistics Iceland for 2011 and H1/2012, it is now estimated that the output slack is almost 1 percentage point larger than the August estimate; therefore, output will be some 1½% below potential output this year instead of the 1%

assumed in the August forecast. According to the current estimate, this year's slack will be about 1 percentage point less than last year's and about 3 percentage points below the peak in 2010. The slack is projected to continue shrinking until it disappears in the latter half of 2014, about half a year later than was assumed in August. This forecast assumes that, although growth in potential output is recovering gradually in the wake of the financial crisis, it will be below long-term trend growth for the majority of the forecast period. Further discussion of potential output and output slack can be found in Section IV.

Chart I-15
Output gap - comparison with MB 2012/3



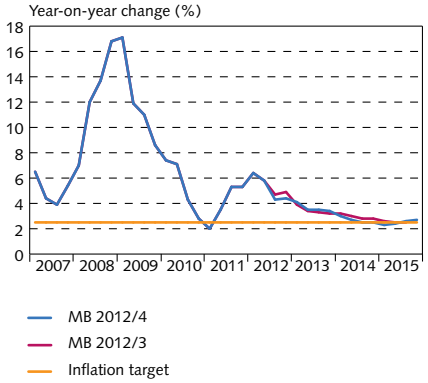
Source: Central Bank of Iceland.

Inflation lower than in the August forecast, but the outlook is broadly unchanged

Inflation measured 4.3% in the third quarter of the year, 0.4 percentage points below the forecast in the August *Monetary Bulletin*. The outlook is for lower inflation in Q4 as well. From Q1/2013 onwards, however, the outlook is similar to that in the August forecast, reflecting the offsetting effects of lower initial inflation and more spare capacity in the economy, on the one hand, and the weaker króna and larger indirect tax hikes at the beginning of 2013, on the other. Indicators of underlying inflation also suggest that underlying inflationary pressures have abated. On the other hand, measures of inflation expectations indicate that long-term inflation expectations remain high and have fallen very little this year.

After a temporary spike in Q4/2012, however, inflation is expected to continue declining. It is projected at about 4½% in Q4/2012 and about 3½% in the fourth quarter of 2013. According to the forecast, it will reach the inflation target in the first half of 2014, about half a year earlier than was forecast in August. Further discussion of global price level developments can be found in Section II, and developments in domestic inflation and inflation expectations are discussed in Section VIII.

Chart I-16
Inflation - comparison with MB 2012/3



Sources: Statistics Iceland, Central Bank of Iceland.

Key uncertainties

The baseline forecast reflects an assessment of the most likely economic developments over the next three years. It is based on forecasts and assumptions concerning developments in the external environment and the effects of those developments on the Icelandic economy. The forecast is also based on how individual markets function and how monetary policy is transmitted to the economy. All of these factors are uncertain, and the outlook for economic developments, whether domestic or international, could easily deviate from the baseline scenario. The following is a discussion of several important uncertainties in the baseline forecast.

Weaker global economic recovery could undermine the domestic recovery

The global GDP growth outlook continues to worsen, and in spite of extensive policy measures aimed at facilitating financing for banks and sovereigns in the euro area, fear appears to be escalating once again in the global markets. In line with international forecasts, the baseline forecast assumes nonetheless that the authorities in the euro area will

be successful in tackling these problems, which will help the world economy to realign itself, although GDP growth will be weak in the next few years.

This assumption is subject to considerable uncertainty, however. The possibility that the crisis will worsen still further cannot be ruled out. If efforts to resolve the debt problems of the most distressed euro area countries are unsuccessful, the problem could spread throughout the region and beyond. In the worst-case scenario, the global economy could be pulled down into a new recession, and global financial market unrest could escalate even further. The IMF now estimates that there is a one-in-six chance of such a development, whereas in the spring it estimated the probability of such contagion at about 4% (see *World Economic Outlook*, October 2012). Based on some of the Fund's models, however, the likelihood of a contraction could be much greater – up to 80%. If a new contraction occurs, the impact on the Icelandic economy will probably be greater than is provided for in the baseline forecast. The export outlook could suffer, as the euro area is Iceland's most important export market. Terms of trade could deteriorate even further, particularly if marine product prices weaken significantly, and domestic investment plans that depend on external financing could be thrown into disarray if the global economic outlook worsens, delaying domestic development and reducing export potential for the long term. Increased uncertainty globally could also prompt Icelandic households to exercise greater caution in spending, therefore reducing domestic demand. Such developments could undermine the continued economic recovery in Iceland.

Exchange rate outlook highly uncertain

In general, it has proven extremely difficult to forecast the exchange rate of the króna. It is quite uncertain when the capital controls will be lifted and how their removal will affect the exchange rate. At the same time, there is considerable uncertainty about the global economy. Under such conditions, forecasting the exchange rate of the króna will involve even more uncertainty than usual. As a result, the baseline forecast is based on the technical assumption, albeit an unsatisfactory one, that the exchange rate of the króna will remain broadly stable at the current level throughout the forecast horizon.

The exchange rate path of the baseline forecast is therefore subject to significant uncertainty stemming in part from the timing of progress of capital account liberalisation, each stage of which could be accompanied by pressure on the exchange rate. Because the precise timing of the liberalisation process has not yet been determined, it is extremely difficult to take account of this factor in preparing the forecast. In coming quarters, exchange rate developments will also reflect payment flows related to Icelandic residents' repayment and refinancing of foreign debt. Although the payment dates for some of these loans are known, in some instances there is uncertainty about refinancing and about the precise timing of foreign currency accumulation to cover the payments. In addition, unrest in the global financial markets could have repercussions in Iceland even though the króna is sheltered by the capital controls. Offsetting this underlying

downward pressure on the exchange rate are factors that could support the króna, however, such as potential capital inflows related to large investment projects and indications that the real exchange rate is still below long-term equilibrium. Although the factors that could weaken the króna will weigh heavier in the near term, there is greater uncertainty about the interaction among these factors further ahead.

Uncertainty about fiscal budget assumptions

According to Government estimates, there will be a surplus on the primary balance this year, and the new fiscal budget proposal assumes an overall surplus in 2014. Public sector debt as a share of GDP is estimated to have peaked in 2011 and is projected to fall to 81% of GDP by the end of the forecast horizon. These estimates are based, however, on a number of assumptions, some of which are very uncertain. Increased expenditure pressures are present as well, partly due to the coming parliamentary elections, and it is unclear if and how the authorities will participate in the possible wage settlement review early next year. Nor does it appear that account has been taken of expenditures related to various investments proposed by the authorities, including a new hospital. Various revenue items are uncertain as well, and there is the risk that expenditures will be undertaken even if the assumptions concerning targeted revenues are not borne out. Finally, there is some uncertainty about developments in Government financing costs, as domestic inflation has not yet been brought fully under control and uncertainty remains in connection with the capital account liberalisation strategy. Other things being equal, lifting the controls will be accompanied by a rise in the Government's interest expense. Yet another source of uncertainty is the still-unresolved Icesave dispute. Finally, there is considerable uncertainty about the Housing Financing Fund's capital position, in view of large-scale and rising arrears, the rapidly increasing number of repossessed properties, and the poor outlook for the Fund's operations.

As a result, the assumptions underlying the fiscal budget for the coming year are uncertain, and there is the risk that attempts to bring Government operations into balance will be less successful than is assumed, especially because the authorities have not yet implemented formal fiscal rules, as the Central Bank and others have recommended, in order to strengthen the budget preparation process and enhance fiscal discipline. If the budgetary assumptions – and therefore the Bank's baseline forecast – are not borne out, there is the risk that it will be more difficult to control public sector debt, which could undermine the exchange rate of the króna, complicate capital account liberalisation, and necessitate tighter monetary policy than would otherwise be required. The economic recovery could therefore be slower than in the baseline forecast.

What will happen when wage settlements are reviewed early in 2013?

The review of the current wage settlements, scheduled for next January, is rapidly approaching. Although it appears likely that conditions set forth in the wage settlements of spring 2011 will not be met,

it is assumed that the review will not trigger additional pay increases except to a very limited extent, owing to the tight financial position of many firms, particularly those that operate in the domestic market and have benefitted less from the low real exchange rate.

This assumption is quite uncertain, however. If wage agreements are terminated and/or additional pay increases negotiated, there is the risk of greater inflationary pressures than in the baseline forecast. Although nominal wage rises could stimulate private consumption in the short run, there is the danger that private and public sector entities will quickly pass the cost increases through to prices, as has been the pattern recently. If additional pay hikes are not based on a further increase in productivity, they will also push the exchange rate downwards, other things being equal. The Central Bank would be forced to respond to increased inflationary pressures caused by rising wages and a falling exchange rate by implementing further interest rate hikes, which would reduce demand and employment beyond the levels assumed in the baseline forecast. Other things being equal, output growth would be weaker than is assumed here for the majority of the forecast horizon.

Is the domestic economic recovery losing ground?

Some leading indicators and recent developments in the labour market could indicate that the economic recovery has lost pace in the latter half of the year. Although this is consistent with previous Central Bank forecasts, it appears as though economic activity in 2012 will be weaker than previously assumed. The revised baseline forecast takes account of this. The forecast assumes, however, that growth in domestic demand will be relatively strong in coming years and that GDP will be broadly consistent with the August forecast at the end of the forecast horizon.

This is subject to uncertainty, however. Households' spending plans appear to be based on a more solid foundation than previously thought, in view of strong growth in disposable income in the past year and the marked decrease in private sector debt. The debt level is still high in international context, however, so households and businesses could conceivably opt to take more time than is assumed in the baseline forecast to repair their balance sheets and deleverage instead of undertaking new expenditure. A setback in the global economy could prompt them to be even more cautious, as well as making financing costlier and harder to obtain than is assumed in the baseline scenario. If the global economy recovers more rapidly, however, and if the restructuring of the remaining private sector debt in Iceland proceeds quickly, including through court decisions, domestic demand could recover more strongly than the baseline forecast indicates.

Do labour market data imply that the national accounts have overestimated the economic recovery?

Since the economic recovery began in mid-2010, domestic production levels have risen more rapidly than labour demand, which suggests robust productivity growth. If this is correct, firms have been resisting stepping up labour use in spite of increased economic activity, and

the baseline forecast assumes that growth in labour use will continue to be outpaced by output growth, which implies that productivity growth will remain relatively strong during the forecast horizon.

This interpretation is subject to some uncertainty, however, and it is not impossible that slow growth in total hours worked is actually an indication that economic activity is overestimated and productivity growth is weaker than expected. If true, this suggests that the economic recovery has been overestimated and spare capacity in the economy is greater and, although offset by weaker productivity growth, inflationary pressures weaker. Neither can the possibility of measurement errors in labour market statistics be ruled out, however. It is difficult, for example, to explain the recent contraction in hours worked and the simultaneous rise in the number of jobs, and a sampling error in the labour market survey could be a contributing factor. Given the estimate of the production level, this would indicate that productivity growth has been weaker than the data indicate and underlying inflationary pressures therefore greater than in the baseline forecast.

Inflation outlook uncertain

The baseline forecast assumes that inflation will continue to taper off and will align with the target in the first half of 2014.[9] As before, this assumption is highly uncertain. A major determinant of inflation developments in coming quarters will doubtless be the exchange rate, which is extremely uncertain, particularly in connection with the potential impact of capital account liberalisation, which is difficult to quantify. Imported inflation will also be determined by developments in oil and commodity prices, which are more difficult than usual to project in view of the extremely uncertain global outlook.

Developments in domestic determinants of inflation are another source of significant uncertainty. Uncertainty about the strength of the economic recovery has mounted, and some signs may suggest that the pace of the recovery has slowed. In addition, it is difficult to estimate the slack in the economy and how quickly it is disappearing. Uncertainty about growth in potential output and productivity is a factor here, as it is difficult to assess how sustainable the recent increase in productivity growth is. Furthermore, it is uncertain how much cushion the slack in the economy provides against excessive wage increases, including any pay increases implemented in connection with the upcoming wage settlement review. This will be determined in part by how effective an anchor the inflation target provides for inflation expectations and how much scope firms have to absorb further pay increases without passing them through to prices. Prolonged, high inflation expectations also exacerbate the risk of a wage-price spiral, which could cause inflation to be more persistent than is assumed in the Bank's forecast.

9. It is appropriate to remember that the baseline forecast is based on the assumption that monetary policy will be applied so as to guarantee that the inflation target is reached within the forecast horizon.

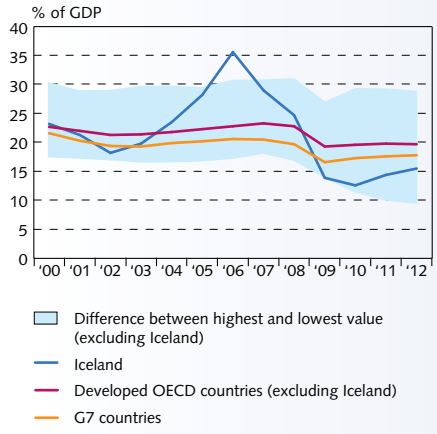
Box I-2

Investment in the aftermath of financial crises

The banking and currency crisis caused a severe recession in the Icelandic economy, with elevated unemployment, declining real disposable income, and a large contraction in domestic demand and output. As has been described in previous issues of *Monetary Bulletin*, the contraction Iceland experienced during the crisis was greater by most measures than that in most other developed countries. This is not surprising, as the Icelandic economy is generally more volatile than other developed countries, and the economic and financial imbalances were unusually pronounced during the run-up to the crisis. Hence the domestic economy was highly vulnerable to a sudden stop of capital inflows, a currency depreciation, and the collapse of its banks (see Ólafsson and Pétursson, 2011).

Chart 1

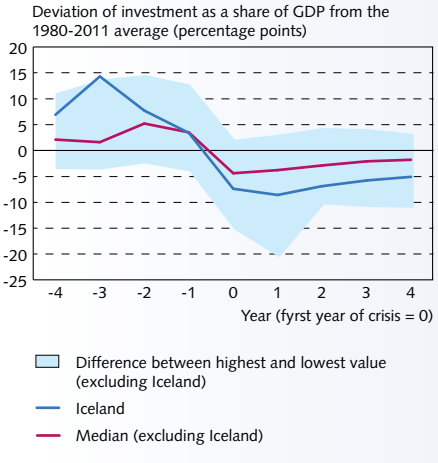
Investment in 24 developed OECD countries 2000-2012[1]



1. IMF forecast for 2012.
Source: IMF.

Chart 2

Post-crisis investment[1]



1. Investment as a share of GDP in Iceland and 15 other countries following severe financial crises. Names of countries and dates of crises can be found in Footnote 2 of Box I-1 in MB 2012/4. IMF forecast where applicable.
Source: IMF.

Post-crisis developments in investment

The financial crisis also led to a steep contraction in the domestic investment level. As Chart 1 shows, investment as a share of GDP peaked during the upswing and then fell to 25% in 2008. It fell still further after the crisis, bottoming out at just under 13% of GDP in 2010. It rose by one percentage point last year and is projected to reach about 15% this year, according to the most recent forecasts from the Central Bank and the International Monetary Fund (IMF). It is still far from the 1980-2011 average of 21% of GDP, however, and is expected to remain below average throughout the forecast horizon.[1]

The low investment ratio is not a uniquely Icelandic phenomenon, however, even though Iceland's ratio is among the lowest among developed OECD countries (see Chart 1). Other countries with a low investment ratio include the UK and the US, which recorded ratios either side of 15% last year, and Ireland, with only 10%. At the same time, investment ratios have remained above historical averages in countries such as Canada and Sweden, both of which fared better during the financial crisis.

Comparison with other financial crises

Chart 2 gives a comparison of developments in Iceland's post-crisis investment ratio with that in 15 other countries that have suffered severe financial crises since 1970.[2] Developments in the investment ratio are shown as deviations from the 1980-2011 average. In the first full year after the crisis, Iceland's investment ratio was about 7½ percentage points below its historical average, whereas the other 15 countries' ratios deviated from their own historical averages by an average of 4½ percentage points. A year later, investment activity in Iceland declined still further, to 8½ percentage points below the average, while it inched upwards in the comparison group. As the chart shows, investment activity has increased more slowly in Iceland than in comparison countries on average; however, as the shaded portion of the chart indicates, Iceland lies within the range defined by the other countries' experience.

An examination of developments in investment in various countries reveals that Iceland closely resembles Thailand in this respect (Chart 3). Similar developments can also be seen in Finland, Ireland, and Malaysia. In all of these countries except Ireland, companies were heavily indebted in foreign currency, and a severe debt problem developed in the wake of a banking and currency crisis.

1. The small rise in the overall investment ratio reflects limited public investment and a low residential investment ratio. Business investment has recovered more strongly and is expected to reach its long-term average relative to GDP by the end of the forecast horizon, according to the Central Bank's baseline forecast.
2. Using the Laeven and Valencia (2008) definition of countries that have sustained systemic banking crises since 1970 (see also IMF, 2003, T. T. Ólafsson and T. G. Pétursson, 2011, and *Monetary Bulletin* 2008/3, p. 25). The 15 countries (in addition to Iceland) are (first year of crisis in parentheses): Argentina (2002), Brazil (1999), Ecuador (1999), Finland (1991), Iceland (2009), Indonesia (1998), Ireland (2009), Latvia (2009), Malaysia (1998), Mexico (1995), Philippines (1998), South Korea (1998), Sweden (1991), Thailand (1997), Turkey (2001), and Uruguay (2002).

The banking system was large relative to GDP in all of them. This close correlation between post-crisis developments in investment and pre-crisis debt accumulation can be seen clearly in Chart 4. As the chart indicates, the tendency towards a post-crisis contraction in investment correlates closely with the pre-crisis rise in indebtedness among businesses and households.

There could also be various other explanations for the relatively large decline in Iceland's investment ratio and the slow post-crisis recovery. The investment ratio was unusually high relative to the historical average in the run-up to the financial crisis, but as Chart 5 shows, a high pre-crisis investment level tends to go hand-in-hand with a steep decline in the investment ratio afterwards (see also IMF, 2009). Studies also show that the economic recovery following a twin banking and currency crisis like that in Iceland is usually much slower than the recovery from either a banking or currency crisis. For instance, the findings of Bordo *et al*. (2001) indicate that the economic contraction following a twin crisis is usually up to three times greater than that following a conventional banking crisis and that its duration is, on average, twice as long. Presumably, this is also reflected in a greater decline and slower recovery of the investment ratio.

Finally, Iceland's low investment ratio after the crisis must be viewed in the context of the weak world economy following the current global economic crisis, which has raised risk premia and reduced access to foreign funding for investment purposes, among other things. For instance, output growth among advanced countries has averaged ½% over the past four years, as opposed to just over 2%, on average, for the four years after the Nordic financial crisis in the early 1990s and about 3% following the Asian crisis in the late 1990s. The global economy is therefore much weaker now than when most of the other 15 comparison countries were facing their respective financial crises, and this overall weakness makes it much harder for individual countries to regain their strength.

Conclusion

The sharp contraction and slow recovery of investment in Iceland in the wake of the financial crisis must be viewed in light of the experience of other countries that have sustained severe banking and currency crises while having a large banking system and a heavily indebted private sector, particularly in foreign currency, and where the domestic recovery has faced global headwinds. Examples combining all of these characteristics are difficult to find, however. Many of these features could be found in some of the countries affected by the Asian and Nordic crises of the 1990s, but recovery was facilitated by a more robust global economy, which supported exports and eased access to foreign funding for investment activities.

On the whole, it appears that post-crisis developments in investment in Iceland have been broadly similar to those in other countries following similar crises, particularly in view of the magnitude of the crisis, the pace and scale of pre-crisis debt accumulation and high investment rate, and the simultaneous weakness of the global economy.

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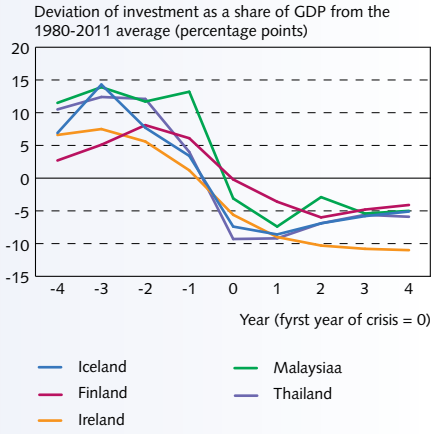
Chart 3

Post-crisis investment in several countries[1]

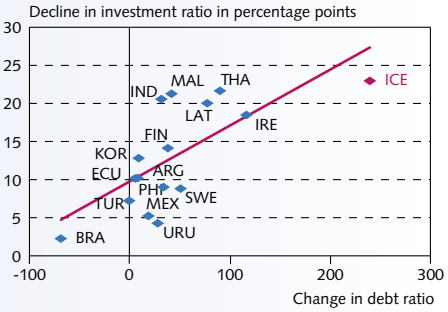


1. Investment as a share of GDP in Iceland and 15 other countries following severe financial crises. Names of countries and dates of crises can be found in Footnote 2 of Box I-1 in MB 2012/4. IMF forecast where applicable.

Source: IMF.

Chart 4

Pre-crisis increase in debt and post-crisis developments in investment[1]

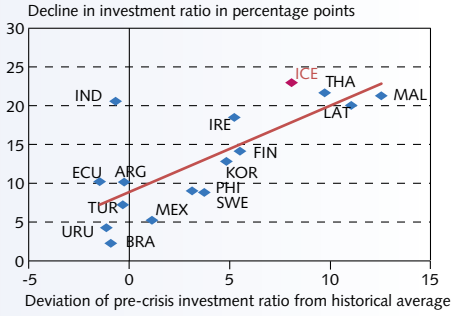


1. The decline in the investment ratio shows the change in investment relative to GDP from the peak during the 4-year period before the crisis to the post-crisis trough. The change in the debt ratio shows the change in private sector lending relative to GDP over a 10-year period prior to the crisis.

Sources: IMF, Macrobond, Central Bank of Iceland.

Chart 5

Investment in the run up to the crisis and its post-crisis developments[1]



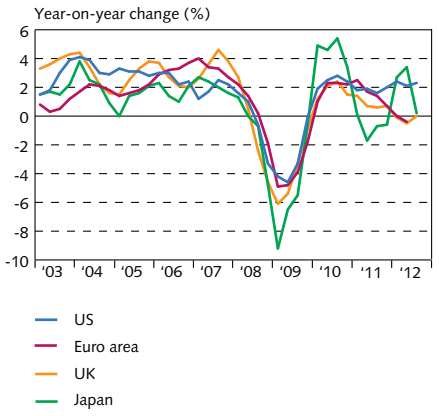
1. Reduction in investment ratio shows the change in investment relative to GDP from the peak during the 4-year period in the prelude to the crisis to the post-crisis trough. The deviation in the pre-crisis investment ratio from the historical average shows the deviation in the average ratio over the 4 years prior to the crisis from the 1980-2011 average.

Sources: IMF, Macrobond, Central Bank of Iceland.

II External conditions and exports

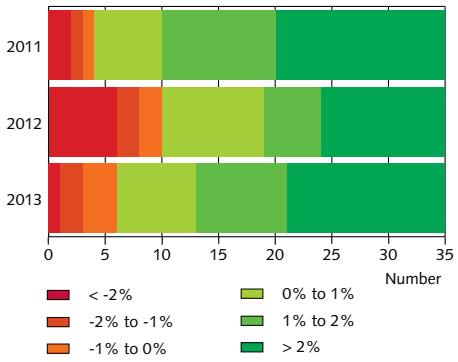
The global economic recovery has lost pace since the last *Monetary Bulletin*; the outlook has continued to worsen somewhat and uncertainty has intensified in spite of additional stimulus from governments and central banks. Inflation has been low in Iceland's main trading partner countries, and the outlook is unchanged since the last forecast. Terms of trade are likely to deteriorate further this year than was assumed in the August forecast, particularly due to lower export prices, but the outlook for the next two years has improved somewhat. World trade will grow weakly in 2012 and is expected to grow less than previously forecast in the next few years as well. The outlook is for weaker export growth during the forecast horizon than was projected in August, partly because of the weaker global recovery and poorer prospects for world trade.

Chart II-1
GDP growth in major industrialised countries
Real GDP growth Q1/2003 - Q3/2012



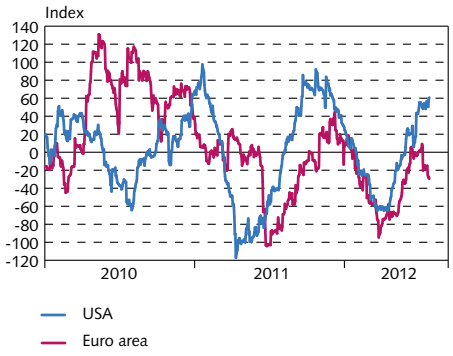
Source: Macrobond.

Chart II-2
Distribution of GDP growth among 35 industrialised countries



Source: IMF.

Chart II-3
Economic surprise index[1]
Daily data 1 January 2010 - 9 November 2012



1. When the index is lower than 0, the indicators are more negative than expected; when the index is higher than 0, the indicators are more positive than expected. The index does not imply that the indicators are positive or negative.

Source: Macrobond.

Global growth outlook deteriorates further, and uncertainty grows …

Over the course of the year, economic recovery has lost ground in several of Iceland's main trading partner countries, particularly in the euro area and Denmark, where GDP has begun to contract. In the UK, the recession came to an end in the third quarter of the year. The International Monetary Fund (IMF) forecasts a contraction in 10 developed European countries this year, as opposed to three last year. The recovery has continued in the US, albeit slowly. The first indicators suggest a relatively strong third quarter, and output growth for the year is projected at about 2%. Growth has gained momentum in Norway in the recent term but has been slightly weaker than expected in China and many other emerging economies. On the whole, the global GDP growth outlook has deteriorated since the beginning of the year, and it appears that growth will be weaker in this year than in 2011. Key economic indicators for the euro area and the US published shortly after the August *Monetary Bulletin* were somewhat weaker than generally anticipated, but since early September indicators for the US have been more positive than expected. At the same time, indicators for the euro area have been broadly in line with market expectations or slightly below them.

The IMF's most recent forecast for 2012 indicates that GDP growth in Iceland's major trading partners apart from the US will be slightly weaker than in its July forecast. The current forecast, like that in the last *Monetary Bulletin*, assumes that Iceland's trading partners will see 0.7% growth on average. Only in the US and Japan will growth be stronger this year than in 2011. For Iceland's trading partness it is forecast at 1½% and just over 2%, respectively, in 2013 and 2014. This is virtually unchanged from the August forecast but decidedly more pessimistic than the Bank's projections from a year ago. In the IMF's opinion, uncertainty about output growth prospects has escalated sharply from previous forecasts and the risk of a significant slowdown in the global recovery is relatively great. The risk of a contraction in the euro area is a major factor in this opinion.

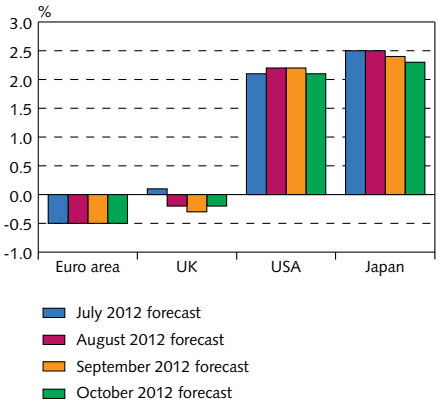
... particularly due to the European crisis

Central banks around the world have implemented further stimulus measures since the last *Monetary Bulletin*, in response to the worsening economic outlook and the European crisis. The European Central Bank (ECB) has declared its willingness to purchase an unspecified amount of government bonds from countries in an adjustment programme with the European Financial Stability Facility / European Stability Mechanism (EFSF/ESM), with the aim of mitigating sovereign debt problems and ensuring that the countries affected benefit from monetary easing. In an effort to stimulate the housing market, the US Federal Reserve Bank announced plans to purchase mortgage bonds in the amount of 40 billion US dollars per month until the labour market shows signs of a strong recovery. The Bank of England and the Bank of Japan also stepped up bond purchases in support of the economic recovery. These measures came in the wake of broad-based policy actions earlier this year, with substantial increases in liquidity support for European banks. Furthermore, central banks in several emerging countries have either cut interest rates or postponed tightening measures, and the effective policy rate in Denmark has been kept negative since July in an attempt to mitigate upward pressure on the Danish krone. In addition, the European Union (EU) has drafted a framework for a harmonised banking supervision agency in the euro area.

The financial conditions of banks, firms, and countries in the euro area still diverge widely, and there are signs that the economic impact of the debt crisis is spreading throughout the continent in spite of the above-cited support measures. Large-scale capital flight from distressed countries has been addressed primarily with increased lending by the ECB. Outflows due to the contraction in bond purchases by foreign investors and the decline in deposits from mid-2011 to mid-2012 have been massive, totalling 27% of GDP in Spain and 15% of GDP in Italy. The measures implemented by the ECB and the EU have stemmed the tide of these outflows to a degree, but attempts to break the vicious cycle of sovereign and bank debt problems have been unsuccessful so far. In fact, the problem seems to have worsened, as domestic banks are now even more prominent owners of government bonds and are highly vulnerable to falling bond prices. Lending to households and businesses continues to contract in debt-ridden countries, owing to dwindling demand and financial distress among lenders, and the GDP growth outlook is bleak. Consequently, the resolution of the European financial crisis is still quite uncertain. There is uncertainty west of the Atlantic as well; for instance, about budgetary measures concerning the debt ceiling, which are to take effect at year-end.

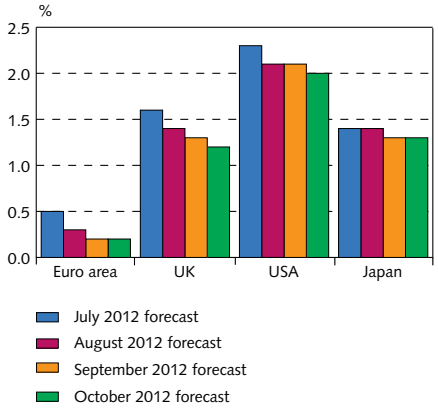
In spite of pessimism and unrest, stock prices have risen around the world in the recent term and risk aversion among investors appears to have abated. Price increases have been most pronounced in the Nordic region and the euro area, although stock prices have also risen in emerging countries. In the US, prices are higher than in the prelude to the financial crisis. To some extent, it is likely that the above-mentioned measures, which have lowered returns on various

Chart II-4
GDP forecast for the year 2012



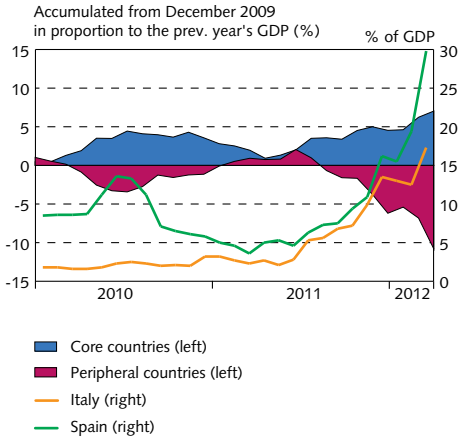
Source: Consensus Forecasts.

Chart II-5
GDP forecast for the year 2013



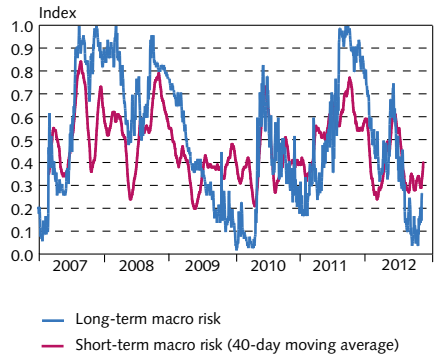
Source: Consensus Forecasts.

Chart II-6
Capital flows within the euro area and central bank loans to Spain and Italy[1]
January 2010 - March 2012



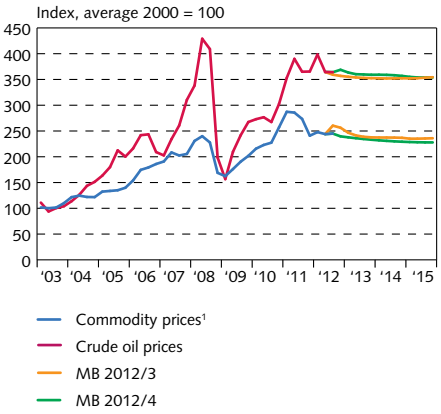
1. The shaded areas indicate estimated accumulated net capital flows from parties other than central banks to various country groups in the euro area. Core countries are Belgium, France, Germany, and Holland. Peripheral countries are Greece, Ireland, Italy, Portugal, and Spain.
Source: IMF.

Chart II-7
Macro risk index[1]
Daily data 1 January 2010 - 9 November 2012



1. Zero means low risk aversion and one means high risk aversion. The Citi Index of risk aversion in global financial markets measured by emerging market sovereign spreads, US TED spread, US and European corporate CDS spreads and implied FX, equity and swap rate volatility.
Source: Macrobond.

Chart II-8
Commodity prices
Q1/2003 - Q4/2015



1. Non-oil commodity prices in USD.
Sources: Macrobond, Central Bank of Iceland.

conventional investments, have prompted investors to seek higher returns through riskier instruments such as equities.

Inflation outlook virtually unchanged since August

Inflation has generally declined in Iceland's main trading partner countries in the past few months. The assumptions concerning inflation in trading partner countries are unchanged from the August *Monetary Bulletin*, although the inflation outlook for the euro area has deteriorated somewhat. The two-year outlook for Iceland's main trading partners is virtually unchanged from the August forecast, with inflation estimated at 1.9-2.2% during the forecast horizon.

Oil prices broadly unchanged from the August forecast, while commodity prices fall more sharply during the year

Oil prices are projected to rise marginally this year, or by 1½%, and then fall by 3½% in 2013. Developments in oil prices this year and in the following two years are broadly in line with the August forecast. As before, this forecast is based on oil futures and market agents' assessments. According to the IMF's October *World Economic Outlook*, however, relying on futures could result in an overestimation of the price drop ahead, in part because of the risk of difficulties with oil delivery from the North Sea and the risk of supply interruptions due to localised political instability.

Global commodity prices rose somewhat in Q3 after falling in the previous quarter, but they are still considerably lower than at the same time a year ago. The average price decrease for the year is projected at 10% instead of the 7% forecast in August, as the August forecast provided for a larger increase in Q3 than actually materialised. Commodity prices are expected to fall somewhat in the next two years, although the prospect of a gradual global recovery, with continuing growth in demand in most emerging countries, will offset this to a degree.

Outlook for marine product prices poorer than in August ...

Overall, marine product prices have remained high so far this year and have risen in most months. Demersal products, however, have fallen in price since peaking in autumn in 2011, particularly cod products, which account for almost a third of marine product exports. The likely reasons for the decline are that cod products had become relatively expensive and the Atlantic cod supply is projected to increase by 8-10% this year. The current forecast assumes that marine product prices will rise by just under 2% this year, as opposed to 2.6% in the August forecast.

The supply of Atlantic cod is expected to increase by as much as a fifth in 2013. This generates considerable uncertainty about price developments in coming months. The likeliest outcome is that prices will fall somewhat. Offsetting this, however, the supply of other demersal species will either remain unchanged or contract, which should support cod prices. Furthermore, futures prices indicate that fishmeal and fish oil prices will rise sharply in coming quarters, and various other fish products are forecast to rise in price in 2013.

Considering all of these factors, it is now projected that marine product prices overall will continue rising through the first half of 2013. For the year as a whole, prices are expected to rise by about 2%, whereas the August forecast assumed no change year-on-year. This will turn around in 2014, however, so that for the forecast horizon as a whole, the outlook for marine product prices has worsened slightly since August. This is because prices are already rather high compared to other food prices and, based on information from market participants, products have become more difficult to sell, particularly in Southern Europe, even though the markets remain sound.

… while the outlook for aluminium prices has improved

After a slight rise in the first two months of 2012, aluminium prices fell markedly between March and August, in line with developments in global commodity prices. Aluminium prices fell below 2,000 US dollars per tonne and then, in September, rose 12% month-on-month and broke the 2,000 barrier again. In line with market forecasts and developments in futures, they are projected to decline by approximately 10½% year-on-year in 2012 instead of 15%, as was forecast in the last *Monetary Bulletin*. The outlook is for a 7-8% increase per year in the following two years, as opposed to the 4% annual increase in the August forecast. The outlook for aluminium prices has therefore improved somewhat, and it is now expected that they will be approximately 9% above the August forecast at the end of the forecast horizon.

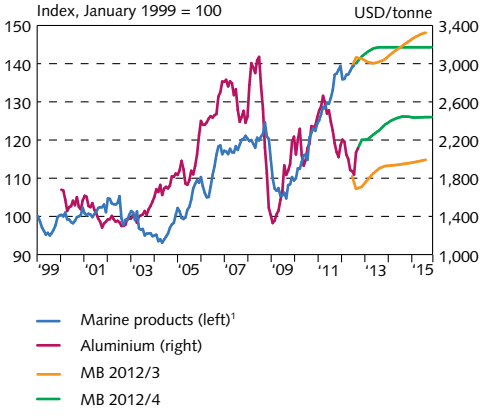
Outlook for terms of trade weaker this year but stronger for the forecast horizon as a whole

Global price developments have changed somewhat since August, as has the outlook. The outlook for aluminium prices has improved somewhat since the last forecast, with smaller declines expected, and commodity prices are projected to fall further than in the August forecast. On the other hand, marine product prices are expected to rise less sharply and oil prices more so. As a result, the outlook is for terms of trade to worsen by about 2.8% instead of the 2.2% provided for in the August forecast, on top of the 1.6% deterioration from 2011. The outlook for terms of trade in the next two years has improved, however, since August, and for the forecast horizon as a whole it has improved somewhat.

Real exchange rate rises slightly

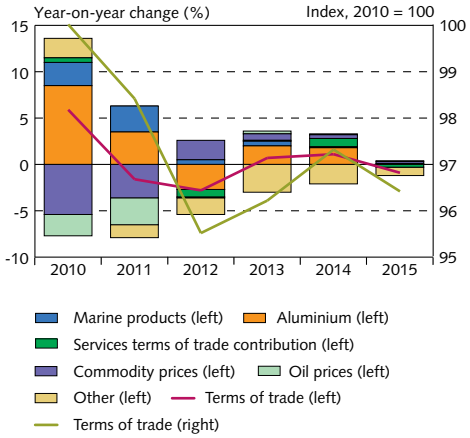
So far this year, the real exchange rate has risen by about 1.9% year-on-year in terms of relative prices. It began rising in April and continued until August, when it reached its highest point since September 2008. It fell 4.3% month-on-month this past September. It is now over 17% below the 30-year average in terms of relative prices and some 22% below the 30-year average in terms of relative wage costs. According to the forecast, the real exchange rate will rise slightly in the next few years, in line with the experience of other countries following a severe banking and currency crisis (see Section I).

Chart II-9
Prices of marine exports and aluminium
In foreign currency



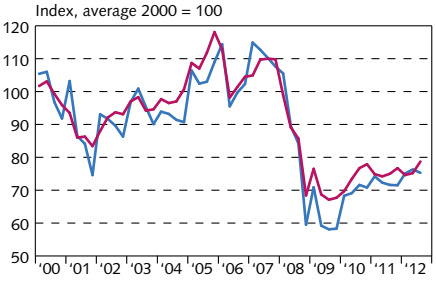
1. Foreign currency prices of marine products are calculated by dividing marine product prices in Icelandic krónur by the export-weighted trade basket.
Sources: London Metal Exchange, Statistics Iceland, Central Bank of Iceland.

Chart II-10
Terms of trade and their main components 2010-2015[1]



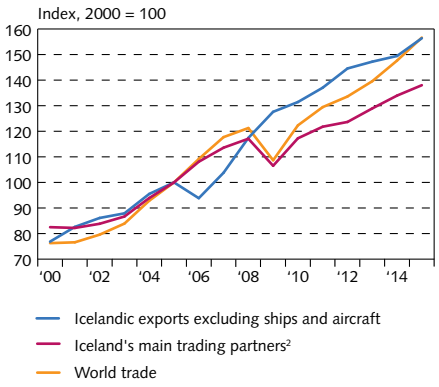
1. Central Bank baseline forecast 2012-2015. The contribution of the main sub-indices to year-on-year changes in terms of trade is determined by weighting the annual change in the sub-index concerned together with its weight in the import or export of goods and services. The item "other" is a residual.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart II-11
Real exchange rate
Q1/2000 - Q3/2012



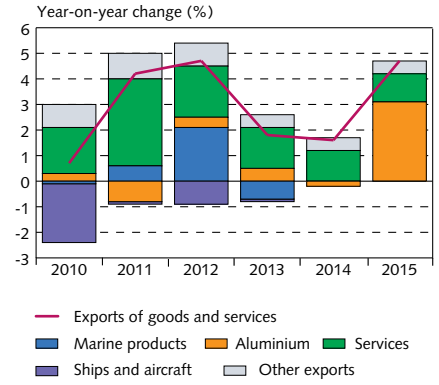
Source: Central Bank of Iceland.

Chart II-12
World trade and Icelandic exports
2000-2015[1]



1. Central Bank baseline forecast 2012 - 2015. 2. Imports of goods and services in Iceland's main trading partners.
Sources: OECD, Central Bank of Iceland.

Chart II-13
Export development and its main components
2010-2015[1]



1. Central Bank baseline forecast 2012-2015.
Sources: Statistics Iceland, Central Bank of Iceland.

World trade growth slows as output growth weakens

World trade slowed considerably in the latter half of 2011, concurrent with weaker global output growth. In its April forecast, the IMF projected a marked year-on-year slowdown in global trade in 2012, and in October it revised that forecast downward still further. The Fund forecasts modest growth in 2013, owing primarily to increased trade between emerging market countries. The outlook for imports among Iceland's main trading partners is broadly unchanged since August. Trading partners' imports are projected to grow by 1½% this year and about 4% per year in 2013 and 2014, in line with stronger world output growth.

Outlook for exports relatively poorer throughout the forecast horizon than in the August forecast

Goods exports are projected to increase by 4% this year, somewhat below the August forecast, owing mainly to weaker marine product exports. The third-quarter operating results of companies outside the energy-intensive and fishing sectors indicate declining export revenues and a downward revision of sales targets for coming quarters. The two-year outlook for goods exports is considered relatively poorer than in August, and very little growth is expected. Strong growth is projected in 2015, however, with a marked increase in aluminium exports (see also Section IV).

The poorer outlook for goods exports is offset by indications of stronger services exports. According to revised figures from Statistics Iceland, services exports appear to have increased by over 9% in 2011, a full two percentage points more than previous figures suggested. In addition, the data for 2012 indicate that services exports have grown even further year-to-date. The tourism industry expects a record year in the number of visitors to Iceland, as this year's 10-month total was higher than the total for all of 2011. Services exports are projected to grow by 5½%, slightly more than in the August forecast. The outlook for the coming two years is broadly unchanged, however.

Revised figures on services exports in 2011 reveal that exports of goods and services were 1 percentage point stronger than previously estimated. The Bank's forecast assumes that exports in 2012 will be broadly similar to the August forecast; therefore, year-on-year growth will be correspondingly less. Growth is projected at 4½% between 2011 and 2012 but only about 1½% per year for the next two years. The export outlook has therefore deteriorated since August.

Although the outlook for export growth in the upcoming two years is weak, it should be borne in mind that this comes on the heels of a period of robust growth dating from 2007 (if irregular items such as ships and aircraft are excluded), especially when viewed in the context of the weak global economy. In 2008-2011, annual export growth excluding ships and aircraft averaged just over 7%, while world trade grew by just under 3% and major trading partners' imports grew by only 2%. Icelandic exporters' market share relative to major trading partners has therefore grown somewhat since the global crisis struck, and as Chart II-12 shows, the forecast assumes that this

increased market share will be sustained throughout the forecast horizon. However, world trade will grow faster, as it is driven more by trade between emerging countries, as has been mentioned.

Table II-1 Exports and main assumptions for developments in external conditions

	Change from prior year (%) unless otherwise specified[1]				
	2011	*2012*	*2013*	*2014*	*2015*
Goods exports	1.3 (1.1)	4.1 (5.4)	0.5 (0.9)	0.8 (1.8)	5.9
Services exports	9.3 (7.1)	5.4 (5.2)	4.2 (3.6)	3.1 (2.9)	2.6
Exports of goods and services	4.1 (3.2)	4.6 (5.4)	1.7 (1.6)	1.5 (2.1)	4.6
Exports of goods and services, excluding ships and aircraft	4.3 (3.3)	5.5 (6.3)	1.8 (1.7)	1.5 (2.1)	4.6
Marine production for export	2.5 (2.5)	9.0 (11.0)	-3.0 (-5.0)	0.0 (0.0)	0.0
Aluminium production for export	-3.0 (-3.0)	1.5 (1.8)	2.2 (4.9)	-0.9 (1.9)	13.2
Foreign currency prices of marine products	10.4 (10.4)	1.9 (2.6)	2.1 (0.0)	0.3 (2.6)	0.0
Aluminium prices in USD[2]	13.5 (13.5)	-10.4 (-14.9)	7.7 (4.0)	6.9 (3.9)	0.3
Fuel prices in USD[3]	31.6 (31.6)	1.5 (0.4)	-3.5 (-4.4)	-0.6 (-0.4)	-1.1
Terms of trade for goods and services	-1.6 (-1.7)	-2.8 (-2.2)	0.7 (-0.3)	1.1 (-0.1)	-0.9
Inflation in main trading partners[4]	2.8 (2.8)	2.2 (2.2)	1.9 (1.8)	2.1 (2.0)	2.1
GDP growth in main trading partners[4]	1.7 (1.7)	0.7 (0.7)	1.3 (1.4)	2.1 (2.2)	2.9
Short-term interest rates in main trading partners (%)[5]	1.3 (1.3)	0.8 (0.8)	0.6 (0.6)	1.1 (1.1)	2.2

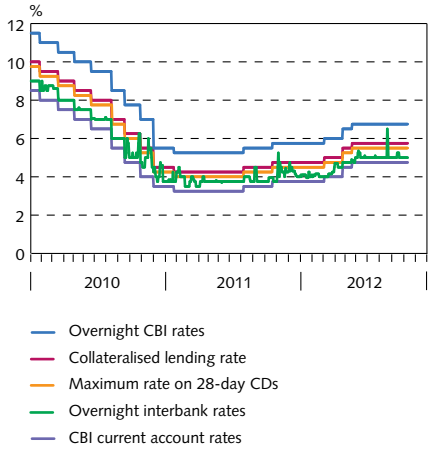
1. Figures in parentheses from forecast in *Monetary Bulletin* 2012/3. 2. Forecast based on aluminium futures and analysts' forecasts. 3. Forecast based on fuel futures and analysts' forecasts. 4. Forecast from Consensus Forecasts and Global Insight. 5. Based on weighted average forward interest rates in Iceland's main trading partner countries.

Sources: Bloomberg, Consensus Forecasts, Global Insight, IMF, Macrobond, New York Mercantile Exchange, Statistics Iceland, Central Bank of Iceland.

III Financial conditions

The monetary stance has continued to tighten in spite of unchanged Central Bank interest rates in August and October, and market agents appear to expect further rate hikes this year. The króna has depreciated markedly since August and is weaker than was assumed in the August forecast. Asset prices have continued to rise and private sector debt has declined, although it is still high in comparison with other countries. Nominal mortgage rates have risen in tandem with Central Bank interest rates, while indexed lending rates have fallen. Overall, private sector financial conditions have continued to improve during the year.

Chart III-1
Central Bank of Iceland interest rates and short-term market interest rates
Daily data 1 January 2010 - 9 November 2012



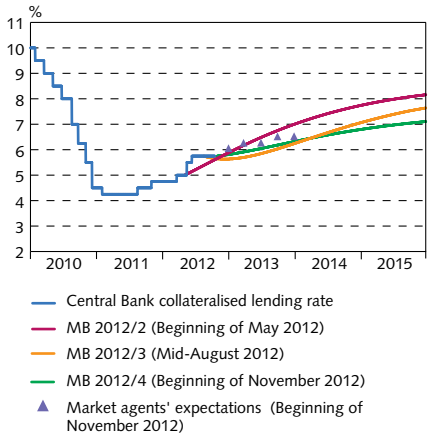
Source: Central Bank of Iceland.

Nominal Central Bank interest rates unchanged, but the real rate has risen

At its 22 August and 3 October rate-setting meetings, the Central Bank of Iceland Monetary Policy Committee (MPC) decided to hold the Bank's interest rates unchanged. Prior to the publication of this *Monetary Bulletin*, the current account rate was 4.75%, the maximum rate on 28-day certificates of deposit (CDs) was 5.5%, the seven-day collateralised lending rate was 5.75%, and the overnight lending rate was 6.75%. Interbank interest rates have developed broadly in line with Central Bank rates. Owing to abundant banking system liquidity, they have remained in the lower half of the Bank's interest rate corridor. Since the August *Monetary Bulletin* they have ranged between 5% and 5.25%, except on 17 and 18 September, when they moved towards the upper half of the interest rate corridor, to 6-6.5%, in the wake of temporary fluctuations in market liquidity.

Despite unchanged nominal Central Bank rates, the Bank's real rate has risen since August and is now 0.7% according to the average of the various measures of inflation and inflation expectations. It is therefore about 0.3 percentage points higher than just before the August *Monetary Bulletin* was published, and about 1.4 percentage points higher than a year ago.

Chart III-2
Collateralised lending rate, forward market interest rates[1] and market agents' expectations concerning collateralised lending rate[2]
Daily data 1 January 2010 - 31 December 2015



1. Interbank interest rates and Treasury notes were used to estimate the yield curve. Treasury notes maturing in May 2013 and March 2014 are excluded because their pricing is assumed to be affected by the capital controls. 2. According to the median response in the Central Bank's market expectations survey for the period 5-9 November 2012.
Source: Central Bank of Iceland.

Table III-1 The monetary stance (%)

Real interest rates based on:[1]	*Current stance (9 Nov 2012)*	*Change from MB 2012/3 (17 Aug 2012)*	*Change from MB 2011/4 (28 Oct 2012)*
Twelve-month inflation	0.9	0.4	2.2
Corporate inflation expectations (one-year)	0.9	0.8	0.6
Household inflation expectations (one-year)	-0.4	0.7	2.0
Market inflation expectations (one-year)[2]	0.6	0.0	-
One-year breakeven inflation rate[3]	0.5	-0.1	1.2
Central Bank inflation forecast[4]	1.6	-0.1	0.9
Average	0.7	0.3	1.4

1. The effective Central Bank nominal policy rate is the average of the current account rate and the maximum rate on 28-day CDs. 2. Based on survey of market participants' expectations. This survey was first carried out in mid-February 2012. 3. The one-year breakeven inflation rate based on the difference between the nominal and indexed yield curves (five-day rolling average). 4. The Central Bank forecast of twelve-month inflation four quarters ahead.

Market agents expect rate increases

Forward interest rates indicate that market agents expect Central Bank rates to be held unchanged at the MPC's 14 November meeting but begin to rise gradually in the next year. According to the yield curve,

market agents expect the seven-day collateralised lending rate to rise by just over 0.5 percentage points next year, to about 6.25% by year-end. The Central Bank's market expectations survey from early November indicates, however, that market agents expect a rate hike of 0.25 percentage points by end-2012 and an additional 0.5-point increase in 2013. The difference is probably a result of measurement problems at the short end of the yield curve caused by the ineffectiveness of the interbank market. This makes forward rates unreliable measures of expected future Bank rates.

Nominal Treasury bond interest has fallen

Yields on long nominal Treasury bonds have fallen by 0.1-0.3 percentage points since the August *Monetary Bulletin*. To an extent, the decline may reflect a brighter inflation outlook, owing to advantageous inflation developments in the recent term. Yields on short Treasury bonds have changed less markedly over this period, however, except for the bond maturing in 2013, whose yield has risen by 0.5 percentage points. The pricing of the bond is considered to be skewed by the effects of the capital controls, however. Government Debt Management has announced plans to auction benchmark bonds for 7-12 b.kr. in Q4, which is less than has been issued in previous quarters of the year.

Little change in indexed rates

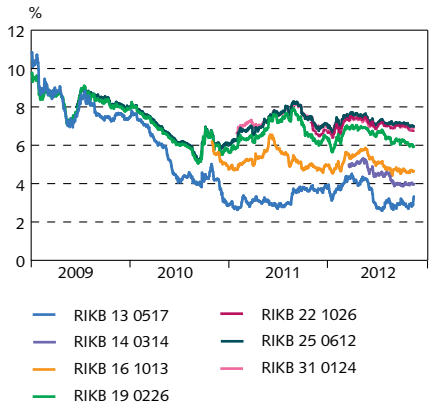
Yields on indexed bonds have declined marginally and are now 0.1-0.2 percentage points lower than when the last *Monetary Bulletin* appeared. The indexed bond supply year-to-date has been smaller, which could push yields down. Issuance by the Housing Financing Fund (HFF), has contracted, for instance, and the Treasury is planning not to issue indexed Treasury bonds except in the foreign currency auctions held in connection with the capital account liberalisation strategy. On the other hand, short-term real rates have been rising recently as the monetary stance tightens, possibly pushing yields higher than they would otherwise have been.

Iceland's sovereign CDS spread on the decline

The CDS spread on the Republic of Iceland has fallen by about 0.9 percentage points since August, to 1.9 points as this *Monetary Bulletin* went to press. Iceland's spread is now around its lowest point since mid-2011. The risk premium on Treasury obligations, measured in terms of the spread between the Icelandic Treasury's US dollar bonds and comparable bonds issued by the US Treasury, has also declined over the same period. The spread between five- and 10-year Treasury bonds issued by the two countries narrowed by 0.6 and 0.5 percentage points, respectively, to 2.6 and 3.0 percentage points as this *Monetary Bulletin* went to press. The spread between the five-year bonds has never been as narrow as it is at present.

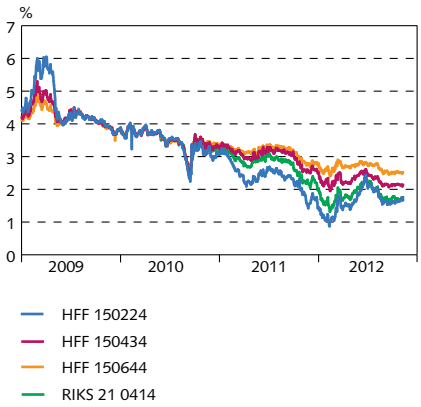
Since the August *Monetary Bulletin*, the long-term spread against German government bonds has declined by 0.1 percentage points, to about 4.9%. The short-term spread has increased by 0.3 percentage points since August, however, to 3.2 percentage points.

Chart III-3
Yields on nominal Treasury bonds
Daily data 2 January 2009 - 9 November 2012



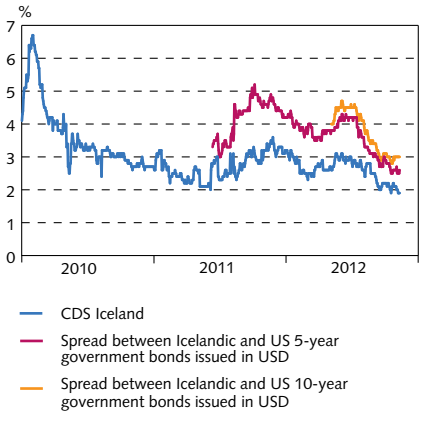
Source: Central Bank of Iceland.

Chart III-4
Yields on indexed bonds
Daily data 2 January 2009 - 9 November 2012



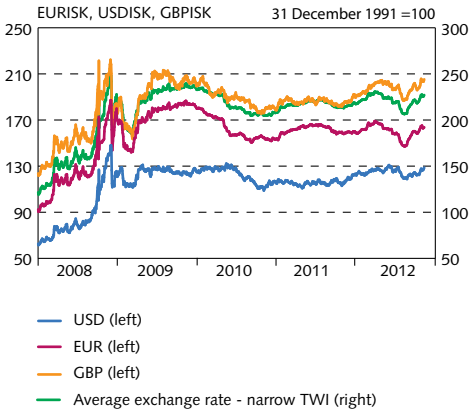
Source: Central Bank of Iceland.

Chart III-5
Risk premia on the Icelandic Treasury
Daily data 1 January 2010 - 9 November 2012



Sources: Bloomberg, Central Bank of Iceland.

Chart III-6
Exchange rate of the króna
Daily data 3 January 2008 - 9 November 2012



Source: Central Bank of Iceland.

Króna has depreciated since late of summer

The króna has depreciated by almost 9% in trade-weighted terms since the August *Monetary Bulletin*. Over this period it has fallen roughly 7% against the US dollar, 9.7% against the euro, and 8.5% against the pound sterling. The larger depreiation against the euro stems from the euro's rise against other currencies. The strengthening that took place beginning in April has therefore reversed, and in trade-weighted terms the króna is about 4.3% weaker than at the beginning of the year. The depreciation since August is probably due to a number of factors. For example, domestic firms and institutions have been accumulating foreign currency in order to pay down foreign debt. It could also be that foreign exchange inflows have tapered off, following the usual seasonal pattern. In addition, Iceland's terms of trade have deteriorated this year. Finally, the depreciation could stem from lack of market confidence in the sustainability of the appreciation in the spring and summer, owing to the difficult debt position and the uncertainty surrounding capital account liberalisation.

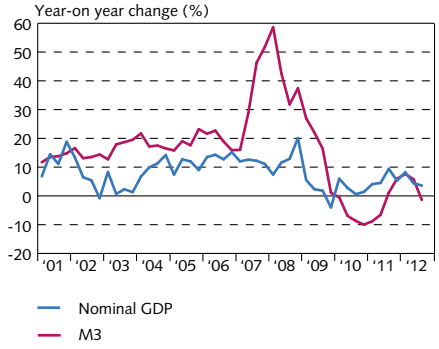
Before the publication of this *Monetary Bulletin*, the króna was trading at 245 against the euro in the offshore market, after having appreciated about 4% since the August issue. Trading has been virtually non-existent recently, so the exchange rate gives limited information about the pressure that could result if the capital controls were lifted.

Deposits contract ...

Household deposits contracted by 4.5% year-on-year in Q3. The contraction, which has been concentrated in money market accounts and sight deposits, was offset in part by a rise in term deposits. A portion of it is due to a shift over to mutual and investment fund units, which generally offer better real returns. In addition, partly due to low real deposit rates, households have used their savings to some degree to invest in real estate, pay down debt, or step up consumption of durables and semi-durables. Deposits owned by firms other than holding companies have grown by about 3.3% over the same period, due largely to a rise in utility companies' exchange rate-linked sight deposits and sight deposits owned by service companies.

Mutual and investment funds' deposits contracted by over half year-on-year, or about 34 b.kr., in Q3. To a large extent, this reflects the fact that, as of Q4/2011, a portion of mutual and investment funds' deposits were no longer defined as deposits.

Chart III-7
Nominal GDP and M3
Q1/2009 - Q3/2012[1]



1. Central Bank estimate for Q3/2012.
Sources: Statistics Iceland, Central Bank of Iceland.

... and M3 shrinks

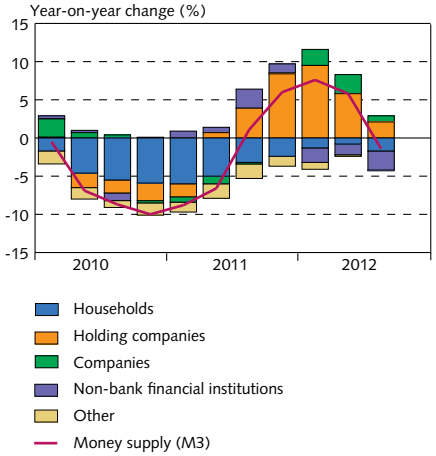
After growing for three consecutive quarters, M3 began contracting again in Q3, falling by 1.4% year-on-year during the quarter. Narrower measures of money supply have also contracted year-on-year, M2 by 4.1% and M1 by 5.5%. At the same time, Central Bank base money has shrunk by over 3%.

Over the three preceding quarters, broad money had grown well in line with nominal GDP after having been somewhat below GDP growth since 2010. A deviation developed again in Q3/2012, however, when broad money began to fall once again as a share of GDP.

To a degree, recent developments in money supply measurements reflect the reclassification of deposits. For instance, holding company deposits have grown by over 17% year-on-year, primarily due to the reclassification of the winding-up committees of Glitnir Bank hf. and Kaupthing Bank hf. in Q3/2011, when their commercial banking licences were revoked and they were redefined as holding companies instead of financial instututions. Offsetting this to some extent are non-banking financial companies' deposits, which contracted by 13.6% year-on-year in Q3. The contraction was due largely to a drop in mutual and investment funds' sight deposits, caused mainly by the above-mentioned reclassification of deposits. It is also likely that some cash holdings were shifted to other investment options offering more attractive returns; for instance, corporate and bank bond issuance has increased during the year. The three large banks have continued to sell off companies and other holdings in unrelated companies during the year, and assets in the process of being sold declined by 38 b.kr. in the first half of the year. This is reflected, for instance, in the fact that the three banks' combined profit from discontinued operations,[1] net of income tax, totalled just over 7 b.kr. in the first half of the year, or about 20% of total profit.

The contraction in the money supply therefore appears to be attributable in large part to the reclassification of deposits and the transfer of cash holdings from deposits to other investment options, as well as reflecting the restructuring of assets held by the banks, which are selling off assets that reverted to them in the wake of the crisis. That being the case, the contraction in the money supply need not indicate a turnaround in the economic recovery.

Chart III-8
Components of money supply
Q1/2010 - Q3/2012



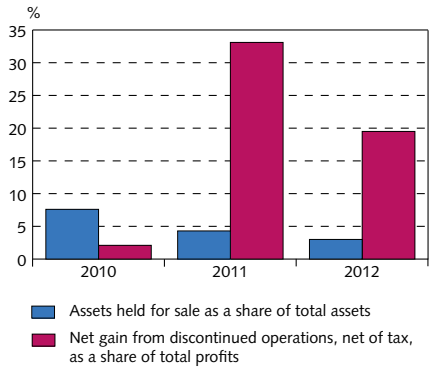
Source: Central Bank of Iceland.

Signs of gradual increase in mortgage lending

In the first nine months of the year, new mortgage loans granted by deposit money banks (DMBs), pension funds, and the Housing Financing Fund (HFF) averaged 6 b.kr. per month. New mortgage lending by the DMBs grew markedly over that period, while HFF and pension fund lending contracted sharply. There is some new lending to households, but it is quite likely that most of this activity represents refinancing of existing indexed loans, as over 84% of the DMBs' new mortgages in the nine-month period were non-indexed.

The DMBs' exchange rate- and CPI-adjusted credit base of households and firms other than holding companies has grown marginally over the first nine months of the year. Growth in the stock of household credit is due mostly to non-indexed lending, while for firms' the increase was concentrated primarily in indexed loans. However, the stock of exchange rate-linked loans has decreased among households and firms over the same period. Households' overdraft loans have also picked up, although this was due principally to a reclassification of lending classes following the merger of Kreditkort hf. and Íslandsbanki hf. and therefore does not represent an actual increase.

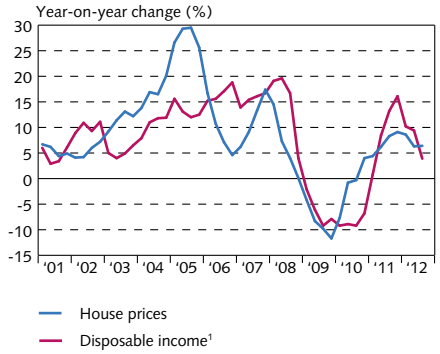
Chart III-9
Assets held for sale and net gain from discontinued operations of Arion bank, Íslandsbanki and Landsbanki 2010-2012[1]



1. First half of 2012.
Sources: Consolidated and interim financial statements of Arion bank, Íslandsbanki and Landsbanki for 2010-2012.

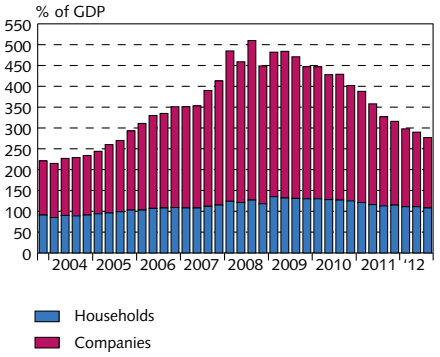
1. This refers to operations defined in the banks' annual accounts as "fixed assets for sale and discontinued operations" (according to IFRS no. 5). Assets being sold are considered assets in discontinued operations.

Chart III-10
House prices and disposable income
Q1/2001 - Q3/2012



1. Central Bank estimate Q1/2012 - Q3/2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart III-11
Company and household debt[1]
Q4/2003 - Q3/2012



1. According to the Central Banks' seasonally adjusted GDP numbers. Central Bank estimate for GDP in Q3/2012.
Sources: Statistics Iceland, Central Bank of Iceland.

House prices continue to rise ...

In the first 10 months of the year, the number of house purchase contracts registered nationwide rose by almost 15% year-on-year. The increase in the greater Reykjavík area was just over 14%. House prices have also risen steadily in greater Reykjavík, although the pace of the increase has slowed somewhat over the course of the year. According to figures from Registers Iceland, nominal house prices rose by 6.7% year-on-year in Q3 and have risen by 14.5% from their year-end 2009 trough. Real prices rose by 1.7% year-on-year during the quarter and just over 5% from the end-2010 trough. The increase year-to-date has been somewhat larger than previously forecast but is well in line with increases in the general price level, construction costs, and disposable household income. According to the baseline forecast, it is assumed that house prices will rise by about 5% per year, on average, during the forecast horizon, which is slightly in excess of general price level and construction cost increases but just below the rise in disposable income.

Rent in the capital area has also risen the past year. In September it was up almost 10% year-on-year, according to Registers Iceland. The rental market has grown markedly in recent years; rent prices are high and have risen well in excess of market prices during the year.

Flats owned by banks, holding companies, and the HFF have increased in number this year. As of end-September, these institutions owned some 3,100 properties, or about 100 more than when the May *Monetary Bulletin* was published. Just under 40% of them were being rented out, and another 44% were listed as finished but not being leased. A full 67% of these properties are owned by the HFF.

Commercial housing prices have also risen in real terms in the past year, after bottoming out at the end of 2011, when they had fallen some 63% since Q1/2008, somewhat less than in Ireland, where the drop measured 70%.[2] In the Swedish banking crisis of the 1990s, real commercial housing prices fell as sharply as they did in Iceland. Commercial housing market turnover has been rising gradually in Iceland and was up 53% year-on-year in the first nine months of 2012.

... and private sector debt to fall

Corporate debt totalled 169% of GDP at the end of Q3/2012, down sharply from 201% of GDP at the end of 2011.[3] Over the same period, household debt declined by 6 percentage points of GDP, to 108% of GDP as of end-September 2012. Non-financial private sector debt had therefore fallen from the autumn 2008 peak of 510% of GDP to about 280% of GDP in mid-2012. Closer examination of household and corporate debt to domestic creditors and changes in that debt (see Chart

2. See M. Woods and S. O'Connell (2012). Ireland's Financial Crisis: A Comparative Context, Central Bank of Ireland Quarterly Bulletin 04/October 12, 97-118.

3. According to the Central Bank's seasonally adjusted GDP numbers (see Box IV-1). The Central Bank's most recent estimate of private sector debt could differ from previously published figures. Since the onset of the financial crisis, it has proven more difficult to obtain this information, particularly information from financial institutions that have lost their operating licences and information on credit in the form of asset-backed securities issued by the banks before the collapse.

III-12) reveals that the reduction in Iceland's non-financial private sector debt in the wake of the current financial crisis has been larger than in other countries. The same is true in comparison with debt restructuring following the Nordic crisis in the early 1990s and the Asian crisis in the latter part of the decade. Icelandic households and businesses had accumulated enormous amounts of debt in the run-up to the 2008 crisis, however, and even though private sector debt has receded nearly to turn-of-the-century levels, it is still high in international context.

Private sector financial conditions continue to improve

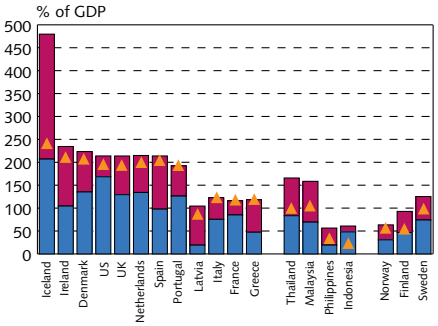
In broad terms, the financial conditions of households and businesses have continued to improve during the year. Asset prices have risen concurrent with the decline in private sector debt, increasing net private sector wealth and therefore raising their margin for collateral. In addition, DMBs' official indexed mortgage rates have fallen during the year. The weighted average interest rate charged by the three largest banks on indexed mortgages is now just over 4.3%, down 0.8 percentage points year-to-date. On the other hand, interest on general consumer loans and nominal mortgage loans have risen in tandem with Central Bank rates. Official consumer loan rates and weighted average interest on nominal floating-rate mortgages currently offered to households have risen by over a percentage point so far this year, keeping pace with the Central Bank collateralised lending rate. The three large banks' consumer lending rates now range between 12.45% and 12.65%, and weighted average interest on nominal mortgage loans is about 6.8%. Real rates on nominal mortgages have risen in the current inflationary environment but remain below indexed mortgage rates.

Interest on corporate loans has developed similarly. Diversity in financing appears to be on the rise again, as firms have increasingly opted to obtain funding through bond issues. The domestic equity securities market is also showing signs of revitalising, although activity there is still extremely limited.

The outlook is for the financial position of households and firms to continue improving in the wake of the Supreme Court's 15 February and 18 October judgments on the validity of full-payment receipts in settling illegal exchange rate-linked loans. Since the judgments were handed down, DMBs have begun recalculating the illegal loans, but the final results are still undetermined, owing to uncertainty about the results of a number of cases still awaiting handling by the courts.

Chart III-12

Developments in domestic private sector debt in three crisis episodes[1]

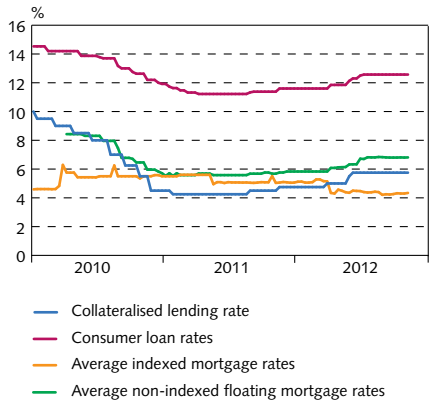


1. Blue bars show debt levels in 2000 for current crisis, 1990 for Asian crisis, and 1980 for Nordic crisis. Red bars show increase in debt to peak. Triangles show latest available debt level for current crisis but lowest level following the Asian and Nordic crises.
Sources: Macrobond, Central Bank of Iceland.

Chart III-13

Central Bank collateralised rate and retail lending rates to households[1]

1 January 2010 - 9 November 2012

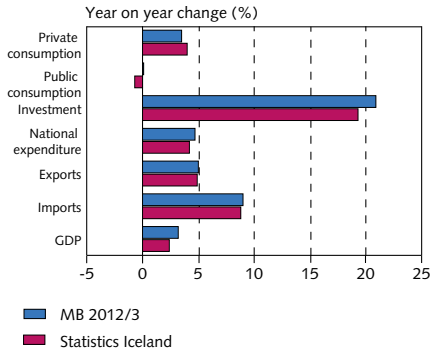


1. Weighted average lending rates, based on loan amount, from Arion Bank, Íslandsbanki, and Landsbanki. Indexed mortgages bear fixed interest for at least five years and up to the entire loan period.
Source: Central Bank of Iceland.

IV Domestic demand and production

Chart IV-1

National accounts first half of 2012 and Central Bank estimate

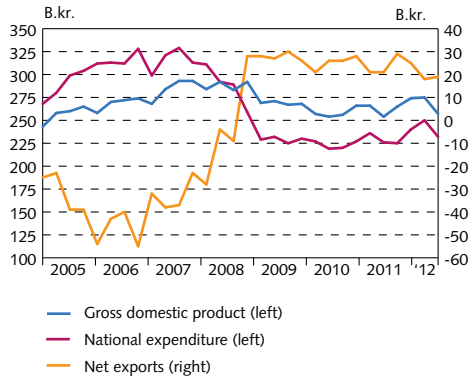


Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-2

GDP, national expenditure and net exports

Q1/2005-Q2/2012. Seasonally adjusted at the year-2005 prices[1]

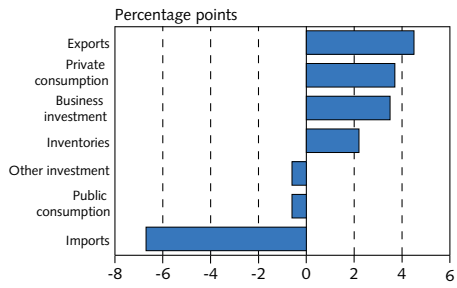


1. Because of the chain linkage, the sum of national expenditure and net exports does not necessarily add up to GDP.

Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-3

Contribution of GDP components to economic recovery[1]



1. H1/2010 - H1/2012.

Sources: Statistics Iceland, Central Bank of Iceland.

Recent figures from Statistics Iceland indicate that the recent economic recovery was weaker than previously estimated. At the same time, the revised figures suggest that the contribution of net trade to output growth appears have been stronger than previously thought. The weaker recovery in H1/2012 is due largely to less public consumption and public investment than previously assumed. The recovery is projected to continue, but output growth for 2012 is expected to be weaker than in the Bank's August forecast. Growth is expected to be stronger in 2013, however. The outlook for the forecast horizon as a whole is therefore broadly in line with the previous forecast, with output growth driven mainly by growth in private consumption and investment. The contribution from net trade will be greater than in the last forecast, although it will be negative for the forecast horizon as a whole. The output slack that developed in the wake of the banking collapse is now estimated to be larger than in the August forecast, in line with a weaker economic recovery. It is expected to disappear in the latter half of 2014.

Output growth somewhat weaker in H1/2012 than according to the August forecast

Statistics Iceland published its first national accounts figures for Q2/2012 in September, together with revised GDP figures for 2011 and the first quarter of 2012. Last year's output growth is now estimated to have been ½ a percentage point less than previously projected, or about 2.6%. Year-on-year GDP growth in Q2/2012 measured 0.5%; however, seasonally adjusted GDP contracted by 1.1% from the previous quarter.[1] The wide fluctuation between quarters after adjusting for seasonality appears to be due largely to fluctuations in inventory changes. A clearer picture of economic developments can therefore be obtained by considering the first two quarters together. This shows that output growth in the first half of the year measured 2.4% and that GDP has grown by about 5% since bottoming out in H1/2010. The recovery has been driven largely by export growth, services exports in particular, although private consumption and investment weigh heavily as well. On the other hand, imports grew strongly as well, so that the contribution of net trade to the recovery is negative.

As was the case last year, private consumption and business investment were the main contributors to output growth in H1/2012, while the contribution from net trade was negative. The Central Bank's August projected output growth at 3.2% for the first half of the year. The main explanations for the deviation in the forecast lie in public

1. Based on seasonally adjusted figures from the Central Bank. Statistics Iceland's seasonally adjusted figures showed a 6.5% contraction between quarters. The difference lies in differing approaches to seasonal adjustment. The Central Bank uses the direct approach to seasonal adjustment of GDP, while Statistics Iceland uses the indirect approach, which involves calculating GDP as the sum of seasonally adjusted subcomponents. The Central Bank also uses forecasts of GDP through 2016 in its seasonal adjustment in order to avoid the well-known endpoint problem of seasonal adjustment filters. As is discussed in Box IV-1, Statistics Iceland's methods for seasonal adjustment do not appear suited to interpretation of intra-year economic developments: the figures are highly volatile, statistically significant seasonal fluctuations remain, and revisions of them between publications are substantial and far in excess of the revision of the original data.

sector activities – that is, public consumption and investment – which were weaker than expected. In part, though, the deviation is due to a revision of Q1 data; furthermore, the contraction in inventory changes was larger than assumed in the forecast. In spite of some deviations in subcomponents of GDP, developments were broadly similar to the scenario depicted in the August forecast: that the economic recovery would continue, supported by growing domestic demand, while the contribution from net trade remained negative, as domestic demand growth entailed more rapid growth in imports than exports.

Signs of a broad-based economic recovery in 2011

The production approach to the national accounts is in some ways better suited to assessing the main drivers of the economic recovery than the expenditure approach, which shows how production is allocated to, for instance, private consumption and investment. The production approach is based on production in individual sectors, but unfortunately, there is a considerable time lag from the publication of the expenditure approach to that of the production approach. The contraction in building and construction and in the financial sector contributed most to the downturn in 2009 and 2010, as can be seen in Chart IV-4. Based on the first estimates of real growth in gross factor income in 2011, the economic recovery appears to be based on a relatively broad foundation. Gross factor income grew by 3.2% in 2011.[2] Of that growth, 0.6 percentage points were due to fisheries and metals production (primarily aluminium), while various specialised services contributed 1½ percentage points and information and electronic communications services contributed 0.4 percentage points. The building and construction sector was the only one with a negative contribution to growth in gross factor income in 2011. This was a sharp turnaround from 2010, when only one sector made a positive contribution.

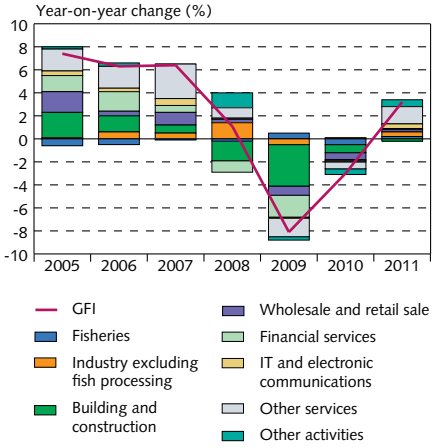
Real disposable income supports household demand

According to the most recent Statistics Iceland figures, private consumption growth was somewhat weaker in 2011 than previously measured, or 2.7% as opposed to 4%. To some extent, the reduction is due to a reclassification of some data, so that a part of consumption spending previously attributed to Icelanders was reallocated to foreign tourists and therefore reflects exported services rather than domestic private consumption. The revision raises the estimate of saving by Icelandic households, whose real disposable income also rose considerably in 2011. According to new data from Statistics Iceland, real disposable income was up 5.3% last year, while the forecast in the August *Monetary Bulletin* estimated the increase at 3.1%. The main reason for the deviation is an increase in household transfer income. Private consumption growth in 2011 was therefore supported more strongly by growth in disposable income than previously assumed. In addition, a number of factors that are not accounted for in the disposable income accounts had a positive effect on house-

2. Gross factor income is equivalent to GDP less indirect taxes, and plus manufacturing subsidies. As a result, it is not abnormal that there should be some differences in the change in these variables between periods.

Chart IV-4

Gross factor income development and sectoral contribution 2005-2011[1]

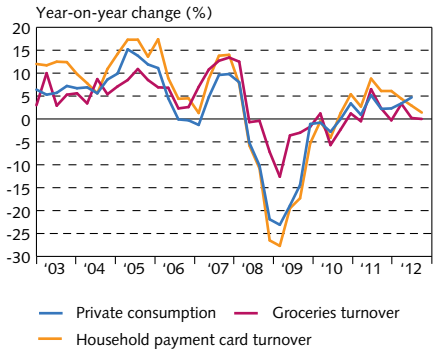


1. Gross factor income (GFI) is equivalent to GDP less indirect taxes, and plus manufacturing subsidies. GFI is assessed based on production in individual economic sectors.
Source: Statistics Iceland.

Chart IV-5

Private consumption, groceries and payment card turnover

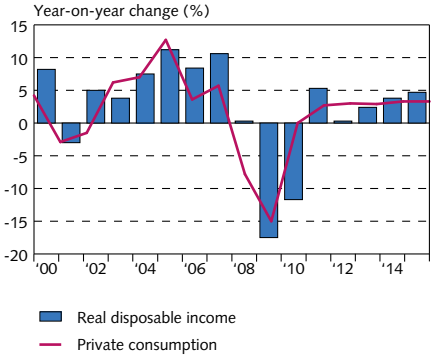
Q1/2003 - Q3/2012[1]



1. Figures for private consumption are only available until Q2/2012.
Sources: Centre for Retail Studies, Statistics Iceland, Central Bank of Iceland.

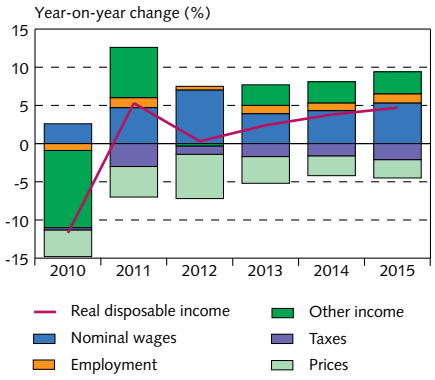
Chart IV-6

Private consumption and real disposable income 2000 - 2015[1]



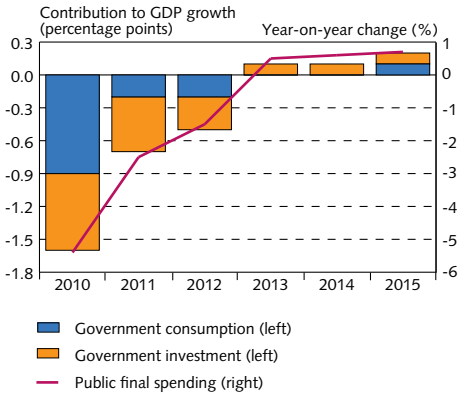
1. Central Bank baseline forecast 2012-2015.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-7
Development in real disposable income and its main components 2010 - 2015[1]



1. Central Bank baseline forecast 2012-2015. The contribution of the main underlying factors in the yearly changes in real disposable income is calculated based on each factor's weight in disposable income. The combined contribution of underlying factors does not add up to the total change due to rounding and incomplete income accounts for households from Statistics Iceland.
Sources: Statistic Iceland, Central Bank of Iceland.

Chart IV-8
Public consumption and investment 2010-2015[1]



1. Central Bank baseline forecast 2012-2015.
Sources: Statistics Iceland, Central Bank of Iceland.

hold income, including special payouts to punctual bank customers and reimbursements of exchange rate-linked loans. Real disposable income is expected to rise modestly in 2012, primarily due to inflation and a sharp decline in third-pillar pension savings payouts, which will be about 10 b.kr. less than last year. On the other hand, real disposable income is expected to increase again next year and grow by an average of over 3½% per year in 2013-2015.

Outlook for 3% average private consumption growth per year during the forecast horizon

In Q2, private consumption grew more strongly than forecast, or 4.7% year-on-year, as opposed to the 2.8% in the August forecast. For quite some time, it has been known that the effects of various temporary factors on private consumption growth would diminish in the latter half of this year, and the Bank's forecasts have therefore assumed that private consumption would rise more slowly as it comes to depend increasingly on its conventional drivers of growth. For instance, third-pillar pension savings withdrawals will contract sharply, and real wage growth has lost pace. This is supported by important leading indicators such as payment card turnover, which grew year-on-year at a modest rate of 1.4% in Q3. These indicators suggest that Q3 consumption growth was even weaker than previously assumed. As a result, seasonally adjusted figures may show a contraction between Q2 and Q3. If this proves to be the case, annual private consumption growth will fall to 2.5%, somewhat below the August forecast. Offsetting this, however, is the fact that consumers seem currently more upbeat than at the same time last year, according to the Gallup Consumer Sentiment Index, and planned big-ticket purchases are up, although the Consumer Sentiment Index dipped in October. As a consequence, the resilience of the recovery of private consumption is somewhat uncertain.

Private consumption is forecast to grow about 3% in 2012. Although this is the same growth rate as was projected in August, it implies a lower level of consumption, as private consumption figures for last year were adjusted downwards when the national accounts were revised. Over the next few years, average annual private consumption growth is projected to be broadly at the 2012 level, about 3%, which is near the long-term average before the 2008 crisis. This is somewhat stronger growth than was provided for in the August forecast. Private consumption is projected at about 52½% of GDP in 2015, whereas it measured just under 52% in 2011. The forecast therefore assumes that the share of private consumption in GDP will remain well below its 30-year average of just under 58%.

Public consumption and investment: more consolidation in 2012 than previously expected

Public consumption is estimated to have contracted by 0.9% in 2011. It also contracted marginally in Q1 of this year instead of growing by the previously forecast 1%, and contracted by 0.7% in the first half of 2012. This implies that fiscal consolidation measures are having a greater effect than previously projected on this year's output growth.

Public investment has developed in a like manner and was weaker than projected in the first half of 2012. Public consumption and public investment combined are expected to reduce output growth by 0.4 percentage points of GDP in 2012 and are projected to contract year-on-year by 0.6% and 13.5%, respectively. According to the current forecast, these two factors' contribution to GDP will be positive by 0.1-0.2 percentage points in coming years, in line with growing public sector activity. Public sector finances are discussed in more detail in Section V.

Outlook for weaker energy-intensive investment than previously projected …

Investment related to the energy-intensive sector grew by almost 39% year-on-year in 2011 and was one of the principal contributors to business investment growth. This year, however, investment in energy-intensive industry and related sectors is now expected to be considerably less than in recent Central Bank forecasts. Investment in the sector has been weaker than expected year-to-date, owing to delays in preparation and development of investment projects. Therefore, to some extent, construction will be deferred until 2013 and 2014. Investment in energy-intensive projects is projected to contract by almost 15% this year, whereas the August forecast assumed it would grow by 4.5%. It is expected to grow by over 30% in 2013, however, and almost 10% in 2014. This is nonetheless somewhat weaker than previously anticipated. For the forecast horizon as a whole, investment is projected to be some 13% weaker in real terms than in the August forecast.

Table IV-1 Survey of corporate investment plans

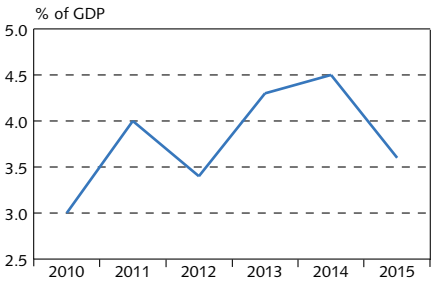
Largest 52 firms (number) *Amounts in ISK billions*	*2011*	*2012*	*Change between 2011-2012 (%)*
Fisheries (9)	3.3	13.3	302
Industry (9)	5.1	6.5	27
Wholesale and retail sale (8)	3.5	3.8	9
Transport and tourism (6)	19.6	13.2	-33
Finance/Insurance (5)	2.8	2.9	15
Media and IT (6)	4.8	5.6	16
Services and other (9)	5.7	7.0	23
Total (52)	44.5	52.3	18

Business investment to approach its historical average during the forecast horizon

Business investment has been on the rise since 2010 and, together with private consumption, has been the main driver of the economic recovery, which began early that year. The category of investment subject to the greatest uncertainty is regular business investment which excludes energy-intensive industry, ships, and aircraft. Overall, the outlook is for a nearly 7% increase in regular business investment this year, instead of the scant 1% provided for in the August forecast. This forecast is based in part on the Bank's September survey of corporate investment plans, which extended to companies representing

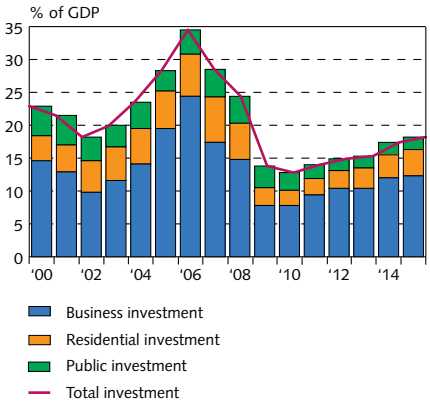
3. For further information on the Bank's survey of firms' investment plans, see Box IV-1 in *Monetary Bulletin* 2011/2.

Chart IV-9
Energy-intensive investment 2010-2015[1]



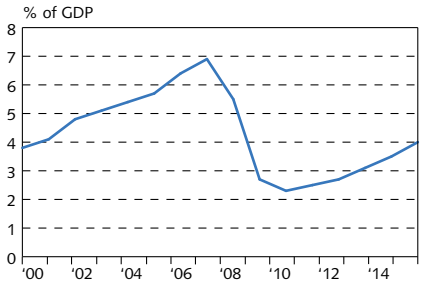
1. Central Bank baseline forecast 2012-2015.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-10
Investment as a share of GDP 2000-2015[1]



1. Central Bank baseline forecast 2012-2015.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-11
Investment in residential housing 2000-2015[1]



1. Central Bank baseline forecast 2012-2015.
Sources: Statistics Iceland, Central Bank of Iceland.

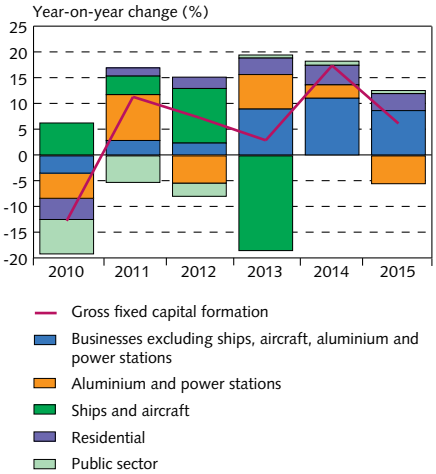
about one-third of business investment in 2011 (see Table IV-1).[3] Business investment as a whole will grow by over 13%, however, or 3 percentage points more than was forecast in August, in spite of the outlook for weaker energy-intensive investment this year. Stronger investment in ships and aircraft accounts for the bulk of the difference. Business investment accounted for 9½% of GDP in 2011 and is expected to account for 10½% this year. Regular business investment is expected to continue recovering in coming years and is projected to be the mainstay of business investment growth during the forecast horizon. Total business investment is forecast to account for 12½% of GDP in 2015, which is in line with its historical average.

Residential investment on the rise

Residential investment has been at a low ebb since the banks collapsed but has begun to recover in recent quarters in response to pent-up need for investment. It grew by 8.3% year-on-year in Q2, slightly exceeding the forecast in the last *Monetary Bulletin*.

Construction has begun on a number of large-scale projects in the capital area, including new student housing in Reykjavík, scheduled for completion in the latter half of 2013. In addition, there are plans to build over 200 flats in Einholt in Reykjavík in a three-phase project, with the first flats to be ready in 2014. According to a recent survey conducted by the Federation of Icelandic Industries, which provides much more accurate information on residential construction than was previously available, a total of 785 flats in the greater Reykjavík area were weather-proof or at a more advanced stage of construction at the end of August 2012 (as opposed to 1,208 in November 2011). An estimated 600 flats are expected to be completed this year (as opposed to 400 last year), but the number at an advanced stage of construction will fall by nearly 400 year-on-year. Based on this more accurate and detailed information, it is now assumed that residential investment growth will be somewhat weaker in 2012 than was forecast in August. In 2011, residential investment accounted for 2.5% of GDP. The current forecast assumes 16% average annual growth during the forecast horizon, bringing residential investment to about 4% of GDP by 2015, about a percentage point below its 30-year average.

Chart IV-12
Gross fixed capital formation and contribution of its main components 2010 - 2015[1]



1. Central Bank baseline forecast 2012-2015.
Sources: Statistics Iceland, Central Bank of Iceland.

Slower growth in total investment than in the August forecast

Total investment grew 12.8% in 2011, and investment figures for Q1/2012 were adjusted upwards when the national accounts were revised to take account of aircraft imports, which had previously been excluded (see *Monetary Bulletin* 2012/3). After the revision, investment is estimated to have grown by over 36% year-on-year in Q1. The increase in Q2 amounted to 4.5%. For H1/2012 as a whole, investment grew 19.3%, which is broadly in line with the August forecast of 21%. The current forecast assumes that regular business investment will account for the vast majority of total investment growth during the forecast horizon and that residential investment will weigh relatively heavily. The contribution from these two items is broadly similar to the August forecast. This year, however, investments in ships in aircraft will contribute most to total investment growth.

Investment relative to GDP amounted to 14% last year and is forecast at 14.9% this year. It is projected to grow by 10½% per year, on average, during the forecast horizon, somewhat slower than in the August forecast, due primarily to weaker investment in the energy-intensive sector than was previously expected. By the end of the forecast horizon, the share of investment in GDP is projected at 18.2%, as compared with its 30-year average of 21%. Because of low levels of public and residential investment, total investment relative to GDP will remain somewhat below the historical average, even though business investment will have returned to its historical average by the end of the forecast horizon. As is discussed in Box I-2, developments in investment in Iceland are consistent with other countries' experience in the wake of a serious financial crisis, particularly in view of the scale and scope of the crisis, the high investment ratio and steep escalation of debt in the run-up to it, and the depth of the global economic crisis.

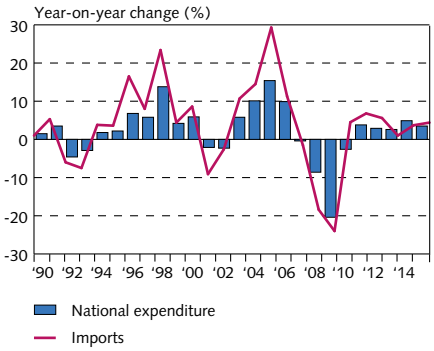
Contribution from net trade more positive than previously forecast

Last year's import and export growth figures were adjusted upwards upon revision of the national accounts in September. The upward revision was due primarily to an increase in services exports. The contribution of net trade to 2011 GDP growth was stronger than previously estimated by 0.3 percentage points of GDP. It was still negative, however, by about 0.8 percentage points of GDP, reflecting the growth in imports that took place concurrent with the recovery of domestic demand, outpacing export growth. In this context, it should be borne in mind that imports contracted sharply in the wake of the banking collapse and still constitute a relatively small percentage of GDP.

There has been a very strong negative correlation between domestic demand and the contribution from net trade in recent decades. Since the banks collapsed, the real exchange rate has been well below its historical average, which has mitigated the effect of the financial crisis on the real economy to the degree that demand has been shifted into the country more strongly that it would have been otherwise, supporting a shift of the factors of production from domestic to export sectors. On the other hand, the currency depreciation has been a source of immense difficulty for heavily indebted households and businesses. It is noteworthy that growth in domestic demand still emerges strongly in import growth, in view of the fact that the real exchange rate has been very low for some four years. This indicates that production factors have adapted to an improved competitive position in exports rather than imports, which could suggest that domestic demand will remain as import-intensive as in the past.

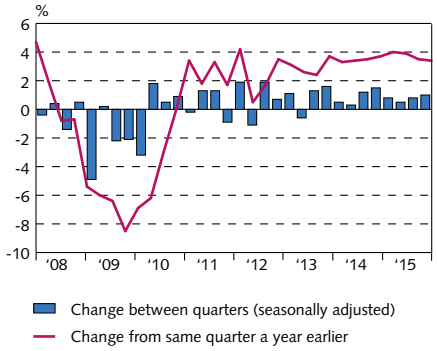
The forecast assumes that the contribution from net trade will be negative by 0.1 percentage points of GDP in 2012 and positive by about ½ a percentage point in 2013. This is an upward revision of about 1 percentage point from the August forecast, owing ultimately to reduced investment in energy-intensive industry, which will cause a drop in imported inputs for aluminium production. The contribution of net trade to GDP growth will turn negative again in 2014 and then turn positive in 2015.

Chart IV-13
National expenditure and imports 1990-2015[1]



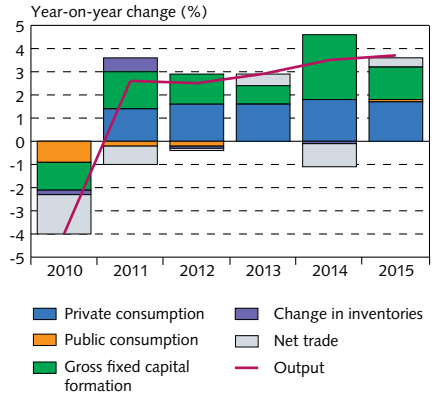
1. Central Bank baseline forecast 2012-2015.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-14
GDP growth
Q1/2008 - Q4/2015[1]



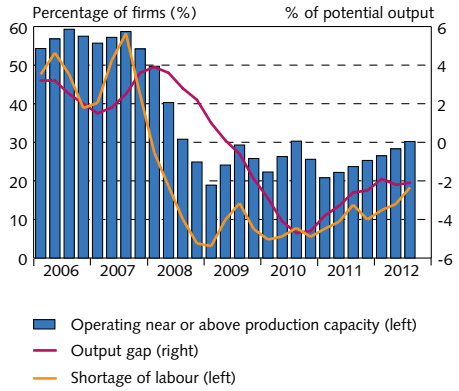
1. Central Bank baseline forecast Q3/2012-Q4/2015.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-15
GDP growth and contribution of underlying components 2010 - 2015[1]



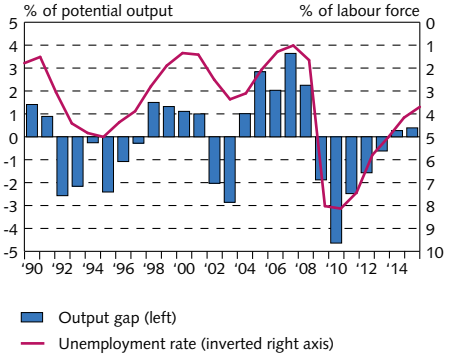
1. Central Bank baseline forecast 2012-2015.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-16
Indicators of use of production factors and output gap[1]
Q1/2006 - Q3/2012



1. According to Capacent Gallup Sentiment Survey among Iceland's 400 largest firms. Data on response to unexpected demand are reported semiannually; therefore, a linear interpolation is used to generate quarterly data. Output gap is the Central Bank's estimate.
Sources: Capacent Gallup, Central Bank of Iceland.

Chart IV-17
Output gap and unemployment 1990-2015[1]



1. Central Bank baseline forecast 2012-2015.
Sources: Directorate of Labour, Statistics Iceland, Central Bank of Iceland.

Recovery of domestic demand drives output growth

As is stated above, year-2011 output growth measured 2.6% according to revised figures from Statistics Iceland, somewhat less than previously projected. It measured 2.4% year-on-year in the first half of 2012 and is estimated at 2.6% in the latter half of the year. If this materialises, output growth for the year as a whole will be 2.5%, about ½ a percentage point below the August forecast. The reduced growth forecast is due in large part to a larger contraction in public consumption than in the August forecast. According to the current forecast, private consumption and business investment will be the main contributors to growth, with 1.6 and 1.2 percentage points, respectively.

For next year, output growth is projected at 2.9%, which is 0.7 percentage points more than in the August forecast. It is expected to gain pace thereafter, measuring about 3½% in 2014 and 2015. This is somewhat stronger growth than in the August forecast and will be driven primarily by private consumption and business investment. In view of the revision of output growth for 2011 and for the forecast horizon as a whole, the outlook for the GDP level has actually changed little from the August forecast.

Margin of spare capacity decreases steadily

Assessments of potential output are usually subject to considerable uncertainty, but it is especially difficult to estimate in the wake of massive changes like those accompanying the financial crisis. As has been reported in previous issues of *Monetary Bulletin*, the Bank considers it clear that, alongside the loss of output in the wake of the financial crisis, a share of potential output have been lost as well, so that the output slack that developed in 2009 was smaller than is indicated by the contraction in GDP in and of itself.[4] The Capacent Gallup survey of corporate expectations reveals that, since the first half of 2011, an increasing number of executives have considered their firms to be operating at or near full capacity, while the number who consider their production below capacity has fallen. Respondents in the latter category still far outnumber those in the former category, however. This is in line with the Bank's assessment of developments in the output slack, which is considered to have diminished somewhat in 2011 even though considerable spare capacity still exists. Executives' responses concerning shortages of staff tell a similar story.

Revised figures from Statistics Iceland show that GDP was less than previously projected in 2011 and H1/2012 and the margin of spare capacity therefore greater at the beginning of the forecast horizon. As a consequence, the current forecast assumes that spare capacity will measure 1.6% of potential output, as opposed to 0.8% in the August forecast. For next year, output growth has been revised upwards; therefore, spare capacity is forecast to diminish more rapidly, to 0.6% of GDP, which is only slightly more than in August. GDP is forecast to align with potential output in the latter half of 2014, about half a year later than in the August forecast. The slack in the labour market is projected to disappear at about the same time.

4. For further discussion, see Box IV-1 in *Monetary Bulletin* 2011/4.

Box IV-1

Seasonal adjustment of GDP

Quarterly statistics often exhibit regular seasonal variations. Unemployment, for instance, is lower during the summer than in winter, other things being equal. Private consumption generally peaks in the fourth quarter of the year and bottoms out in the first quarter. That being the case, a quarter-on-quarter surge in private consumption in Q4, followed by a drop in Q1 of the following year, says little about underlying economic developments.

The idea behind seasonal adjustment of economic data is to attempt to quantify the seasonal fluctuations and adjust for them to obtain a series that better reflects underlying economic developments and facilitates assessment and interpretation of those developments.

Alternative methods of assessing seasonal fluctuations in GDP

The seasonal fluctuation in a specified time series is often irregular, and most data contain irregular items such as measurement errors. As a result, it is often difficult to assess seasonal patterns in the data. Most likely, such estimations are more difficult in a small economy like Iceland, where irregular items such as large investments by individual companies and the timing of imports and exports can have a proportionally strong impact on measured variables during individual periods of time.

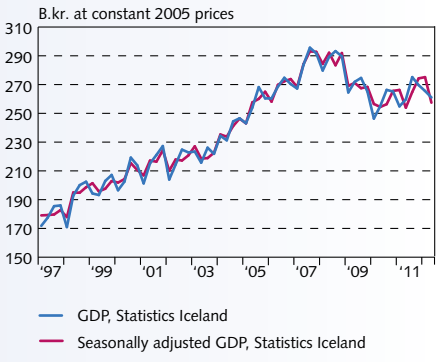
In estimating seasonal fluctuations in GDP, it is possible to choose the direct approach, which measures the seasonal fluctuation directly from measured GDP figures, or the indirect approach. According to the indirect approach, fluctuations in subcomponents of GDP are estimated, adjustments are made, and seasonally adjusted GDP is then calculated from the seasonally adjusted subcomponents, using the same method as is used to calculate measured GDP. In Iceland, GDP estimates are based on the expenditure approach; therefore, seasonally adjusted GDP is estimated from seasonally adjusted private and public consumption, investment, inventory changes, and imports and exports.[1]

The advantage of the indirect method is that it guarantees that the relationship between seasonally adjusted GDP and seasonally adjusted subcomponents is the same as that between measured GDP and the corresponding measured subcomponents. Therefore, it is easily possible to calculate subcomponents' contribution to GDP growth using the seasonally adjusted data, just as with the unadjusted data. At first perusal, it also seems sensible to conclude that seasonal fluctuations are more regular in the subcomponents than in the aggregate figures and that it is therefore easier to adjust for seasonality in the subcomponents. This is not always the case, however, and sometimes it is difficult to adjust for all seasonal fluctuations in the aggregates using the indirect method.

The main advantage of the direct approach is its simplicity. In addition, it does adjust for all seasonal fluctuations in aggregate figures. Furthermore, it seems to give more stable results and lead to smaller revisions of historical figures than the indirect approach (see, for instance, Rodriguez and Brathaug, 2012).[2]

The two methods yield very similar results most of the time. They do not always do so, however, and in the case of Iceland the differences in the outcomes are rather striking. In such instances, the

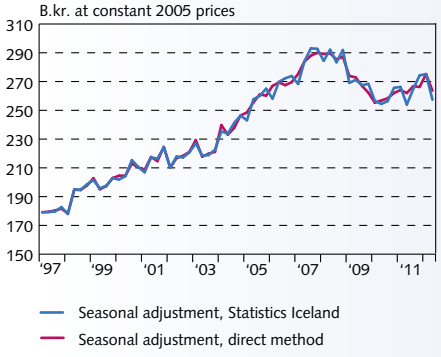
Chart 1
GDP
Q1/1997 - Q2/2012



Source: Statistics Iceland.

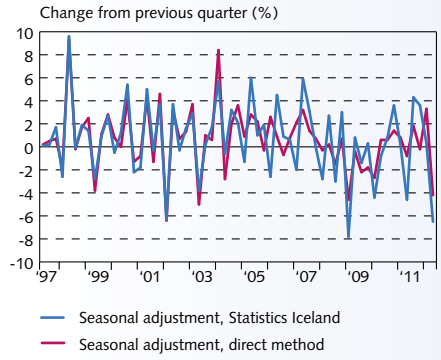
1. The various statistical methods for assessing seasonal fluctuations are not discussed here. These methods can range from a simple regression analysis of seasonal dummies to more complex statistical filters such as X12 and Tramo/Seats. The Central Bank has generally used X12 to assess seasonal fluctuations. This also applies to the assessment of seasonally adjusted GDP with the direct approach used in this Box.
2. Rodriguez, J., and A. L. Brathaug (2012). Seasonal adjustment: Direct versus indirect approach: Two cases from the Norwegian quarterly national accounts. OECD, STD/CSTAT/WPNA(2012)23.

Chart 2
Seasonally adjusted GDP
Q1/1997 - Q2/2012



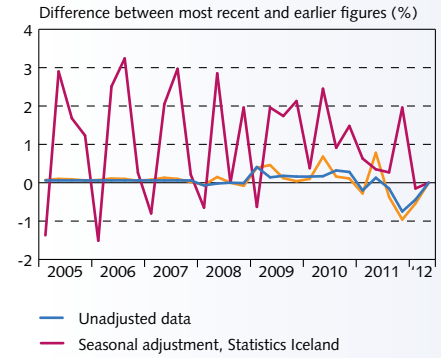
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 3
GDP and seasonally adjusted GDP
Q2/1997 - Q2/2012



Sources: Statistics Iceland, Central Bank of Iceland.

Chart 4
Revision of GDP figures, June through September
Q1/2005 - Q2/2012



Sources: Statistics Iceland, Central Bank of Iceland.

question arises of which method is preferable. In this context, it is important to remember that seasonally adjusted data are not measured data in the same sense as unadjusted data; they are the results of statistical filtering of the unadjusted data with a specific goal in mind; that is, facilitating the interpretation of underlying economic developments. Therefore, Rodriguez and Brathaug (2012) argue that, in selecting a method for seasonal adjustment of GDP, it is necessary, first and foremost, to consider how volatile the seasonally adjusted data are and how much they are revised when new data are added. In examining seasonally adjusted data for Norway, Rodriguez and Brathaug find that the indirect method is far from being less effective than the direct approach. As a result, they recommend the use of the indirect approach to adjust for seasonality in Norwegian GDP. Statistics Iceland has also used the indirect approach, in line with guidelines from Eurostat, the EU statistical bureau, concerning seasonal adjustment in the European Economic Area.

Seasonally adjusted GDP

Chart 1 shows developments in constant-price quarterly GDP in Iceland for the periods for which Statistics Iceland has published quarterly national accounts; i.e., from Q1/1997 to the most recent figures in Q2/2012. The chart shows both the unadjusted data and the seasonally adjusted data obtained with the indirect method used by Statistics Iceland. It can be seen that measured data have clear peaks and troughs within each year. The peaks usually occur in Q3 and the troughs in Q1. The unadjusted data also suggest that seasonal fluctuations of GDP changed over this 15-year period; it appears that seasonal fluctuations were somewhat smaller in 2002-2007 than in the periods before and after. The seasonally adjusted data appear, to some extent, to smooth out fluctuations in the measured data, but there are still quite sizeable short-term fluctuations in the seasonally adjusted series. The seasonal adjustment therefore appears not to remove as much variability as could be expected.

As Charts 2 and 3 indicate, the direct approach seems more effective in filtering out short-term fluctuations in measured data. Actually, the two methods yield similar results at the beginning of the period, but from 2005 onwards the results begin to diverge. The difference grows greater over time, with the fluctuations in the seasonally adjusted data tending to diminish if the direct method is used, while they grow larger if the indirect method is used. This is also seen if the standard deviation of the data is compared. For the entire period, the standard deviation of quarterly changes in the seasonally adjusted series was 3.3% using Statistics Iceland's indirect approach and 2.8% using the direct approach. In the latter half of the period, beginning with Q1/2005, the standard deviation is 3.4% in Statistics Iceland's data, as opposed to 2% using the direct method; in other words, the standard deviation is cut almost in half.[3]

The indirect approach also appears to lead to much larger revisions in seasonally adjusted GDP between publications than the direct approach does. Chart 4 shows the changes in seasonally adjusted GDP in September, when previously published figures were revised slightly.[4] It is normal that such a revision should lead to a

3. It is interesting that this difference in the standard deviation of quarterly changes in GDP depending on the method used is much less when seasonally adjusted quarterly changes in nominal GDP are compared.

4. According to revised figures from Statistics Iceland, GDP growth in 2011 was somewhat weaker than previous figures had indicated (2.6% as opposed to 3.1%). Year-2010 GDP growth was unchanged from the previous figures, while year-2008 GDP growth has been revised upwards (1.6% instead of 1.3%) and the contraction in 2009 has been revised downwards (6.6% as opposed to 6.8%). GDP was therefore virtually at the same level in 2011 according to the revised figures and the figures from June.

change in the seasonally adjusted data and that the revision should be greater for the seasonally adjusted figures than for the unadjusted figures, as the statistical filter used for seasonal adjustment changes the figures for previous years even though the unadjusted figures do not change. If changes between publications are measured with the absolute values of the proportional difference shown in Chart 4, it can be seen that the change averaged 0.15% when the direct method is used, slightly more than the average change in the unadjusted data, but about 1.3% in the seasonally adjusted data from Statistics Iceland.

As Chart 5 illustrates, the assessment and interpretation of the business cycle changed dramatically with Statistics Iceland's September revision. Until then, Statistics Iceland's seasonally adjusted figures had indicated a business cycle trough in mid-2010 and the recovery beginning at that time. The same is found when the data are seasonally adjusted with the direct method, no matter whether June 2012 data or the most recent figures from Statistics Iceland are used. According to the most recent seasonally adjusted data from Statistics Iceland, however, the trough of the cycle has shifted an entire year, to mid-2011 (although the difference between the seasonally adjusted data in Q2/2010 and Q2/2011 is only 0.2%).

It is also noteworthy how large the quarter-on-quarter fluctuations in Statistics Iceland's seasonally adjusted figures have become in the past two years. For example, seasonally adjusted GDP contracted by 4.6% quarter-on-quarter in Q2/2011, which corresponds to an annualised contraction of over 17%. In Q3/2011, it grew by 4.3% quarter-on-quarter, or 18% on an annualised basis. This happened again in Q2/2012, when GDP contracted by 6.5% from the previous quarter, or almost one-fourth on an annualised basis. This is an enormous fluctuation, as can be seen by the fact that it equals the output loss sustained by the UK in the wake of the financial crisis – the UK's largest output loss since the Great Depression. In Iceland, however, this happened after output growth had resumed.

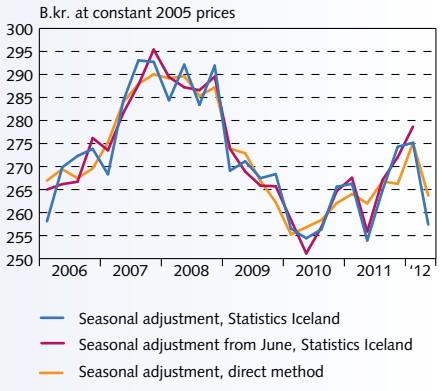
Seasonal adjustment in Iceland and neighbouring countries

A comparison of quarter-on-quarter changes in the raw GDP data in Iceland, Denmark, and Norway reveals that variability is similar in the three countries and appears relatively uniform over time. The standard deviation of quarterly changes in measured GDP is about 4.4% in Iceland, 4.3% in Denmark, and 4.5% in Norway. As Chart 6 illustrates, however, there is a significant difference in fluctuations in seasonally adjusted GDP in the three countries. In this instance, the variability of the Icelandic data stands out: the standard deviation of the changes in seasonally adjusted figures is 3.2% in Iceland, as opposed to just over 1% in Denmark and Norway. For some reason, the regular seasonal fluctuation is therefore much greater in Denmark and Norway than in Iceland; therefore, there is much less variability in the seasonally adjusted data for those two countries than for Iceland, even though the quarterly changes in the unadjusted data are similar.[5]

There is also a striking difference between seasonally adjusted figures in Iceland and those in Denmark and Norway when a comparison is made of how effectively the seasonal adjustment reduces the variability of the quarterly data, thereby facilitating the use of the data in analysing underlying developments. The ratio of the standard deviation of seasonally adjusted GDP to the standard deviation of the unadjusted data is 0.75 in Statistics Iceland's figures, as opposed to only 0.2-0.3 in Denmark and Norway. The variability

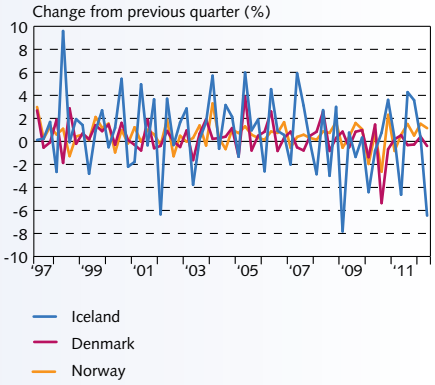
5. It is appropriate to mention in this context that the standard deviation of year-on-year changes and the standard deviation of changes over four quarters show greater variability in Iceland than in Denmark and Norway.

Chart 5
Seasonally adjusted GDP
Q1/2006 - Q2/2012



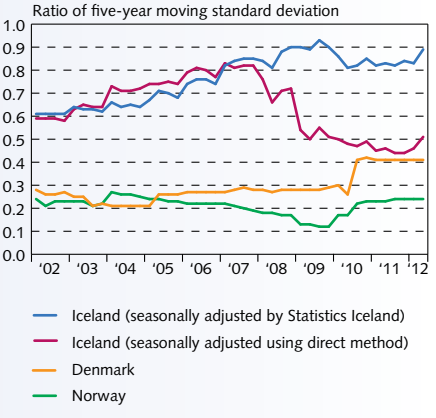
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 6
Seasonally adjusted quarterly GDP growth in Iceland, Denmark and Norway
Q2/1997 - Q2/2012



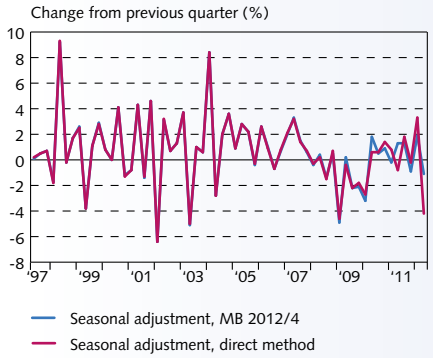
Sources: Eurostat, Statistics Iceland.

Chart 7
Ratio of standard deviation of seasonally adjusted and unadjusted quarterly GDP growth
Q1/2002 - Q2/2012



Sources: Eurostat, Statistics Iceland, Central Bank of Iceland.

Chart 8
Seasonally adjusted GDP
Q2/1997 - Q2/2012



Sources: Statistics Iceland, Central Bank of Iceland.

of seasonally adjusted Statistics Iceland's figures is therefore only slightly less than in the unadjusted data, whereas it is considerably smaller in the seasonally adjusted data in the other two countries. This is even clearer in Chart 7, which shows how the information content of Statistics Iceland's seasonally adjusted figures has gradually diminished and the noise-to-signal ratio has been close to 1 in recent years; that is, the variability of seasonally adjusted quarterly output growth has been almost equal to the variability of quarterly changes in measured GDP. At the same time, the information content of data that are seasonally adjusted using the direct method has gradually increased and the noise-to-signal ratio has approached that in Denmark and Norway.[6]

Conclusion

In sum, it appears clear that the method used by Statistics Iceland to calculate seasonally adjusted GDP in Iceland has serious drawbacks and that the problem has escalated in recent years. Seasonally adjusted data fluctuate widely – and in the recent term, only slightly less than unadjusted data. The most recent revision of data also entailed a major revision of historical data, complicating the assessment of underlying economic developments. Further analysis of the seasonally adjusted data also indicates that there is a statistically significant seasonal fluctuation in Statistics Iceland's seasonally adjusted figures.[7] This problem does not appear, however, when GDP is seasonally adjusted using the direct method: the information content of the data is enhanced, variability between revisions is considerably reduced, and there are no longer statistically significant seasonal fluctuations in the seasonally adjusted data. It therefore appears more appropriate for Icelandic conditions to use seasonally adjusted GDP data obtained with the direct method. The analysis in this *Monetary Bulletin* is therefore based on data that have been seasonally adjusted using the direct method, not on the seasonally adjusted data from Statistics Iceland. More specifically, the logarithm of the data is seasonally adjusted using the X12 method, using the Bank's forecast for the period until 2016 to reduce the endpoint inaccuracy in the seasonal filtering. As can be seen in Chart 8, this entails a further reduction in the fluctuations in seasonally adjusted data at the end of the period. For instance, the quarter-on-quarter contraction in Q2/2012 measured 1%, whereas it was over 4% when the direct method is used with Q2 as the last observation. This can be compared to a 6.5% contraction in Statistics Iceland's figures.

6. According to Statistics Iceland's seasonally adjusted data, Iceland appears to be in a class by itself with respect to the high noise-to-signal ratio. However, similar problems can be seen in the seasonally adjusted data on GDP in Ireland, where the ratio averages 0.66 over the period analysed here.
7. Regressing seasonally adjusted quarterly changes in GDP on seasonal dummies rejects the null hypothesis that seasonal fluctuations in the seasonally adjusted data are statistically insignificant (p-value = 0.03). These seasonal fluctuations in Statistics Iceland's seasonally adjusted figures seem to begin appearing in 2005.

V Public sector finances

The medium-term plan accompanying the 2012 National Budget included a fiscal consolidation plan aimed at achieving a 2% primary surplus on a cash basis this year. That goal will probably be reached, as it appears likely that the surplus will amount to 1.8% of GDP. The budget proposal for 2012 included a milder adjustment towards balanced Government finances than the previous year's budget, postponing the achievement of an overall surplus by one year, until 2014. The budget proposal for 2013 is consistent with the medium-term plan set forth in the 2012 National Budget. The main news in the 2013 budget proposal is that fiscal policy for the year is virtually unchanged from 2012. The objectives of a 1% overall surplus in 2014 and a 5% primary surplus in 2015 are therefore unchanged.

Primary balance projected to improve by nearly 12% of GDP over a six-year period

The original plan drafted by the Icelandic authorities and the International Monetary Fund (IMF) provided for an accumulated 16% improvement in the primary balance from 2009 to 2013. The Treasury's debt position proved stronger than the first estimates indicated, however, and the 2011 National Budget therefore provided for less need for consolidation during the period, scaling the improvement back to 12% of GDP. The 2012 National Budget eased the consolidation process still further, adjusting the improvement down to 10% of GDP. In spite of the less stringent consolidation, the debt outlook is more promising than in the first estimates from 2009. Considerable uncertainty remains, however, concerning obligations vis-à-vis Government-owned financial institutions, pension issues, and the Icesave dispute. The current budget proposal still assumes an improvement in the primary balance in the amount of 10% of GDP during the 2009-2013 period. It also assumes that the primary balance will improve by a further 2% of GDP in 2014 and 2015. If this materialises, the primary balance will have improved by 12% of GDP in a six-year period, which is just below the upper threshold of the turnaround in the primary balance in international context (see, for instance, *Monetary Bulletin* 2011/4). The greatest improvement in the primary balance, 15%, was achieved in Finland in a seven-year period from 1993 to 2000, and in Denmark during a four-year period from 1982 to 1986. In Sweden it was slightly less, or 14% over the five-year period from 1993 to 1998 after a financial crisis. Further discussion of the 2013 budget proposal can be found in Box V-1.

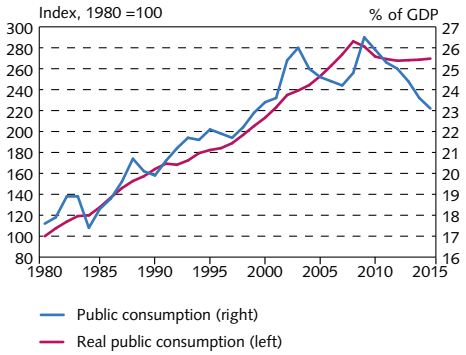
Public consumption continues to contract

Between 2005 and 2008, public consumption grew by an average of 4% per year at constant prices. The onset of the financial crisis in autumn 2008 signalled an abrupt change in public consumption, however. In volume terms, it contracted by 1.7% in 2009 and 3.4% in 2010, the year when fiscal austerity measures peaked. Public consumption contracted further by 0.9% in 2011. The forecast in this issue of *Monetary Bulletin* assumes an additional contraction

of 0.6% this year. From 1980 until the current contraction began, public consumption contracted in volume terms only once, when it shrank slightly in 1992. It totalled almost 18% of GDP in 1980 and rose almost uninterrupted until 2003, when it reached 26% of GDP. It then began to decline, falling to just over 24% by 2007, and then spiked to 26.5% in 2009, owing mostly to a sharp drop in GDP. Since the contraction in public consumption began in 2009, the share of public consumption in GDP has eased again, particularly since GDP growth resumed in 2010. The ratio was just over 25% in 2011 and is estimated to fall to about 23% during the forecast horizon.

Public consumption at constant prices has contracted in 11 out of the last 12 quarters. For the majority of this period, seasonally adjusted public consumption remained stable in nominal terms, at about 100 b.kr. per quarter. It began to grow again in nominal terms in Q3/2011. Nominal public expenditure is expected to continue growing throughout the forecast horizon, due to wage settlements and other price increases and to an easing of austerity measures. Fiscal consolidation, which has entailed cutbacks in budgetary allocations on the expenditures side, amounted to 3.6% of GDP in 2010. It measured 1.4% in 2011 and is estimated at 0.5% in 2012. According to the forecast, austerity measures planned for next year will not lengthen the current downturn in public consumption further, as they will only be directed in part at operations. As a result, public consumption is projected to grow slightly in real terms in the next three years, in spite of the austerity measures.

Chart V-1
Public consumption 1980-2015[1]



1. Central Bank baseline forecast 2012-2015.
Sources: Statistics Iceland, Central Bank of Iceland.

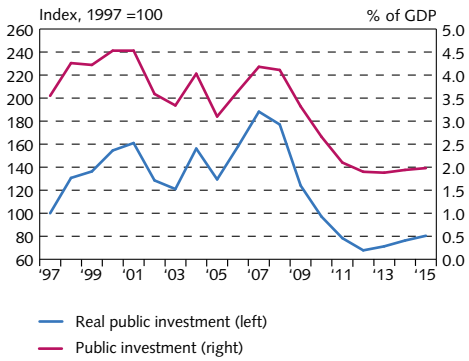
Public investment near historical low in 2012

Public investment has contracted by 58% in the past four years, and a further contraction of almost 13% is expected this year. As a share of GDP, public investment has fallen from 4.1% in 2008 to this year's all-time low of 1.8%. The average for the 1997-2008 period was 3.9%.

The forecast assumes that public investment will begin to grow again next year, in part based on the Government's declaration that it would step up investment according to its investment plan for 2013-2015. According to the declaration, plans for investment are dependent upon the acquisition of financing through increased fishing fees, dividend payments from the Government's holdings in the commercial banks, and profits from asset sales. The increase in the fishing fee was passed into law in June, but the increase will not be allocated entirely to investment, as a portion of it is to be used for measures to assist families with children, according to the 2013 budget proposal. As a result, the forecast assumes that the investment to be financed with increased fishing fees will only materialise in part. The investment projects that depend on dividend payments and sales of shares in the commercial banks are either excluded from the forecast or are deferred due to uncertainty about the timing of the financing.

The forecast assumes that public investment will be somewhat weaker than was projected in August, particularly because it is now assumed that the new Landspítali hospital will not be built during the forecast horizon. Uncertainty about the hospital construction project has increased somewhat in the recent term, but according to

Chart V-2
Public investment 1997- 2015[1]



1. Central Bank baseline forecast 2012-2015.
Sources: Statistics Iceland, Central Bank of Iceland.

the Government declaration, a decision is to be made by the end of the year. Clearly, it will be much more difficult to launch the project if the Government must finance it. Other things being equal, such a large-scale investment would severely disturb the medium-term fiscal consolidation plan. The Vaðlaheiðargöng tunnel project is expected to proceed, although a portion of the investment will be delayed due to a delay in contract signing, thereby reducing investment this year.

Performance outlook stable year-on-year

As is described above, the Government decided last year to improve fiscal performance more slowly than was outlined in the 2011 National Budget. The change between the 2012 Budget and the 2013 proposal is insignificant, however. As in last year's Budget, the primary surplus in 2012 is estimated at just under 2% of GDP, and the overall surplus in 2014 is nearly 0.9% of GDP. The main uncertainties concerning fiscal performance centre on the Housing Financing Fund's (HFF) poor operating performance and capital position. For a while it appeared as though increased capital contributed to the HFF would be viewed as a capital injection that would not show up in the profit and loss account, but sizeable operating losses are rapidly eroding the Fund's capital; therefore, it is more likely that the contribution will be in the profit and loss account. Furthermore, there is still uncertainty related to the Icesave dispute, and revenue generation is not entirely secure. This applies in particular to an asset sale amounting to 8 b.kr., which is similar to one that was assumed in this year's National Budget but did not materialise.

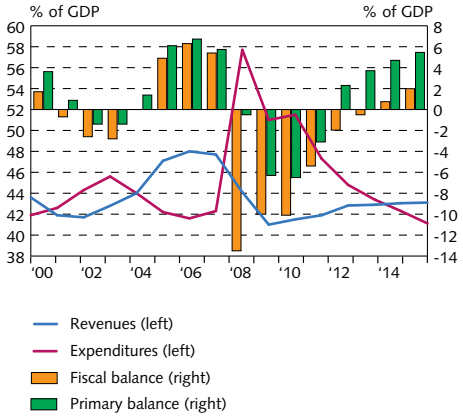
Increases in indirect taxes larger than expected

The 2013 budget proposal provides for larger indirect tax increases than the current year's Budget. According to the new proposal, indirect taxes such as those on carbon, petrol, and alcoholic beverages will rise in line with the price level. In addition, value-added tax on hotel bed-nights, excise taxes on sugary products, and tobacco taxes will rise well in excess of price level increases. The effect of these increases in indirect taxes on the CPI has been estimated at 0.25 percentage points (see also Section VIII).

Outlook for public sector debt broadly unchanged

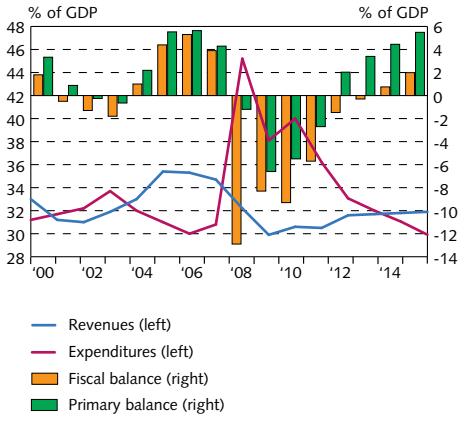
On two occasions, the Central Bank of Iceland and the Ministry of Finance prepaid upcoming instalments of loans connected with the Government-IMF programme in order to reduce the cost of maintaining the foreign exchange reserves. In all, the prepayments amounted to 227 b.kr., or just over 53% of the loans taken from the IMF and 59% of the loans from the Nordic countries. This reduces the Treasury's gross debt, but net debt remains unchanged. At the same time, the Treasury borrowed 127 b.kr. in US dollars, which increases gross debt but leaves net debt unchanged. It is still estimated that gross general government debt peaked as a share of GDP in 2011, at 101%. The assessment of net debt includes only cash assets of the government. This is narrower than the conventional definition, as it is customary to include other monetary assets as well, apart from stock,

Chart V-3
General government finances 2000-2015[1]



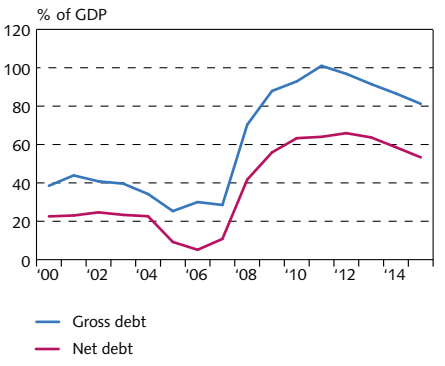
1. Central Bank baseline forecast 2012-2015. On accrual basis.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-4
Public sector finances 2000 - 2015[1]



1. Central Bank baseline forecast 2012-2015. On accrual basis.
Sources: Statistics Iceland, Central Bank of Iceland.

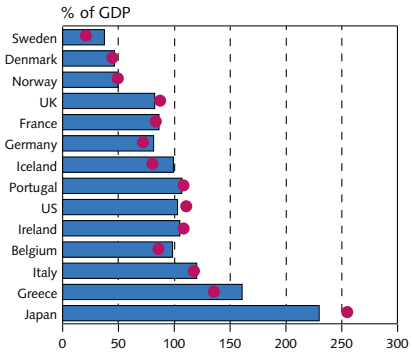
Chart V-5
General government debt 2000 - 2015[1]



1. Central Bank baseline forecast 2012-2015.
Sources: Ministry of Finance, Statistics Iceland, Central Bank of Iceland.

Chart V-6

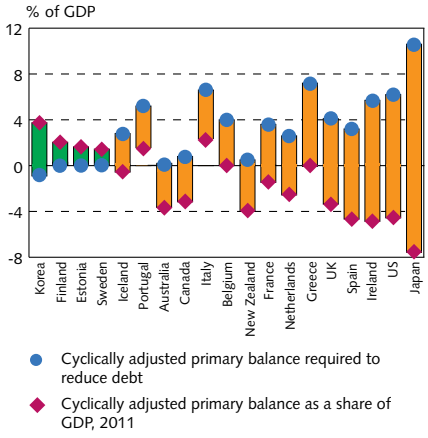
General government gross debt in various industrial countries for 2010 and 2017[1]



1. IMF forecasts for 2017 are shown with red points.
Source: IMF.

Chart V-7

Cyclically adjusted primary balance needed to bring debt down below 60% by 2030[1]



1. Yellow bars show the improvement in the primary balance required to reduce debt, and green bars show by how much the cyclically adjusted primary balance exceeds the required primary balance.
Source: IMF.

equity holdings, and initial capital. If these are included, the net government debt position is better than is described here.

Gross debt is projected to fall to about 97% of GDP this year, in part due to the above-mentioned loan prepayments. It is assumed that the nominal gross debt level will remain unchanged or grow slightly until 2015, while nominal GDP is expected to grow by just under 20%. It is therefore assumed that GDP growth will reduce the debt ratio next year and bring gross debt down to about 81% of GDP by 2015. Net debt relative to GDP will not fall as sharply, as loan instalments are paid from the Treasury's funds, with the associated reduction in monetary assets. It is estimated that, after peaking at 66% of GDP this year, net debt will decline to 53% of GDP by 2015, the end of the forecast horizon.

Iceland's debt position is high in international context

General government debt amounts to just under one GDP, which is similar to the level in a number of other industrialised countries, such as the US, Belgium, Ireland, and Portugal, and somewhat lower than in Greece, Italy, and Japan. As Chart V-6 shows, the outlook is for Iceland's debt position to improve further in international comparison over the next few years if austerity measures are followed, although the debt ratio will still be high.

Cyclically adjusted primary balance improves in international context

According to the economic programme drawn up by the IMF and the Icelandic authorities, a slight majority of austerity measures would be concentrated on the expenditures side of the budget rather than the revenues side. The fact is that, based on the estimates in the 2013 budget proposal, 90% of proposed austerity measures were already implemented in 2009-2012. The accumulated consolidation measures from 2009-2012 total 234 b.kr., including about 129 b.kr. (55% of the total) on the expenditures side and just under 105 b.kr. (45%) on the revenues side. According to the budget proposal for the coming year, however, consolidation will weigh more heavily on the revenues side than on the expenditures side in 2013. Of almost 30 b.kr. in austerity measures, only 7 b.kr. (23% of the total) will be on the expenditures side, while the remaining 23 b.kr. will be on the revenues side. These measures will lead to a cyclically unadjusted improvement in the primary balance in the amount of almost 12% of GDP over a six-year period.

In terms of the cyclically adjusted primary balance, there was a deficit of 0.6% of GDP in 2011. According to the IMF, the primary surplus must be 2.8% of GDP by 2020 and be sustained at that level until 2030 in order to achieve a 60% debt ratio by 2030 (see IMF, *Fiscal Monitor,* April 2012). The Icelandic authorities therefore appear to be on the right track, as the IMF projects that the cyclically adjusted primary surplus will amount to 3.4% of GDP as early as 2014. As Chart V-7 indicates, the Icelandic authorities can be well satisfied with their position vis-à-vis other countries. Japan fares worst in this regard, followed by the US, Ireland, Spain, and the UK, which have a

significant amount of consolidation remaining. At the other end of the spectrum are countries such as South Korea, Finland, Estonia, Chile, and Sweden, which all have a surplus in excess of what they need to reduce debt.

Box V-1

National budget proposal for 2013

A surplus on the primary balance was the main objective of the National Budget for 2012. According to the most recent estimates from the Ministry of Finance and Economic Affairs, the primary surplus measured 1.8% of GDP, whereas the budgetary target was 2%. The Budget also contained a medium-term plan for fiscal performance in coming years, which provides for an overall surplus of just under 1% of GDP in 2014. The budget proposal for 2013 confirms the 2012 medium-term plan, as there is very little difference between the two as regards performance targets. Performance in 2013 is projected to be the same as was provided for in the 2012 Budget, and an overall surplus of 1% of GDP is still targeted for 2014; however, the primary surplus for 2015 is now estimated at 5% of GDP instead of the previous 4.6%.

Overall balance slightly negative in 2013

The original plan prepared in consultation with the International Monetary Fund (IMF) in 2009 provided for an overall surplus of 2% of GDP in 2013, whereas the revised plan assumes that the overall balance will only improve by 23 b.kr. year-on-year in 2013. The overall balance will be negative by 2.8 b.kr., or 0.1% of GDP. It is assumed that a mixed approach involving revenue increases and expenditure cuts will be followed in order to achieve this. The consolidated measures in this phase of the plan amount to 0.4% of GDP. The budget proposal provides for measures to improve Treasury performance by 30 b.kr.: revenue-increasing measures amounting to 22.9 b.kr. and spending cuts totalling 6.7 b.kr.

Table 1 Estimated public sector performance through 2016

ISK billions	*2013*	*2014*	*2015*	*2016*
Total revenues	570.0	611.8	650.5	672.7
Tax revenues	508.8	546.6	581.4	609.5
Total expenditures	573.1	594	612.7	625.3
Operating expenses	225.9	233.1	240.2	248.5
Cost of capital	88.1	91.9	95.5	93.8
Transfer outlays	236.7	247.5	255.3	261.0
Maintenance	8.7	9.1	9.5	9.7
Investment	13.8	12.4	12.1	12.3
Overall Treasury balance	-2.8	17.8	37.8	47.4
as % of GDP	-0.1	0.9	1.8	2.1
improvement from prior year	1.3	1.0	0.9	0.3
Primary Treasury balance	60.4	82.9	104.4	112.1
as % of GDP	3.2	4.2	5.0	5.1
improvement from prior year	1.4	1.0	0.8	0.1

Source: Ministry of Finance and Economic Affairs.

2013: the revenues side

According to the budget proposal for 2013, changes in taxes and excise taxes are estimated to generate 9 b.kr. and, as in this year's Budget, asset sales are assumed to generate 8 b.kr. Other measures decided upon in previous years entail increases in carbon and energy taxes in the amount of 5.9 b.kr.

These measures combined are projected to generate 22.9 b.kr. in additional revenues. No change is anticipated in the principal tax bases, such as individual and corporate income taxes and capital gains tax. The general payroll tax will also remain unchanged, although the unemployment insurance tax will decline by 0.3 percentage points. The following tax changes are planned:

- It is assumed that the general payroll tax will rise by 0.3 percentage points to cover increased growth of expenditures in the social security system. The revenue-generating effect of this is estimated at 3.3 b.kr. Alongside that increase, the unemployment insurance tax is estimated to decline by 0.3 percentage points, from 2.45% to 2.15%, in line with declining unemployment. The overall payroll tax percentage will therefore be unchanged year-on-year.
- The financial administration tax currently imposed on financial and insurance companies' wage payments will be raised and a two-tier structure adopted. Concurrent with this, the special financial administration tax on these firms' profit will be abolished. The revenue-generating effect of these changes is estimated at 0.8 b.kr.
- Hotel accommodation services will be taxed at the general 25.5% value-added tax rate instead of the previous 7% as of 1 May 2013. The revenue-generating effect of this is estimated at 2.6 b.kr. in 2013.
- Excise taxes on motor vehicles owned by rental firms will be raised in two stages in 2013-2014 and adjusted to equal those on individuals' motor vehicles. The revenue-generating effect of this is estimated at 0.5 b.kr. in 2013.
- The system for excise taxes on food will be changed to as to take greater account of nutritional objectives. The revenue-generating effect is estimated at 0.8 b.kr.
- The tobacco tax will rise by 15% in excess of the general price level, and the tobacco tax on snuff will be doubled. The revenue-generating effect is estimated at 1.0 b.kr.

Table 2 Selective revenue-generation measures, 2013-2016

ISK billions at current price levels	*2013*	*2014*	*2015*	*2016*
Carbon tax	3.6	3.8	4.1	4.3
Energy taxes	2.3	2.4	2.5	2.6
Previous assumptions, total	5.9	6.3	6.5	6.8
Financial administration tax	0.8	1.0	1.3	1.5
Value-added tax	2.6	3.5	3.8	3.8
Excise taxes on food	0.8	0.8	0.8	0.8
Excise taxes on motor vehicles	0.5	1.0	1.1	1.0
Tobacco tax	1.0	1.0	1.0	1.0
Payroll tax	3.3	4.2	4.8	5.1
Tax system changes 2013, total	9.0	11.5	12.8	13.1
Asset sales	8.0	8.0	8.0	-
Other	-	3.0	11.8	12.7
Other measures, total	8.0	11.0	19.8	12.7
Total	22.9	28.8	39.1	32.7

Source: Ministry of Finance and Economic Affairs.

Table 2 contains a summary of the estimated revenue effect of the revenue-generation measures planned for 2013-2016, other than those already legislated. First among these are revenues from the carbon and energy taxes that will expire at the end of 2012 if the legislative framework is not changed. The table also shows the combined revenue-generating effect of the changes that are to take

effect in 2013. The tax code changes planned for 2013 are not assumed to be temporary; therefore, they will continue to generate revenue in subsequent years. Revenues from asset sales are assumed to remain unchanged through 2015. The carbon tax will change during the period because of planned expansion of the tax base. In addition, taxes levied on alcoholic beverages, motor vehicles, mileage, and fuel will rise in line with the general price level, by about 4.6%.

2013: the expenditures side

Treasury expenditures will be reduced by an estimated 6.7 b.kr. in 2013. In 2014-2016, the consolidation will be broadly similar, with the ministries expected to cut expenditures by about 5 b.kr. per year through austerity measures. The majority of the 6.7 b.kr. contraction in expenditures in 2013, or 4 b.kr., is achieved through a direct cutback in allocations to Government ministries. The cuts differ by function, with reductions estimated at 1.75% of turnover for general administration, supervision, and services; 1.2% of turnover for benefits systems, health insurance, and universities; and only 0.5% of turnover for law enforcement institutions. The budget proposal sets no streamlining requirements for hospitals, health centres, healthcare institutions, and geriatric institutions. In addition, the largest single consolidation measure in the proposal is the plan to reduce the Unemployment Insurance Fund's expenses by allowing the expiry of the temporary provision authorising payment of unemployment benefits for a period of four years instead of three. It is assumed that ancillary measures will be adopted on behalf of those dropping off the unemployment register, however, so that the saving is estimated at 1.8 b.kr. An economic breakdown of the austerity measures is shown in Table 3. Together they amount to just under 6.7 b.kr., or 0.4% of GDP.

Table 3 Austerity measures, economic breakdown

Accrual basis, ISK billions	*Reduction 2013*	*Turnover 2012*	*Reduction %*
Operations	-1.6	206.5	-0.8
Transfers	-4.5	220.6	-2.0
Maintenance and investment	-0.6	20.6	-2.9
Total	-6.7	447.7	-1.5

Source: Ministry of Finance and Economic Affairs.

If this materialises, next year's consolidation measures will be similar in scope to the 2012 measures. For comparison purposes, consolidation measures amounted to 2.6% of GDP in 2009, 3.6% in 2010, 1.4% in 2011, and 0.5% in 2012. In 2009-2013, measures on the expenditures side will total 8.5% of GDP, or 135.8 b.kr. at year-2013 prices. Of that total, measures affecting operations amount to 50.9 b.kr., measures related to transfers total 38.9 b.kr., and cuts in maintenance and investment amount to 26.9 b.kr. The temporary freeze on wages and benefits in 2009 and 2010 generated the remaining 19.1 b.kr.

The total increase in expenditures over the 2012 Budget amounts to 29.5 b.kr., including, first of all, 9.5 b.kr. allocated to Government emphases in line with, among other things, declarations related to the 2013-2015 investment plan and measures related to children's affairs (see Table 4). Second are changes in expenditure pledges related to various Government-operated systems, which amount to 3.1 b.kr. Adjustments due to changes in wages, exchange rate, and price level from 2012 total 13.3 b.kr., and interest expense is estimated to rise by 10.3 b.kr. The rise in interest expense next year is largely due to the planned restructuring of

the bond issued by the Treasury to the Central Bank of Iceland for the Bank's takeover of the financial institutions' collateralised and overnight loans in the wake of the banking system collapse. The bond now bears indexed interest, and the plan is to convert it to a non-indexed bond. Interest expense is estimated to rise by 5.7 b.kr. because of this, as all of the interest on the non-indexed bond will be posted to the Treasury's profit and loss account; however, if the bond is indexed, real interest is posted to the profit and loss account, while indexation is recognised in the balance sheet as revaluation. Increases on the expenditures side therefore total 36.2 b.kr., offset by some 6.7 b.kr. due to the above-mentioned consolidation measures, leaving a net total of 29.5 b.kr.

Table 4 Selective measures on the expenditures side

	B.kr.
Child benefits	2.5
Transport-related construction	2.5
Interest rebates/housing benefits	1.0
Development aid	1.0
Childbirth Leave Fund	0.8
Icelandic Research Fund and Technology Development Fund	1.3
Regional programmes	0.4
Total	9.5

Source: Ministry of Finance and Economic Affairs.

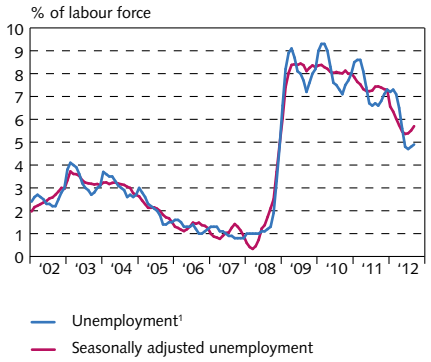
New fiscal policy framework on the horizon

A bill of legislation intended to create a stronger fiscal policy framework, currently in preparation by the Ministry of Finance and Economic Affairs, is expected by the end of the year. The bill has been prepared following consultation with the IMF and other foreign experts on ways to strengthen the fiscal framework in Iceland. The possibility of adopting fiscal rules to anchor public sector finances over the medium term is under consideration. It is assumed that fiscal policy will be defined in the discussions during the upcoming spring Parliamentary session and will be reflected in summer budget preparation work and autumn Parliamentary discussions on the fiscal budget.

VI Labour market and wage developments

Unemployment continued to fall in Q3 and developed broadly in line with the August forecast. It is projected to continue declining as economic activity increases and fall below 4% by the end of the forecast horizon. Total hours worked declined in the third quarter, whereas the August forecast had assumed a continued increase. The contraction is due primarily to shorter average working hours, as the number of employed persons increased. The forecast for the next few years' wage increases is broadly unchanged from August, although other wage-related costs will be greater, as the payroll tax will not be reduced in line with falling unemployment. Unit labour costs are projected to rise considerably more than is consistent with the Central Bank's inflation target in 2012 but to develop in line with the target in the latter half of the forecast horizon.

Chart VI-1
Unemployment
January 2002 - September 2012



1. Registered unemployment is the average number of individuals registered with employment agencies nationwide as a percentage of the estimated number of persons in the labour market each month.
Sources: Directorate of Labour, Central Bank of Iceland.

Unemployment continues to fall

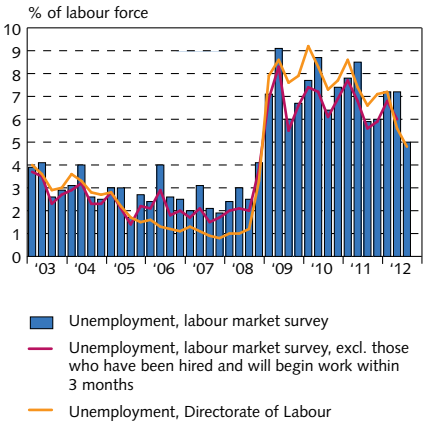
Unemployment as measured by the Directorate of Labour (DoL) was 4.8% in the third quarter, slightly below the level forecast in August. After adjusting for seasonality it measured 5.6%. Q3 unemployment as measured by the Statistics Iceland labour market survey was similar, at 5%, but slightly less, or 4.7%, excluding those who had been hired but not yet begun work.[1] For the first nine months of the year, unemployment according to DoL calculations was 5.9%, down from 7.5% a year earlier. Seasonally adjusted unemployment according to the labour market survey peaked in mid-2010 but has declined by 1½ percentage points since then, due largely to job creation (see Box VI-1).

Different measures of unemployment

Two measurements of unemployment are conducted on a regular basis in Iceland (see also *Monetary Bulletin* 2004/2). One is registered unemployment – that is, the number of persons on the DoL's unemployment rolls – and the other is unemployment as measured by the Statistics Iceland labour market survey. Although most of those registered with the DoL are entitled to unemployment benefits, the unemployment register also includes jobless people who are not entitled to benefits but use the services of DoL's employment agency. The labour market survey defines persons as unemployed irrespective of whether or not they are entitled to unemployment benefits, if they are actively seeking work, or have given up looking for work but are ready to begin work within two weeks. Also included are those who are not currently working but have found a job and will begin work within three months.

As Chart VI-2 shows, the two measures showed similar unemployment levels early in the last upswing. At the peak of the cycle,

Chart VI-2
Different measures of unemployment
Q1/2003 - Q3/2012



1. According to the definition in the labour market survey, those who have been hired but will not begin work within three months are considered unemployed. In Q2/2012, unemployment is always much higher according to the labour market survey than according to the DoL, and higher than in other quarters. As Chart VI-2 shows, this is due primarily to an increase in the number who have already been hired, many of them probably students entering the labour market in the spring. According to the labour market survey definition, students are considered unemployed if they have looked for work concurrent with their studies or have sought permanent employment in the past four weeks and are willing to begin work within two weeks after the survey is conducted.

however, the DoL unemployment measurement was much lower than that from the labour market survey. The difference is probably due primarily to significant excess demand for labour and the likelihood that many had found work before qualifying for unemployment benefits. Beginning in Q1/2009, however, this trend turned around. The labour market survey showed lower unemployment than the DoL until this year (except for Q2, when students were entering the job market). If the unemployed outnumbered those entitled to unemployment benefits, the labour force survey figures would presumably have been higher, but so far this year, there has been greater agreement between the two measurements. A possible explanation of this – higher unemployment according to the DoL in 2009-2011 and greater agreement between the two measurements so far in 2012 – is that, from November 2008 until the end of 2011, part-time wage earners and self-employed persons were entitled to collect partial unemployment benefits against part-time employment without an income-linked reduction in benefits. While this statutory provision on part-time unemployment benefits remained in force, those receiving benefits while employed part-time were considered unemployed by the DoL[2] but were employed according to the labour market survey, as the survey considers a person employed if he or she worked for one hour or longer during the reference week.

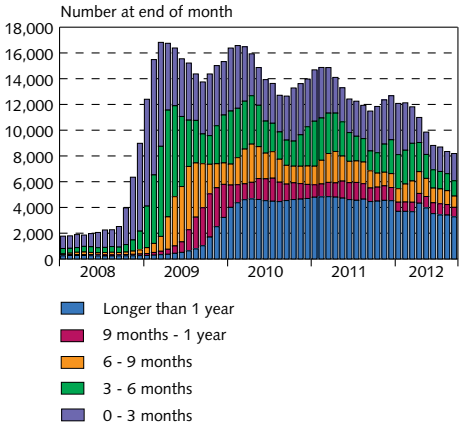
Unemployment reduced by active labour market programmes

Unemployment as measured by the DoL has been lower by an estimated 0.2 percentage points on average since September 2011, because of labour market programmes. With the spring 2012 employment campaign called "Work: a working option", the number of participants in DoL initiatives rose from under 400 to about 1,400. Considering that some of the participants would probably have gotten jobs in spite of such initiatives, it can be presumed that unemployment would have measured as much as 0.4 percentage points more year-to-date if the initiatives had not taken place. These programmes can be expected to reduce unemployment in 2013 as well, as DoL figures indicate that about ⅔ of those who participate in work-related initiatives receive long-term job offers afterwards.

Long-term unemployment down as well

The number of long-term unemployed – those out of work for more than one year – declined by about 1,300 between January and September. The decrease is due primarily to the fact that the aforementioned DoL programme focused on this group in particular. The fall in the number of long-term unemployed persons at the beginning of 2012 is due principally to participation in the DoL's education-based programme and to the expiry, in January, of the above-mentioned temporary statutory provision on partial unemployment benefits.[3]

Chart VI-3
Unemployment by duration
January 2008 - September 2012



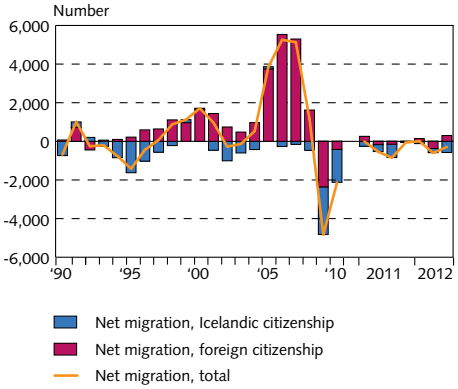
Source: Directorate of labour.

2. Partial benefits are converted to man-years.

3. The DoL's review of the registration of long-term unemployment resulted in an increase in the number of long-term unemployed persons on the register in April. To some extent, the size of this group had been underestimated until that time. According to current rules, if an individual drops off the register for more than three months, the unemployment period is considered interrupted, and a new unemployment period begins with re-registration.

The number of persons unemployed for less than one year fell more sharply than the number of long-term unemployed. The labour market survey numbers show a similar development.

Chart VI-4
Labour migration



Source: Statistics Iceland.

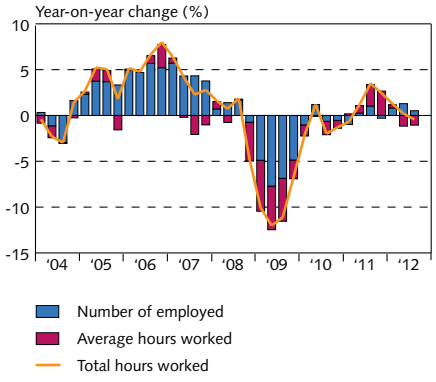
Net emigration slightly less than last year

The number of emigrants from Iceland roughly matched the number of immigrants in Q4/2011 and Q1/2012, but net migration was negative by about 0.3% of the population in Q2. This was virtually unchanged year-on-year, but unlike last year, the majority of this year's Q2 emigrants were foreign nationals. In Q3, however, foreign immigrants outnumbered foreign emigrants by about 300. As is usually the case in the third quarter, Icelandic nationals moving away from Iceland outnumbered those moving to the country by 590, probably because of students leaving the country to begin their studies abroad. So far this year, net migration has been positive by 0.2% of the population, which is slightly less than at the same time in 2011.

Total hours worked fall despite an increase in the number of employed persons

The labour market survey results for Q3 show that total hours worked declined by 0.6% year-on-year in spite of a ½% increase in the number of employed persons, as average hours worked fell by 1.1%. The August forecast assumed that total hours worked would rise by 1% year-on-year.

Chart VI-5
Changes in employment and hours worked
Q1/2004 - Q3/2012



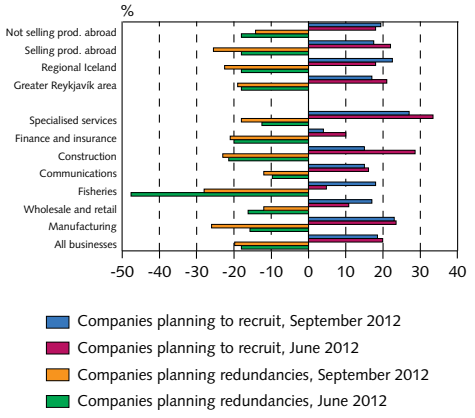
Source: Statistics Iceland.

Total hours have not fallen year-on-year since Q1/2010. When total hours worked first began rising in Q2/2011, the increase was due primarily to a rise in average hours worked. This is a normal development in view of the fact that the post-crisis adjustment in employment was concentrated to a large degree in a reduction in average hours worked (see Box VI-1). Under such conditions, increased labour demand should be reflected first in longer working hours among those already employed. As the recovery continues, however, it presumably becomes more difficult to meet increased labour demand solely with longer hours, and the adjustment shifts more and more to creation of new jobs. This was the case in Iceland, and in the first two quarters of 2012, an increase in the number of employed persons was the driver of the rise in total hours worked. As the year has progressed, however, the contraction in average hours worked has tended to offset the rise in the number of employed persons, equalling it in Q2 and overtaking it in Q3.

It is unclear why average hours worked have declined year-to-date. They could actually have been expected to continue lengthening, in view of companies' presumably ample flexibility to meet increased demand by lengthening their employees' working hours. A recent survey of firms' staffing plans shows that, although Government institutions are most likely to address fluctuations in staffing needs by recruiting temporary workers, firms in the private sector plan instead to increase the working hours of their current employees, both by raising employment percentages and through overtime.[4] Therefore, it

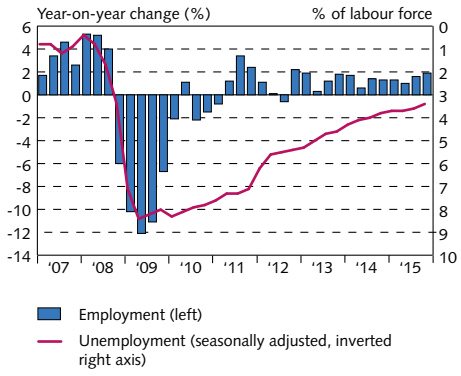
4. See A. Einarsdóttir and K. Ólafsdóttir (2012). Úr samdrætti í uppsveiflu: Aðgerðir á vinnumarkaði [From contraction to upswing: labour market initiatives], Reykjavík University, forthcoming (in Icelandic).

Chart VI-6
Companies planning to change staffing levels during the next 6 months



Source: Capacent Gallup.

Chart VI-7
Employment and unemployment
Q1/2007 - Q4/2015[1]



1. Central Bank baseline forecast Q4/2012 - Q4/2015.
Sources: Directorate of Labour, Statistics Iceland, Central Bank of Iceland.

is too early to say whether these figures indicate a contraction in the labour market.

Labour participation rate rose slightly year-on-year in Q3

The labour participation rate rose slightly year-on-year in Q3, to 81.2%, and has been about 84% year-to-date, which is broadly unchanged from last year. The employment rate, however, has increased by 0.9 percentage points so far in 2012. It measured just over 77% in the third quarter, 0.8 percentage points higher than in Q3/2011.

Little change in firms' staffing plans

According to Capacent Gallup's September survey among Iceland's 400 largest firms, respondents' plans to recruit or lay off staff in the next six months are broadly unchanged since the June survey. The percentage interested in recruiting is about the same as that planning redundancies. These findings accord with the survey conducted by the Confederation of Icelandic Employers (SA) in October. If the SA results are weighted together with company size and proportional sector weight, they indicate that the number of employees in SA member firms could fall by 0.3% during the year. The Gallup survey also shows that just over 60% of firms anticipated unchanged staffing levels, which is broadly the same share as in the surveys of the past two years. The survey results indicate that demand for labour will grow slowly in coming months.

Total hours worked projected to rise more slowly than in August forecast

Because the outlook for this year is now for weaker output growth than was forecast in August and the most recent indicators of labour demand suggest a slower recovery than previously expected, it is now assumed that total hours worked will increase more slowly in 2012 than was forecast in August, or 0.6% instead of 1.2%. Next year, however, the level of economic activity is expected to be broadly in line with the August forecast, and output growth, while weaker in 2012, will be commensurably stronger in 2013. Total hours worked will develop in a like manner. They are expected to increase by 1.3% in 2013, which is more than was projected in August. For the remainder of the forecast horizon, a relatively more modest growth in total hours worked is assumed, or 1.2% and 1.4% in 2014 and 2015, respectively.

The expected rise in hours worked is somewhat below projected output growth; therefore, the forecast provides for productivity growth of 2% per year on average, slightly above long-term trend growth. The economic recovery will therefore take place to some extent without a corresponding increase in total hours worked.

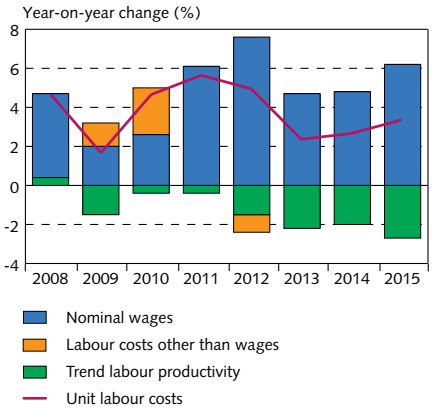
Unemployment outlook broadly unchanged

It can be expected that unemployment according to DoL figures will be somewhat lower in 2013 if the temporary statutory provision lengthening the unemployment benefit period from three years to

four expires at the end of this year, as is assumed in the national budget proposal for 2013. It is estimated that around 3,000 individuals will fully utilise their three-year entitlement to benefits in 2013 and, if the temporary statutory provision is extended, some 1,400 will fully utilise their four-year entitlement during the year. Unemployment could therefore be an estimated 0.8 percentage points lower if the temporary provision is not extended. It is not expected that all those who lose their entitlement to benefits in 2013 will become unemployed, as it is assumed that some of them will be invited to participate in job-related policy measures. In addition, some people will continue to avail themselves the DoL's employment agency services and will therefore be registered as unemployed by the DoL. It can be assumed, however, that the labour market survey will show higher unemployment levels than DoL figures.

The outlook for the upcoming three years is similar to that in the last forecast, although unemployment figures are expected to be lower due to a reduction in the number of people on the jobless register. Unemployment is expected to measure about 5.8% this year and around 5% next year and to fall to about 3½% by the end of the forecast horizon.

Chart VI-8
Unit labour costs and contributions of underlying components 2008-2015[1]



1. Labour productivity growth is shown as a negative contribution to an increase in unit labour costs. Central Bank baseline forecast 2012-2015.
Sources: Statistics Iceland, Central Bank of Iceland.

Wage increases in line with the August forecast

Wages have developed in line with the August forecast. The wage index rose by 0.5% quarter-on-quarter in Q3, and the twelve-month rise in the index measured 5.8%, down from 9.3% in the previous quarter, as the pay increases implemented with the signing of the 2011 wage settlements dropped from the twelve-month measurements. The 2011 wage settlements, which are up for review in January 2013, are based, among other things, on the assumption that real wages as measured by the wage index will rise between December 2011 and December 2012. Real wages had risen by 0.8% as of September, and the forecast in this issue of *Monetary Bulletin* assumes that the increase will lose pace for the remainder of the year. The assumptions concerning wage developments have therefore changed little since the last forecast. As in previous Central Bank forecasts, it is not assumed that the wage settlement review at the beginning of next year will trigger substantial additional pay increases, even though the current forecast indicates that the conditions underlying the contracts will not be met. However, the budget proposal for next year does not assume that other wage costs will fall in 2013 and 2014, as was previously assumed. Productivity is expected to grow by an average of 2% per year during the forecast horizon, slightly more than in the August forecast. Higher wage-related expenses in 2013 and relatively slower productivity growth in the latter half of the forecast horizon will cause unit labour costs to rise more quickly than was projected in August, or by an average of 3½% per year.

Box VI-1

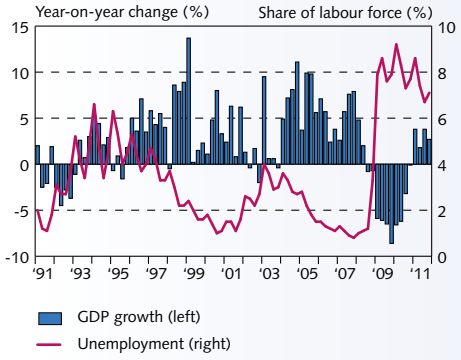
Post-crisis developments in unemployment

A steep economic contraction followed the financial crisis of 2008, and the domestic labour market was not spared the effects of it: unemployment as registered by the Directorate of Labour (DoL) rose by 8.2 percentage points from Q1/2008 to Q1/2010, peaking at 9.2%. Unemployment as measured by the Statistics Iceland labour market survey rose by 5.4 percentage points over the same period, to 7.7% (see Section VI for a discussion of the difference between the two measures).

There is usually a negative correlation between changes in unemployment and output growth (often referred to as the Okun relationship). Chart 1 illustrates this relationship for Iceland. The contraction in output growth usually does not emerge fully in elevated unemployment, however, as labour market flexibility mitigates the impact of the economic contraction on employment; for instance, firms respond to reduced demand by cutting back working hours and households respond to the drop in labour demand by reducing their labour participation. How – and how much – labour market flexibility mitigates the impact of the contraction on unemployment can have a strong effect on developments in the labour market when the economic recovery gains momentum and the slack in the labour market disappears.

This Box traces developments in unemployment in the wake of the autumn 2008 economic crisis, based on figures from the Statistics Iceland labour market survey. The bulk of the domestic labour market adjustment took place through a reduction in average hours worked. Although reduced labour participation and emigration from Iceland counteracted elevated unemployment, the impact appears to have been weaker than the impact of the reduction in average hours worked.[1] In recent quarters, the recovery of the labour market has emerged in an increase both in hours worked and in the number of employed persons, and the labour market survey indicates that the recent decline in unemployment was driven primarily by an increase in the number of jobs.

Chart 1
GDP growth and unemployment
Q1/1991 - Q4/2011



Source: Statistics Iceland.

Breakdown of changes in unemployment into components

It is necessary to look to the mathematical relationships between labour market variables to determine what factors played a key role, both in the surge in unemployment in the immediate aftermath of the crisis and in the subsequent decline. Unemployment is defined as

$$(1) \quad u = (L - E)/L$$

where u is unemployment measured as the jobless as a share of the total labour force, L is the total labour force, and E is the number of employed persons. Changes in unemployment between two periods can therefore be expressed as:

$$(2) \quad \Delta u \approx \Delta \ln L - \Delta \ln E$$

where $\Delta \ln L$ and $\Delta \ln E$ represent the percentage log-change in L between two periods.[2]

Total hours worked in each period can be expressed as $TH=H\times E$, where TH represents total hours worked and H is the average number of hours worked per person; therefore, Equation (2) can be rewritten as follows:

1. Because of a shortage of data, assessing the effect of emigration on unemployment is problematical. Because of the surge in emigration, a number of those who would otherwise be unemployed are not included in unemployment figures, but it is not certain how many of them would have obtained jobs or exited the labour market if they had not emigrated. See Box VI-1 in *Monetary Bulletin* 2011/4.
2. The approach is based on: $\Delta \ln x_t = \ln(x_t/x_{t-1}) = \ln(1 + \Delta x_t/x_{t-1}) \approx \Delta x_t/x_{t-1}$.

(3) $\Delta u \approx \Delta \ln L - \Delta \ln TH + \Delta \ln H$

In addition, labour productivity measured in total hours worked can be defined as Y/TH, where Y is GDP. Inserting this into Equation (3) (see Burda and Hunt, 2011) yields the following:

(4) $\Delta u \approx -\Delta \ln Y + \Delta \ln(Y/TH) + \Delta \ln H + \Delta \ln L$

where $\Delta \ln Y$ represents output growth. Finally, the total labour force can be split into the labour participation rate and the working-age population, $L = pa \times N$, where N is the working-age population (defined as the number of persons aged 16-74) and pa is the labour participation rate; that is, L/N. Inserting this into Equation (4) gives the following:

(5) $\Delta u \approx -\Delta \ln Y + \Delta \ln(Y/TH) + \Delta \ln H + \Delta \ln pa + \Delta \ln N$

Declining unemployment between two periods can therefore reflect growth in output, reduced productivity, shorter working hours, reduced labour participation, and/or a reduction in the working-age population. It is appropriate to emphasise that this does not reflect a causal relationship between the individual subcomponents and unemployment. On the other hand, it does shed light on the contribution of individual factors to the increase in unemployment following the crisis and the decline in unemployment beginning in the first half of 2010.

In order to see more clearly the contribution of changes in the number of working persons, it is possible to use Equation (1) and the definition of the total labour force to obtain:

(6) $\Delta u \approx \Delta \ln pa + \Delta \ln N - \Delta \ln E$

The first half of the right side of Equation (6) (that is, $\Delta \ln pa + \Delta \ln N$) therefore describes the contribution of changes in labour supply to changes in unemployment, while the second half ($\Delta \ln E$) describes the contribution of changes in labour demand to changes in unemployment.

Contribution of components to change in unemployment

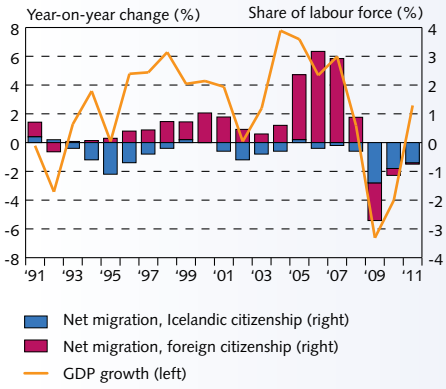
Table 1 shows the contribution of the subcomponents described in Equations (5) and (6) to changes in unemployment as measured by the labour market survey. Unemployment rose by 5.4 percentage points from Q1/2008 to Q1/2010. The most important factor there was the steep contraction in GDP, although the increase in productivity in late 2008 and 2009 also contributed, as Chart 2 indicates. Labour market flexibility is shown clearly, however, in the adjustment of working hours to reduced labour demand; the reduction in average hours worked was the major reason why the economic contraction did not surface in full measure in elevated unemployment.[3] The ease with which working hours adapt to changes in labour demand is one of the characteristics of the Icelandic labour market. It came to light clearly in the post-crisis downturn, when employers immediately responded by cutting back working hours (see Chart 2). This scope to reduce working hours reflects, among other things, the fact the average work week is long in Iceland, particularly during an upswing. Icelandic companies generally have the latitude to respond

3. Iceland's post-crisis labour market adjustment through reduced average hours worked was considerably greater than that, for instance, in the US, Germany, and Spain (see Burda and Hunt, 2011, and Bentolila, Dolado and Jimeno, 2011).

Chart 2
Breakdown of changes in unemployment[1]
Q1/2008 - Q2/2012

1. Breakdown of changes in unemployment according to equation (5).
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 3
Migration and growth 1991-2011



Source: Statistics Iceland.

to a contraction in labour demand by cutting working hours during a downturn and increasing them again during the upswing.

As Table 1 indicates, the labour market adjustment took place primarily on the demand side and less on the supply side. It can also been seen that the lion's share of the rise in unemployment is reflected in a decline in the number of jobs, which was similar to the drop in average hours worked. This accords with the findings of Sigurdsson (2011), which indicate that the adjustment in total hours worked takes place through average hours worked (per person) and the number of employed in equal measure.

The results in Table 1 show as well that the impact of labour supply on changes in unemployment was limited because the labour force contracted by only 0.6 percentage points during the entire period. This is due to two countervailing factors: the labour supply contracted when labour participation fell by 2.1 percentage points. This decline in labour participation emerged primarily in 2009 and reflects, among other things, the fact that many workers responded to layoffs or reduced job opportunities by going to school, retiring early, working inside the home, or participating in other projects that fall outside the labour market. Offsetting this decline in labour participation, however, was an increase in the working-age population. Chart 2 shows a decline in the working-age population in H2/2009 and early 2010, in spite of a 1.5% rise in the total population over the entire period. These changes in population reflect two factors: natural population growth and labour migration to and from the country. In general, it can be assumed that natural population growth is relatively stable and not overly sensitive to the business cycle.[4] Migration to and from the country is more closely related to the business cycle, however, as Chart 3 indicates.[5] The chart also shows strong emigration in 2009 and 2010, which offset the rise in unemployment. In 2009, about 2,500 more Icelandic nationals and 2,400 more foreign nationals left Iceland than moved to the country. Net emigration totalled 2.7% of the labour force, or 2.2% of the working-age population. Since then, emigration among foreign nationals has declined rapidly as the economic recovery has gained a foothold, while emigration among Icelandic nationals has declined more slowly.

Table 1 Breakdown of changes in unemployment – contribution of individual components[1]

	Q1/2008-Q1/2010	*Q2/2010-Q2/2012*	*Q1/2008-Q2/2012*
Unemployment	5.4	-1.6	4.2
GDP	-12.5	2.9	-9.0
Productivity	0.2	2.0	3.2
Hours worked per person	-7.0	-0.4	-7.3
Labour participation	-1.5	-0.8	-2.1
Working-age population	1.3	0.5	1.5
Total labour force	-0.2	-0.3	-0.6
Number of employed persons	-5.6	1.3	-4.8

1. Seasonally adjusted data. Changes, apart from changes in unemployment, are in logarithms. Productivity is measured GDP per hour worked.

As Table 1 shows, unemployment began to fall in Q2/2010 and, by Q2/2012, had declined by 1.6 percentage points from the peak measured by the Statistics Iceland labour market survey. The

4. During the period 1952-2012, annual growth in the working-age population (aged 16-74) averaged 1.5%.
5. For further discussion, see Box VI-1 in *Monetary Bulletin* 2011/4, and Chapter 14 in Central Bank of Iceland (2012).

most important factor in this is the economic recovery, which shows in growth in GDP, although the continued decline in the labour participation rate is also a factor. Offsetting this is increased population and labour market productivity. The contribution of changes in labour supply to changes in unemployment therefore remains relatively small, and the reduction in unemployment is driven largely by the number of jobs, which has increased by 1.3% since mid-2010. As expected, the labour market recovery surfaced in the number of hours worked before showing up clearly in rising numbers of jobs because, even though average hours worked declined over the period as a whole, they rose by 1.7% in 2011. According to the most recent data from Statistics Iceland, however, average hours worked have declined again in 2012.

Conclusion

The post-crisis labour market adjustment appeared first as a decline in average hours worked, which accounted for the bulk of the adjustment. The reduction in the number of jobs and the rise in unemployment emerged later. Because of the flexibility of the labour market, which appears mostly in a rapid adjustment of average hours worked but also in labour supply, unemployment rose less in the aftermath of the crisis than it would have without such flexibility. As the economy recovers, unemployment has declined, primarily due to a rise in the number of jobs, although reduced labour participation is a factor as well.

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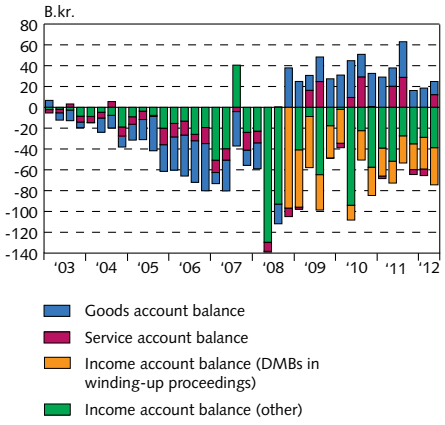
VII External balance

In the first half of 2012, the current account balance was negative by just over 11½% of GDP, slightly more than in the same period in 2011. The surplus on the trade account was just under 37 b.kr., and the deficit in the balance on income measured 134 b.kr. It is appropriate to set aside the effects of bankruptcy estates when analysing the external balance, as the majority of their accrued expenses will never be paid and will therefore disappear from official accounts of external expense when the estates are settled. The income account deficit excluding the factor expense on the estimated net debt of deposit money banks (DMBs) in winding-up proceedings amounted to approximately half of the official income account deficit, or just under 68 b.kr. If the calculated accrued interest expense on the obligations of pharmaceuticals company Actavis are excluded as well, it totalled just under 40 b.kr. By this measure, the current account deficit totalled 0.3% of GDP in H1/2012.

The outlook for the next few years is for a somewhat larger trade surplus than was projected in August, and the current account balance excluding the failed DMBs is expected to be slightly negative throughout the forecast horizon. If Actavis is excluded as well as the failed DMBs, the current account balance will show a surplus of 2-3½% of GDP throughout the forecast horizon.

Chart VII-1
Current account balance components[1]
Q1/2003 - Q2/2012



1. Net current transfer is included in the balance on income.
Sources: Statistics Iceland, Central Bank of Iceland.

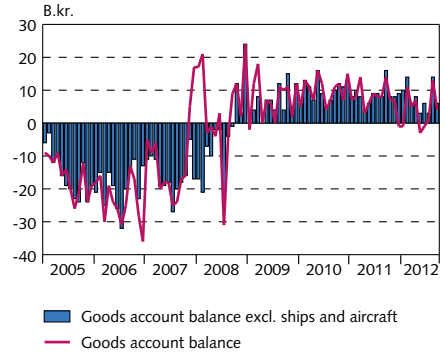
Surplus on goods and services trade throughout the forecast horizon

The surplus on goods trade has contracted year-to-date. In the first nine months of 2012, imports grew by just 5½% year-on-year at constant exchange rates, while exports contracted by 1%. Over the same period, the surplus on goods trade measured almost 53 b.kr. at constant exchange rates, or just under 6 b.kr. per month on average. While the surplus for the nine-month period is considerably smaller than last year's, it is nonetheless the fourth-largest nine-month goods account surplus since 1995.

The services trade balance was positive by roughly 12 b.kr. in Q2, following a deficit of just over 6 b.kr. in Q1. The services surplus in the first half of the year was therefore only a third of that in H1/2011. The first-half surplus is attributable to increased transport revenues. Increased expense due to Icelanders' travel abroad outweighs the increase in tourism revenues in Iceland, however. Exports of other services contracted year-on-year, while other service imports grew by a considerably larger amount.

The outlook is for a continued surplus on goods and services trade in 2012. Total marine product exports are projected to rise by about 9% and the real exchange rate is expected to remain low, stimulating other exports, particularly in sectors not subject to short-term capacity constraints (see Section II). Indicators from the tourism sector suggest that exports will be strong in Q3. Foreign payment card turnover was up 13½% year-on-year in Q3, and turnover year-to-date exceeds that of the same period in the previous two years. Information from the Icelandic Tourist Board implies that the number

Chart VII-2
Goods account balance
At fixed exchange rate, January 2005 - September 2012

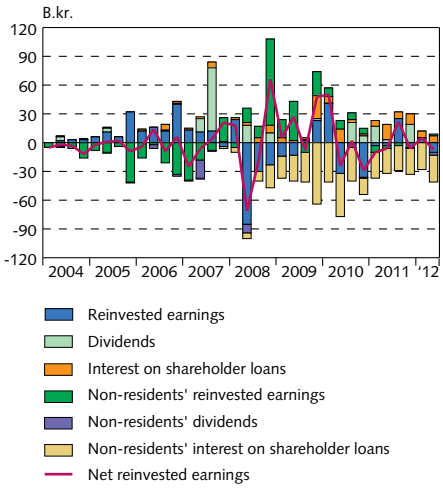


Sources: Statistics Iceland, Central Bank of Iceland.

of foreign tourists visiting Iceland rose year-on-year by nearly 85,000, or 17%, in the first 10 months of 2012. So far this year, some 582,000 foreign tourists have visited Iceland, slightly more than the total for all of 2011.

Services imports and exports are now expected to grow more than in the last forecast, while growth in goods imports and exports is expected to be somewhat less, in part because Q3 proved weaker than was forecast in August. The trade balance is therefore projected to be unchanged from the August forecast, at 6½% of GDP. The surplus on the trade account is projected at 6-7% over the next three years, which is somewhat more than was assumed in the last forecast. Weaker imports, higher export prices, and improved terms of trade are the main drivers of the increased surplus. As is discussed in Box VII-1, the outlook for the external trade balance is still somewhat poorer than at the same time a year ago, owing mainly to poorer terms of trade than were projected then.

Chart VII-3
Return on FDI
Q1/2004 - Q2/2012



Sources: Statistics Iceland, Central Bank of Iceland.

Balance on income: deficit sizeable but down year-on-year

The balance on income showed a large deficit in the first half of the year. It was negative by almost 129 b.kr., due mainly to a large deficit

Box VII-1

Changes in Central Bank forecasts of the trade balance

According to Statistics Iceland, the trade surplus measured 8.5% of GDP in 2011. The Central Bank's current baseline forecast assumes that the surplus will be 6½% this year, just over 7% in 2013, and about 6½% in 2014. Although this is a somewhat larger surplus than was forecast in August, it is considerably smaller than in the Bank's November 2011 forecast, which provided for a surplus of 10% of GDP or more for all three years.

It turns out that the surplus in 2011 and 2012 was smaller than in the *Monetary Bulletin* 2011/4 forecast primarily because of adverse developments in terms of trade; that is, developments in export prices versus import prices have been more negative than was assumed in the 2011 forecast.[1] Another reason for the smaller surplus in 2011 and 2012 is the strength of import growth, which is due mainly to stronger imports of ships and aircraft than predicted in *Monetary Bulletin* 2011/4. The outlook for a smaller surplus this year explains in large part why a smaller surplus is expected next year, and this largely explains the smaller surplus in 2014. As a result, it is not assumed that the developments causing the smaller surplus in 2012 will reverse. Neither is it assumed that terms of trade will deteriorate further than was projected in November 2011 nor that developments in external trade will prove more disadvantageous than was forecast at that time.

Breakdown of forecast deviations in the trade balance

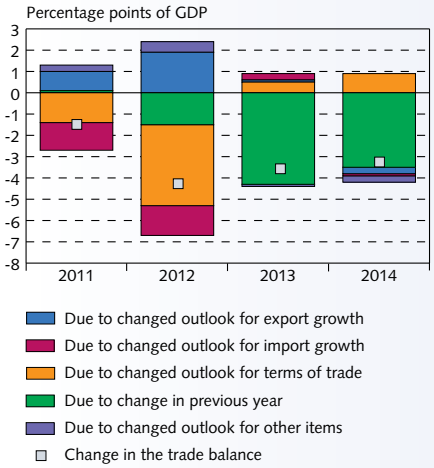
The trade balance is defined as the difference between the nominal value of exports and imports of goods and services:

$$T = PX \times X - PM \times M$$

where T is the trade balance at current prices, PX is the price level of exports in Icelandic krónur, X is the volume of exports, PM is the price level of imports in Icelandic krónur, and M is the volume of imports.

1. It is well known that countries highly dependent on exports of commodities and food products, such as Iceland, must usually tolerate relatively volatile terms of trade, which can cause fluctuations in the trade balance.

Chart 1
Changes in the outlook for the trade balance between MB 2011/4 and MB 2012/4



Sources: Statistics Iceland, Central Bank of Iceland.

If t is defined as the trade balance as a share of GDP, $t = T/(PY \times Y)$, where PY is the price level of GDP, Y is GDP at constant price levels, the ratio in year 1 can be expressed as:

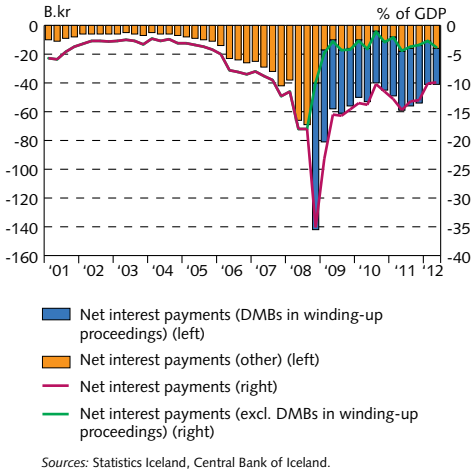
$$t_1 = t_0 + \{[(1+\dot{p}_x)(1+\dot{x}) - (1+\dot{p}_m)(1+\dot{m})]sm_0 + [(1+\dot{p}_x)(1+\dot{x}) - (1+\dot{p}_y)(1+\dot{y})]t_0\}/[(1+\dot{p}_y)(1+\dot{y})]$$

where the dot over the variable represents the proportional change in the variable concerned, t_0 is the trade balance as a share of GDP in year 0, and sm_0 is imports as a share of GDP in year 0; that is, $sm = PM \times M/(PY \times Y)$.

It is possible to use this equation to analyse why the outlook for the trade balance has changed in the Bank's forecasts; e.g., in the current forecast as compared with the Bank's forecast from the same time last year. As Chart 1 indicates, the 1.5 percentage point smaller surplus in 2011 is due to the deterioration in terms of trade, which accounts for 1.4 percentage points, and stronger import growth than previously assumed (which is attributable largely to stronger services imports), which accounts for 1.3 percentage points. Export growth was somewhat stronger than projected, however, which improves the surplus by 0.9 percentage points.

In addition, this year's forecast of a 4.3 percentage point decline in the surplus as compared with the November 2011 forecast is due principally to poorer terms of trade. For instance, 3.8 percentage points of the smaller surplus can be attributed to poorer terms of trade, while 1.5 percentage points can be traced to a smaller surplus in 2011 and 1.4 percentage points to stronger import growth (owing mostly to stronger imports of ships and aircraft) than previously forecast. Offsetting this is the outlook for considerably stronger export growth than was projected in *Monetary Bulletin* 2011/4 (mostly due to stronger marine product exports), which improves the surplus by 1.9 percentage points. To a large extent, the smaller surplus in 2013 and 2014 is explained by a smaller surplus in the previous year.

Chart VII-4
Net foreign interest payments
Q1/2001 - Q2/2012



Sources: Statistics Iceland, Central Bank of Iceland.

in the interest balance and to negative returns on equity holdings. Reinvested earnings, which are part of the returns on equity holdings, have fluctuated widely between quarters in recent years. The reinvested earnings item describes owners' share of profit not paid out as dividends. The operations of foreign firms owned by the DMBs in winding-up proceedings generated a loss that caused reinvested earnings to be negative in the first half of the year. The H1/2012 deficit in the balance on income proved only slightly smaller than at the same time last year, at 15½% of GDP instead of the H1/2011 figure of 17%. The deficit due to returns on equity holdings grew between 2011 and 2012, but the deficit in the interest balance contracted concurrent with a contraction in the deficit in the overall balance on income.

When adjusted for the effects of the DMBs in winding-up proceedings and Actavis, however, the income account deficit was much smaller in H1/2012, or 34.5 b.kr., which corresponds to 4% of GDP. The deficit is due chiefly to a 28 b.kr. deficit in the interest balance, although returns on equity holdings were also negative, by 7.5 b.kr. After adjusting for Actavis and the DMBs in winding-up proceedings, the H1 income account deficit was down slightly from the first half of 2011, when it measured 46.5 b.kr., or just under 6% of GDP. The

larger deficit in H1/2011 is due in particular to sizeable deficits in the interest balance and in returns on equity holdings. The interest account deficit in H1 was therefore similar to that in H1/2011, while the deficit in returns on equity holdings was considerably smaller than in the first half of last year.

Current account balance excluding failed DMBs negative in 2012 but slightly positive if Actavis is excluded as well

The balance on the trade account was positive by just under 37 b.kr. in H1/2012, while the deficit in the balance on income plus transfers totalled almost 134 b.kr. The current account balance was therefore negative by slightly less than 97 b.kr., or 11.6% of GDP. If adjustments are made for the accrued income and expenses of the DMBs in winding-up proceedings and Actavis, the deficit in H1/2012 is much smaller, at 2.7 b.kr., or 0.3% of GDP.

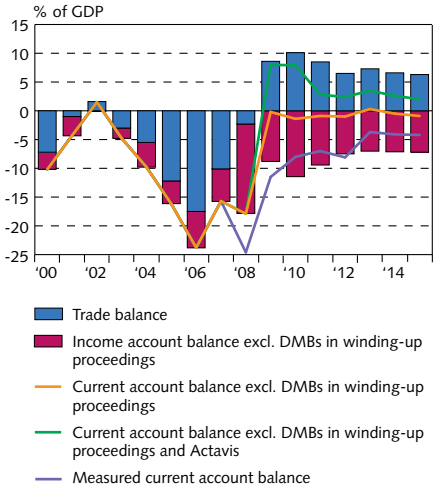
As has been discussed previously, the outlook is for a sizeable surplus on the trade account in 2012. However, because of the deficit in the income account, the official current account balance is expected to be negative by 141 b.kr., or 8.1% of GDP.

According to "What does Iceland owe?", a Central Bank paper published in the Bank's *Economic Affairs*[1] series in February 2011, accrued interest on Actavis' debt weighs heavily in the balance on income, as the company has substantial foreign liabilities. Actavis' interest expense is accrued but unpaid and therefore does not represent actual foreign currency outflows. Actavis is an international company, and nearly all of its revenues stem from sales in foreign markets; therefore, it is difficult to see how the company's substantial and protracted negative contribution to the balance on income corresponds to any foreign exchange transactions. Therefore, since "What does Iceland owe?" was published, the Central Bank has considered it appropriate to exclude Actavis' effect on the balance on income when estimating the underlying current account balance.

It was announced this year that Watson Pharmaceuticals in the US had acquired Actavis. The sale will probably be finalised soon. A number of decisions regarding the division of Actavis' assets and liabilities and their effect on Iceland's balance on income have yet to be made, and Actavis' position the Watson organisational structure is as yet undetermined. Based on information currently available, it is likely that the sale will have broad-based effects and the balance on income and current account balance will be close to the Central Bank's estimates when the Actavis transaction has been finalised. It is assumed that the income account deficit excluding Actavis and the DMBs in winding-up proceedings will be much smaller than the official income account deficit in 2012, and that the current account balance will be positive by 2½% of GDP instead of the 1% deficit that results if Actavis is included.

1. A. Sighvatsson, Á. Daníelsson, D. Svavarsson, F. Hermannsson, G. Gunnarsson, H. Helgadóttir, R. Bjarnadóttir, and R. B. Ríkardsson (2011), What Does Iceland Owe?, *Economic Affairs*, 4, February 2011.

Chart VII-5
Current account balance 2000 - 2015[1]



1. Net current transfers are included in the balance on income. Central Bank baseline forecast 2012-2015.
Sources: Statistics Iceland, Central Bank of Iceland

Current account balance excluding failed DMBs slightly negative throughout the forecast horizon but positive if Actavis is also excluded

It is assumed that, in 2013, the income account deficit excluding the DMBs in winding-up proceedings will be similar to the estimate for this year. It is expected to grow again in 2014-2015, however, due to increased interest expense. This is mainly because the calculation of the balance on income is based on the assumption that at least two of the three DMBs being wound up will conclude contractual agreements with their creditors in 2013. For this reason, the assets and liabilities of these former DMBs are no longer excluded from the estimate of the balance on income excluding DMBs in winding-up proceedings. The agreements will negatively affect the balance on income excluding the failed DMBs in an amount corresponding to interest and dividend payments to the estates' foreign creditors.

The official current account deficit is projected to contract to roughly 3½% of GDP in 2013, assuming that some of the failed DMBs' estates are settled during the year and that it will be possible to calculate accrued interest on foreign claims. The current account balance excluding the DMBs in winding-up proceedings is expected to show a surplus of just around ½% of GDP in 2013. If adjustments are also made for the effects of Actavis, the surplus increases to 3½% of GDP, which is broadly in line with the August forecast.[2] This reflects the offsetting effects of a larger trade surplus and the adverse impact of a weaker króna on the income account deficit. By this measure, it is forecast that the current account balance will show a surplus of 2-2½% of GDP in 2014-2015. The declining surplus is due primarily to the outlook for a shrinking trade surplus and a growing income account deficit, which in turn is due to rising international interest rates.

2. When the sale of Actavis has been finalised and the estates of the failed DMBs are settled, the official current account balance and balance on income should be equal to the underlying balances.

VIII Price developments and inflation outlook

Inflation measured 4.3% in the third quarter of 2012, somewhat below the Bank's August forecast. It is expected to be higher than forecast in Q1/2013, however, due to the weaker króna and the effects of indirect tax hikes. The inflation outlook for the forecast horizon is broadly in line with the August forecast, as the greater margin of spare capacity in the economy will offset the lower exchange rate. Inflation is forecast to average 3.6% in 2013, and inflation excluding indirect tax effects is projected at 3.4%. Headline inflation is expected to approach the inflation target in the first half of 2014, half a year earlier than in the August forecast. Inflation expectations have fallen by some measures but nonetheless remain high. Exactly how quickly inflation will decline is highly uncertain and will depend primarily on exchange rate movements and wage-setting decisions, both of which can be affected by the monetary stance.

Inflation still above target

Inflation rose rapidly in early 2012, in part because of steep increases in private services prices and the depreciation of the króna, and measured 6.4% in Q1. The appreciation of the króna that began in the spring led to declines in some import prices, which, in addition to a notable drop in airfares, had the greatest effect on the CPI in Q3. As a result, inflation tapered off rather quickly during the summer, measuring 4.3% in Q3. It is still somewhat above the Bank's inflation target, as it has been since April 2011.

After bottoming out at just over 4% in August, twelve-month inflation has risen slightly this autumn. It measured 4.2% in October, when the CPI rose 0.3% month-on-month, due in particular to increases in grocery and imported goods prices. Twelve-month inflation according to the Harmonised Index of Consumer Prices (HICP), which excludes the price of housing, measured 5.3% in September after having risen from the previous month.

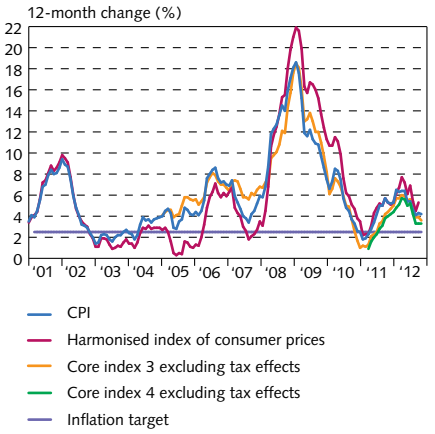
Underlying inflation on the wane in the recent term

Underlying twelve-month inflation as measured by core index 3 (which excludes the effects of indirect taxes, volatile food items, petrol, public services, and real mortgage interest expense) measured 3.6% in October, down from 4.7% in July. In terms of core index 4, which also excludes the effects of changes in the market value of housing, underlying inflation measured 3.3% in October. Using trimmed means yields even lower measures of underlying inflation, ranging from 2½% to 3%, depending on how many volatile components of the CPI are excluded.

Pronounced inflation persistence

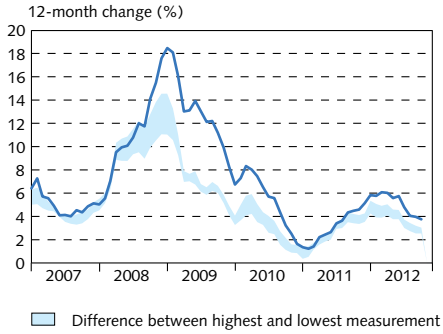
Headline inflation has remained over 4% since summer 2011 and appears downward sticky. It has eased in 2012, however, and it appears that inflationary pressures have yielded somewhat in the wake of the appreciation of the króna this summer. The contribution of individual subcomponents to inflation is still rather equally distribut-

Chart VIII-1
Various inflation measurements[1]
January 2001 - October 2012



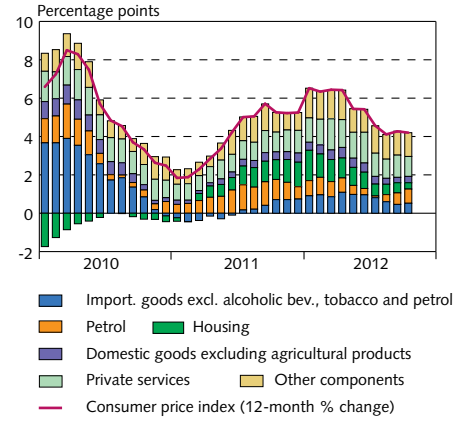
1. Core Index 3 is the CPI excluding prices of agricultural products, petrol, public services and the cost of real mortgage interest. Core Index 4 excludes the market price of housing as well.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart VIII-2
Underlying inflation[1]
January 2007 - October 2012



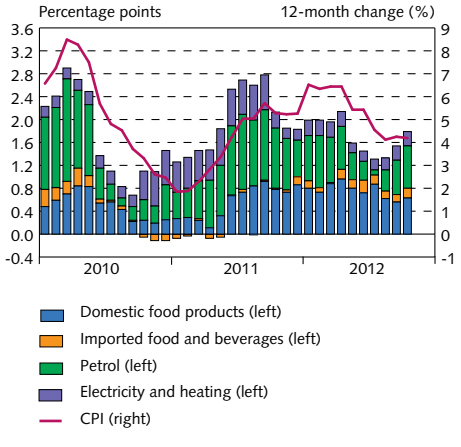
1. Core inflation 3 and trimmed mean measurements of underlying inflation where 10%, 15%, 20% and 25% of components with the largest price changes are excluded.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart VIII-3
Components of CPI inflation
Contribution to inflation January 2010 - October 2012



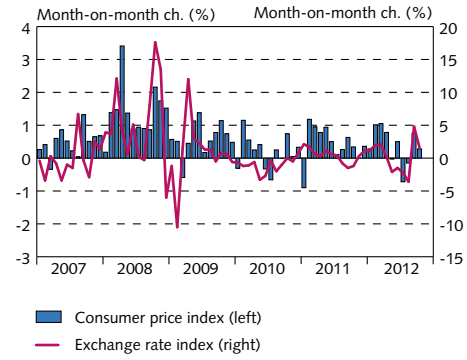
Source: Statistics Iceland.

Chart VIII-4
Contribution of food, petrol and energy costs to annual inflation
January 2010 - October 2012



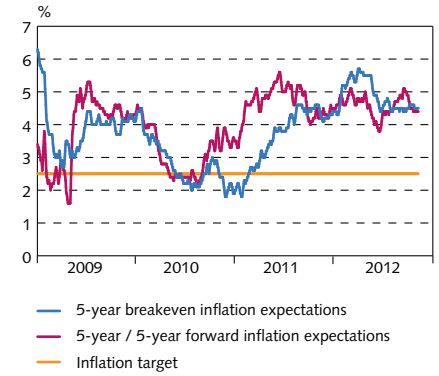
Source: Statistics Iceland.

Chart VIII-5
Price level and exchange rate developments
January 2007-October 2012



Sources: Statistics Iceland, Central Bank of Iceland.

Chart VIII-6
Breakeven inflation expectations[1]
Daily data, 2 January 2009 - 9 November 2012



1. Breakeven inflation expectations are calculated from yield spreads between nominal and index-linked Government and Government-backed bonds (5-day moving averages).
Source: Central Bank of Iceland.

ed, however, indicating how broad-based inflationary pressures have been. The contribution to annual inflation of imported goods excluding alcoholic beverages, tobacco products, and petrol has shrunk since July, while the contribution of petrol has risen sharply, owing to a 7% increase in fuel prices over the past three months. As before, increases in the price of private services have weighed heavily in inflation over the past year. As of October, private services prices had risen 5% in the previous twelve months.

The twelve-month increase in house prices has tapered off steadily since the beginning of the year, measuring 5% in nominal terms and just under 1% in real terms as of October. Recently, price increases have been restricted to the greater Reykjavík area (condominium housing in particular), as house prices in regional Iceland have fallen year-on-year. The housing market therefore appears to be settling down, and turnover in the greater Reykjavík area year-to-date is up by just over 14% from the same time in 2011 (see also Section III).

Inflation expectations persistently high despite easing somewhat by some measures since August

Inflation expectations have been above the Central Bank's inflation target for quite a while. The persistence of inflation that has been observed is probably due in part to persistent, high inflation expectations, which affect firms' pricing decisions and individuals' wage demands.

The breakeven inflation rate based on the spread between indexed and nominal bond yields is often used as a measure of inflation expectations in the bond market. At present, the breakeven rate is broadly unchanged since August, when the last *Monetary Bulletin* was published, at an average of 4½% for the next five years and the ensuing five-year period. The breakeven inflation rate has been in the 4-5% range in 2012. It should be borne in mind, though, that the breakeven rate also includes a risk premium for liquidity risk and uncertainty about inflation. It is possible that this part of the breakeven rate has risen during the year because of uncertainty about the exchange rate, including uncertainty about the effects of capital account liberalisation.

According to Capacent Gallup's quarterly survey of household inflation expectations, carried out in September, households' expectations concerning inflation one year ahead were 5.6% and had fallen by nearly a percentage point since the May survey. Household inflation expectations two years ahead had fallen by ½ a percentage point between the two surveys, to 5%. In short, then, inflation expectations have declined in the last two surveys, in line with falling inflation. Corporate inflation expectations have also fallen, according to the Capacent Gallup survey conducted in September, with executives expecting inflation to measure 4.2% in one year, almost a percentage point below the result of the June survey. On the other hand, executives' two-year inflation expectations were unchanged from the February survey, at 5%.

According to the Central Bank's quarterly survey of market expectations, carried out just before this *Monetary Bulletin* went to press, market agents expect twelve-month inflation to measure 4.8%

one and two years ahead. They also expect inflation to average 4.5% over the next 10 years. According to the responses of those who also participated in the August survey, market agents' short-term inflation expectations appear to have inched upwards, while long-term expectations are unchanged. According to a principal component analysis of underlying developments in inflation expectations, inflation expectations measured 4.7% in Q3/2012, down 0.7 percentage points from the previous quarter but broadly unchanged year-on-year. Overall, inflation expectations two years ahead have therefore fallen somewhat in the recent term, but medium- and long-term expectations are largely unchanged and remain quite high.

Inflation outlook broadly unchanged from the last forecast …

Inflation measured 4.3% in the third quarter of the year, 0.4 percentage points below the forecast in the August *Monetary Bulletin*. The deviation stems from an unexpected drop in the CPI in August, when the appreciation of the króna during the summer, among other things, counteracted end-of-sale effects and elevated petrol prices. Annual inflation is expected to rise again at the end of the year but still be below the previous forecast in Q4, or 4.4% as opposed to 4.9%. This is due to greater spare capacity in the economy than was previously estimated and to a stronger initial position, as inflation has been lower than was expected in August. Inflation is projected to average 5.2% this year, slightly below the August forecast.

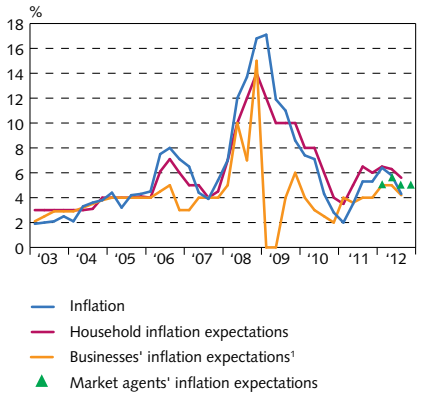
Inflation is expected to begin tapering off again in Q1/2013, to 4.1%, which is somewhat above the August forecast. This is due to the combined effect of the depreciation of the króna, which has weakened by almost 9% since the last *Monetary Bulletin*, and the increases in indirect taxes and excise taxes that are to take effect at the beginning of next year, according to the 2013 fiscal budget proposal (see Section V and Box V-1). The August forecast did not provide for any tax effects. If tax effects are excluded, inflation is expected to measure 3.9% in Q1/2013, as in the last forecast, and average 3.4% in 2013. Most statistical models used as cross-checks for the baseline forecast indicate that inflation will be somewhat lower in the next two quarters, although one of them indicates that it will be slightly higher.

Over the forecast period as a whole, the inflation outlook is quite similar to the August forecast in spite of the greater output slack expected in 2012 and 2013, as the króna is weaker and inflation expectations have remained high for a long time. Despite a broadly similar inflation outlook, inflation is expected to approach the target in the first half of 2014, half a year earlier than in the August forecast.

… but considerable uncertainty remains and the inflation outlook could easily change

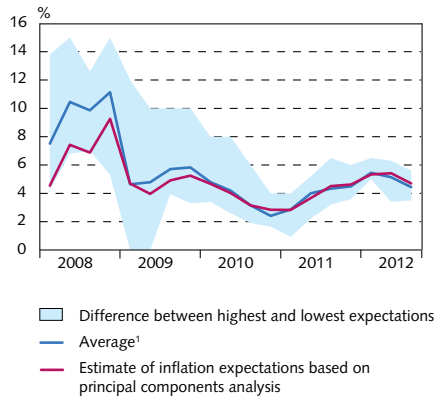
In the wake of the surge in inflation in 2011, it was pointed out in *Monetary Bulletin* that there was some risk that inflation would become entrenched if inflation expectations remained high. As a result, just how quickly inflation will fall back to target is highly uncertain. The baseline forecast assumes that the exchange rate will remain

Chart VIII-7
Inflation and inflation expectations of businesses, households and market agents one year ahead
Q1/2003 - Q4/2012



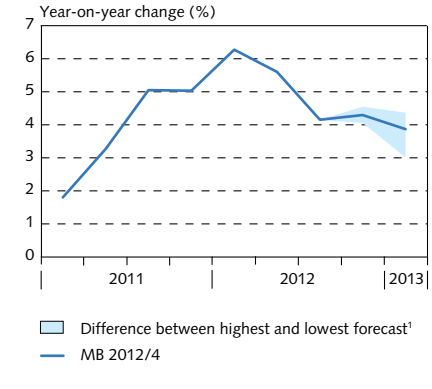
1. Businesses' inflation expectations were measured on an irregular basis before Q3/2006 and are therefore interpolated until that time.
Sources: Capacent Gallup, Statistics Iceland, Central Bank of Iceland.

Chart VIII-8
Inflation expectations according to various measurements
Q1/2008 - Q3/2012



1. Based on corporate, household, and breakeven inflation expectations one year ahead and the Central Bank inflation forecast one year ahead.
Sources: Capacent Gallup, Central Bank of Iceland.

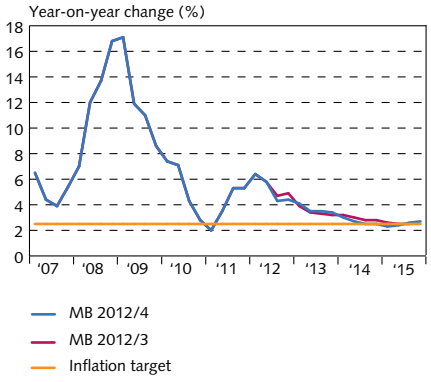
Chart VIII-9
Inflation forecasts using different models
Inflation excluding tax effects Q1/2011 - Q1/2013



1. Based on forecasts from simple time-series models.
Sources: Statistics Iceland, Central Bank of Iceland.

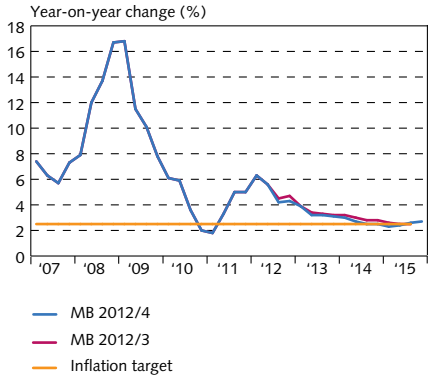
unchanged throughout the forecast horizon (see Section 1). This is a technical assumption rather than a forecast, and inflation will be higher or lower than projected, depending on whether the króna weakens or strengthens. There is also considerable uncertainty about possible pay increases in connection with the wage settlement review in early 2013. Furthermore, there is some uncertainty about the impact of global commodity prices, which rose somewhat in Q3 after having fallen in Q2. The baseline forecast assumes a 3½% year-on-year price decrease in 2013; however, the world economic outlook is extremely uncertain and could result in larger declines in global oil and commodity prices. Other things being equal, this would reduce domestic inflationary pressures. If global conditions deteriorate still further, Iceland's economic recovery could be slowed down, the output slack could grow larger than expected, and inflationary pressures would therefore be less pronounced. Further discussion of major uncertainties in the baseline forecast can be found in Section I.

Chart VIII-10
Inflation - comparison with MB 2012/3



Sources: Statistics Iceland, Central Bank of Iceland.

Chart VIII-11
Inflation - comparison with MB 2012/3



Sources: Statistics Iceland, Central Bank of Iceland.

Appendix 1

Baseline macroeconomic and inflation forecast 2012/4

Table 1 Macroeconomic forecast[1]

		Volume change on previous year (%) unless otherwise stated				
	B.kr.		*Forecast*			
GDP and its main components	*2011*	*2011*	*2012*	*2013*	*2014*	*2015*
Private consumption	844.6	2.7 (4.0)	3.0 (3.0)	2.9 (3.1)	3.3 (2.8)	3.3
Public consumption	411.2	-0.9 (-0.6)	-0.6 (-0.1)	0.2 (0.2)	0.2 (0.5)	0.4
Gross fixed capital formation	227.0	12.8 (13.4)	9.2 (9.0)	5.3 (9.1)	18.3 (19.0)	8.2
Business investment	152.9	25.1 (25.8)	13.2 (10.3)	2.0 (5.3)	20.1 (21.4)	6.4
Residential investment	40.0	8.6 (8.6)	12.4 (16.0)	17.5 (19.2)	18.7 (18.0)	16.2
Public investment	34.1	-19.3 (-17.6)	-13.5 (-6.4)	5.1 (15.2)	7.1 (8.4)	5.4
National expenditure	1,487.5	3.8 (4.7)	2.8 (3.2)	2.6 (3.0)	4.9 (4.7)	3.5
Exports of goods and services	964.7	4.1 (3.2)	4.6 (5.4)	1.7 (1.6)	1.5 (2.1)	4.6
Imports of goods and services	825.8	6.8 (6.4)	5.6 (6.4)	1.0 (3.0)	3.7 (4.5)	4.4
Contribution of net trade to growth	-	-0.8 (-1.1)	-0.1 (-0.1)	0.5 (-0.6)	-1.0 (-1.1)	0.4
Gross domestic product	1,626.3	2.6 (3.1)	2.5 (3.1)	2.9 (2.2)	3.5 (3.4)	3.7
Other key aggregates						
GDP at current prices (in b.kr.))		1,626 (1,630)	1,724 (1,743)	1,849 (1,829)	1,975 (1,941)	2,089
Trade account balance (% of GDP)		8.5 (8.2)	6.5 (6.4)	7.3 (5.3)	6.6 (4.1)	6.3
Current account balance (% of GDP)		-7.0 (-6.8)	-8.1 (-6.7)	-3.7 (-4.9)	-4.1 (-5.9)	-4.2
Current account balance excl. DMBs undergoing winding-up proceedings (% of GDP)		-0.9 (-1.0)	-1.0 (0.2)	0.3 (-0.9)	-0.5 (-2.1)	-0.9
Current account balance excl. DMBs and Actavis (% of GDP)[2]		2.8 (2.7)	2.4 (3.5)	3.5 (2.4)	2.6 (1.0)	2.0
Terms of trade (change in average year-on-year)		-1.6 (-1.7)	-2.8 (-2.2)	0.7 (-0.3)	1.1 (-0.1)	-0.9
Total gross fixed capital formation (% of GDP)		14.0 (14.1)	14.9 (14.9)	15.3 (15.8)	17.4 (18.1)	18.2
Business investment (% of GDP)		9.4 (9.4)	10.4 (10.2)	10.4 (10.2)	12.0 (12.0)	12.3
Output gap (% of potential output)		-2.5 (-2.3)	-1.6 (-0.8)	-0.6 (-0.4)	0.3 (0.3)	0.4
Unit labour costs (change in average year-on-year)		5.7 (5.6)	5.0 (5.1)	2.4 (2.4)	2.7 (2.0)	3.4
Real disposable income (change in average year-on-year)		5.3 (3.1)	0.3 (1.0)	2.4 (2.5)	3.8 (2.7)	4.7
Unemployment (% of labour force)		7.4 (7.4)	5.8 (5.9)	5.0 (5.2)	4.2 (4.4)	3.7
EURISK exchange rate		161.0 (161.0)	160.3 (156.3)	162.2 (150.1)	162.3 (150.1)	162.3
Inflation (annual average, %)		4.0 (4.0)	5.2 (5.4)	3.6 (3.4)	2.7 (3.0)	2.5
Inflation excluding tax effects (annual average, %)		3.8 (3.8)	5.1 (5.3)	3.4 (3.4)	2.7 (3.0)	2.5

1. Figures in parentheses are from the forecast in *Monetary Bulletin* 2012/3. 2. DMBs undergoing winding-up proceedings.

Table 2 Quarterly inflation forecast (%)[1]

Quarter	*Inflation (change year-on-year)*	*Inflation excluding tax effects (change year-on-year)*	*Inflation (annualised quarter-on-quarter change)*
		Measured value	
2011:3	5.3 (5.3)	5.0 (5.0)	4.6 (4.6)
2011:4	5.3 (5.3)	5.0 (5.0)	3.9 (3.9)
2012:1	6.4 (6.4)	6.3 (6.3)	6.4 (6.4)
2012:2	5.8 (5.8)	5.6 (5.6)	8.1 (8.1)
2012:3	4.3 (4.7)	4.2 (4.5)	-1.0 (0.4)
		Forecasted value	
2012:4	4.4 (4.9)	4.3 (4.7)	4.5 (4.8)
2013:1	4.1 (3.9)	3.9 (3.9)	5.0 (2.5)
2013:2	3.5 (3.4)	3.2 (3.4)	5.5 (5.9)
2013:3	3.5 (3.3)	3.2 (3.3)	-1.0 (0.3)
2013:4	3.4 (3.2)	3.1 (3.2)	4.0 (4.1)
2014:1	3.0 (3.2)	3.0 (3.2)	3.5 (2.6)
2014:2	2.7 (3.0)	2.7 (3.0)	4.5 (5.1)
2014:3	2.5 (2.8)	2.5 (2.8)	-1.8 (-0.4)
2014:4	2.5 (2.8)	2.5 (2.8)	3.9 (4.0)
2015:1	2.3 (2.6)	2.3 (2.6)	2.9 (1.6)
2015:2	2.4 (2.5)	2.4 (2.5)	4.9 (4.7)
2015:3	2.6 (2.5)	2.6 (2.5)	-1.0 (-0.4)
2015:4	2.7	2.7	4.3

1. Figures in parentheses are from the forecast in *Monetary Bulletin* 2012/3.

Appendix 2

The Central Bank of Iceland forecasting record

Forecasting errors are inevitable. Some stem from errors in the models used for forecasting, others are due to inaccurate information on the economic variables on which the models are based – measurement errors, for instance – and still others can be caused by exogenous shocks. Analysing forecasting errors helps to identify the uncertainties in the forecasts and provides important information, both on possible errors in forecast preparation and on possible structural changes in the economy. Such information can be used for further development of both the Bank's models and their utilisation in forecasting.

Macroeconomic and inflation forecasts

Four times a year, the Central Bank prepares forecasts of the real economy and inflation covering a forecast horizon of three years. The forecasts are based on an in-depth analysis of the state of the economy at the time they are prepared. The assumptions concerning global economic developments are based, among other things, on international forecasts and the information implied by futures prices. The national accounts provide the main foundation for the assessment of the state of the real economy. In addition, Bank staff prepare an independent assessment of the state of the economy through surveys; discussions with corporate executives, institutional directors, and labour market institutes; and statistical analysis of developments in key variables. The Central Bank's quarterly macroeconomic model (QMM) is the tool used to manage this information. Some of the equations in the model are accounting identities, while others are behavioural equations that are evaluated using econometric methods. The Bank's final forecast – particularly for the recent past and immediate future – is determined not least by staff assessments and a variety of information not included in the model.

Monetary policy performance during the forecast horizon is a key factor in the preparation of each forecast. In the QMM, monetary policy is given by a forward-looking monetary policy rule wherein Central Bank interest rates are determined by the expected deviation of inflation from the inflation target and the current output gap. This rule ensures that the Bank's interest rates bring inflation back to target by the end of the forecast horizon if it is not already there. The monetary policy rule in the model was selected from a group of such rules and is considered the one that minimises the sacrifice cost in ensuring that inflation is at target.[1]

1. See Á. Daníelsson, M. F. Gudmundsson, S. J. Haraldsdóttir, T. T. Ólafsson, Á. Ó. Pétursdóttir, T. G. Pétursson and R. Sveinsdóttir (2009), "QMM: A quarterly macroeconomic model of the Icelandic economy", Central Bank of Iceland , *Working Paper,* no. 41. The most recent version of the handbook for the model can be found here: http://www.sedlabanki.is/lisalib/getfile.aspx?itemid=9132.

Central Bank inflation forecasts for 2011

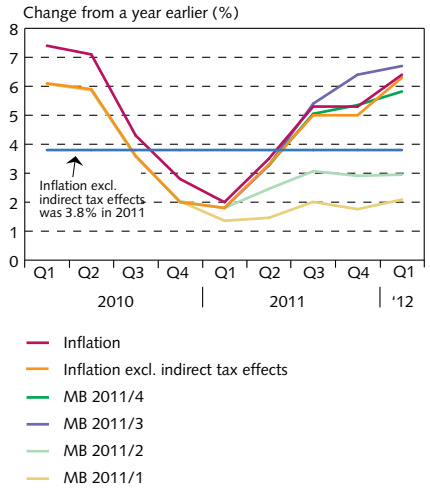
At the beginning of 2011, twelve-month inflation was 2.0%, and inflation excluding indirect tax effects was 1.8%, the lowest since March 2004.[2] At that time, levies on fuel, carbon, alcoholic beverages, and tobacco were increased; therefore, the inflation path did not align with inflation excluding indirect tax effects during 2011. The tax hikes had a roughly 0.2 percentage point effect on CPI inflation.

Inflation forecasts early in the year assumed that inflation would be close to the 2½% inflation target throughout the year, owing to the margin of spare capacity in the economy. Chart 1 shows forecasts of developments in inflation excluding indirect tax effects from the beginning of 2011 until Q1/2012. In *Monetary Bulletin* 2011/1 and 2011/2, inflation was underforecast for the entire forecast horizon. Both of these forecasts were prepared before major centralised wage settlements were signed in May 2011. The forecasts are much closer to being accurate in the *Monetary Bulletin* issues published in the second half of the year. Inflation is overforecast in the third issue and slightly underforecast in the fourth.

In the first half of the year, inflation was driven primarily by increases in global oil prices, commodity prices, and real estate prices, and by the weak króna. This can be seen clearly in Chart 2, which shows that the February forecast in *Monetary Bulletin* assumed that the króna would be trading at 157 kr. against the euro in 2011, that import prices would rise by 2½% and wages by nearly 4%, and that house prices would fall by 3%. As 2011 progressed, the forecasts of developments in these subcomponents were adjusted upwards. Although factors other than these are considered to have contributed to higher inflation, these basic assumptions are very important. Had they been correct, the Bank's February inflation forecast would have provided for just over 3% inflation in 2011, according to the QMM.

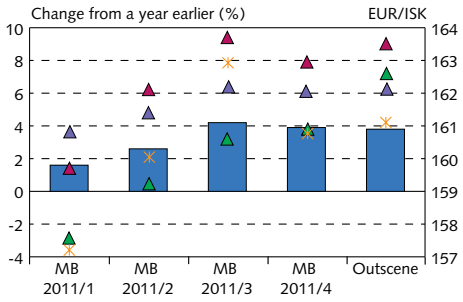
Owing to steep increases in oil and commodity prices, inflation gained pace rapidly in Q2, when annualised inflation measured 10.9%. In *Monetary Bulletin* 2011/3, however, inflation for 2011 was overforecast by 0.4 percentage points, primarily because inflationary pressures in the wake of the contractual pay increases were weaker than anticipated in the latter half of the year and the króna turned out somewhat stronger than forecast.

Chart 1
Inflation forecasts *MB* in 2011 and inflation excluding tax effects



Sources: Statistics Iceland, Central Bank of Iceland.

Chart 2
Inflation forecast for 2011 and several subcomponents of the forecast



Sources: Statistics Iceland, Central Bank of Iceland.

Table 1 Inflation forecasts in 2011

% change from prior year	*MB 2011/1*	*MB 2011/2*	*MB 2011/3*	*MB 2011/4*	*Final result*
Inflation	1.9	2.8	4.4	4.1	4.0
Inflation excluding indirect tax effects	1.6	2.6	4.2	3.9	3.8

2. The change in the treatment of the broadcasting fee in the CPI had a downward effect of 0.4 percentage points in January 2011. If the change had not been made, inflation would have measured 2.2%.

Errors in long-term inflation forecasts

In assessing inflation forecasts, it is important to consider the mean forecast error and the root mean square error (RMSE) of the forecasts concerned. The mean forecast error shows the average deviation of the forecast from observed inflation. This therefore gives an indication of whether inflation is being systematically over- or underforecast. The RMSE is a measure of the variability of the forecast error and therefore of the uncertainty in the forecast itself. The error or deviation can generally be expected to increase as forecasts extend farther ahead in time.

Table 2 Central Bank of Iceland inflation forecast errors since Q1/1994

%	*One quarter*	*Two quarters*	*Three quarters*	*Four quarters*
Mean forecast error	0.0	-0.3	-0.8	-1.3
RMSE	0.6	1.7	2.4	2.8

Table 2 shows the mean forecast error and RMSE in the Bank's inflation forecasts up to four quarters ahead, from 1994 through August 2012 (66 forecasts). By this criterion, inflation has been underforecast two to four quarters ahead, to an increasing degree along the horizon. The mean forecast error three and four quarters ahead proved to be statistically significant from zero based on a 5% threshold, which means that the forecasts were skewed to the downside. The forecast errors one and two quarters ahead was not significant from zero, however.

Table 3 Central Bank of Iceland inflation forecast errors since Q2/2001

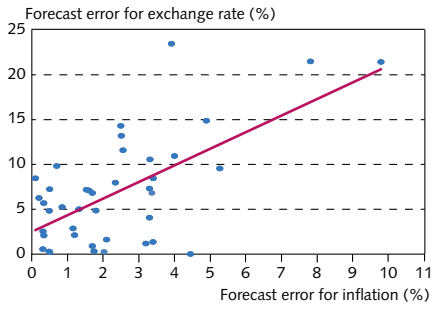
	No. of measurements	*Mean forecast error (%)*	*RMSE (%)*
Four quarters ahead	40	-1.7	3.1
Eight quarters ahead	36	-2.9	4.5
Twelve quarters ahead	10	-2.4	2.8

Since adopting the inflation target in March 2001, the Central Bank has published inflation forecasts two years ahead. In March 2007, the Bank also began publishing inflation forecasts three years ahead. Table 3 shows the mean forecast error and the RMSE for the period since the Bank introduced inflation targeting. A comparison of the RMSE for the one-year forecasts (see Tables 2 and 3) shows that the RMSE has been greater since the Bank adopted the inflation target than it was for the entire period, as fluctuations in inflation have increased markedly since the króna was floated.[3] It should also be borne in mind that the Bank prepared no forecasts of the ISK exchange rate or Central Bank interest rates before 2007. Until that time, forecasts did not make full use of Bank staff's assessments of likely developments in these variables, as large errors in inflation forecasts in Iceland are usually linked to fluctuations in the exchange rate of the króna, as Chart 3 indicates.

Chart 3

Forecast error for inflation in *Monetary Bulletin* and deviation of average exchange rate from forecast 2001 to 2011

Forecast one year ahead



Source: Central Bank of Iceland.

3. See the discussion in the Central Bank reports "Monetary Policy in Iceland After Capital Controls", *Special Publication* no. 4, and "Iceland's Currency and Exchange Rate Policy Options", *Special Publication* no. 7 (Chapters 3, 4, and 12).

Central Bank inflation forecasts in comparison with forecasts based on simple time-series models

Simple time-series models that forecast inflation are also used as cross-checks in preparing the forecast. It is interesting to compare the Bank's forecasts to the results generated by such models.[4] A review of the year 2011 shows that the ARIMA models and a simple cost-push model usually performed best.[5] The Bank's baseline forecast varies in accuracy, however, depending on the length of the forecast horizon.

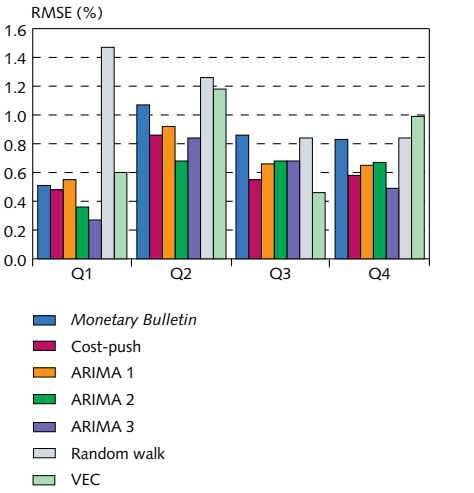
For forecasts one quarter ahead, the ARIMA 2 and 3 models performed best, followed by the cost-push model and the baseline forecast in *Monetary Bulletin*. It is noteworthy that the errors are greater in the baseline forecast two quarters ahead than in the three-quarter forecast, while the usual pattern is for forecasts to become less accurate as uncertainty increases farther along the horizon.

A comparison of the forecasts three quarters ahead reveals that the baseline forecast was least accurate, with a RMSE of 0.86%, slightly worse than a forecast using a simple random walk (RMSE equal to 0.84%), which assumes that inflation will be the same as in the previous quarter throughout the forecast horizon; i.e., that inflation is a random walk process and thus basically unpredictable. In this instance, the VEC model performed best. The VEC is a multivariate time series model that forecasts developments in inflation, import prices, output gap, and wage costs, and incorporates long-term relationships among these variables.[6]

Although the performance of the baseline forecast varies depending on the length of the horizon, it is interesting to compare it with forecasts from recent years (see Chart 5). The chart shows that the error in the baseline forecasts in 2011 is generally smaller than the errors in 2008 and 2009, partly because annual inflation was around 12% or over in those two years and the pace of quarterly inflation extremely volatile in comparison with 2011. It is therefore appropriate that errors should be greater in a period of higher and more unstable inflation. Forecasts in *Monetary Bulletin* from 2011 are generally less accurate than those from 2010, at least the forecasts one to two quarters ahead. It is noteworthy that, even though the error in *Monetary Bulletin* 2011 is largest three quarters ahead in comparison with the simple time-series models (see Chart 3), it is still smaller three quarters ahead than it was during the 2008-2010 period.

Chart 4

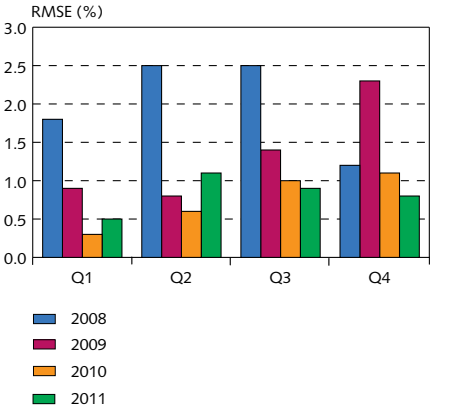
Forecast error for inflation in *Monetary Bulletin* and from simple models in 2011[1]



1. Q1 is the quarter in which the report is published or the first quarter forecasted; Q2 is the quarter after the report has been published; Q3 is the following quarter.
Source: Central Bank of Iceland.

Chart 5

Forecast error for inflation in *Monetary Bulletin* from 2008 to 2011[1]



1. Q1 is the quarter in which the report is published or the first quarter forecasted; Q2 is the quarter after the report has been published; Q3 is the following quarter.
Source: Central Bank of Iceland.

4. In all models, care is taken to ensure that they have the same information on inflation when the forecast is carried out.

5. According to the simple cost-push model, inflation is determined by historical developments in unit labour costs and the import price level in domestic currency. The ARIMA-1 model draws on forecasts for the principal subcomponents of the consumer price index and weights them together to create a single overall index. The twelve subcomponents of the consumer price index are as follows: agricultural products less vegetables, vegetables, other domestic food and beverages, other domestic goods, imported food and beverages, new cars and spare parts, petrol, other imported goods, alcohol and tobacco, housing, public services, and other services. ARIMA-2 forecasts the CPI directly, and ARIMA-3 forecasts the overall index excluding indirect taxes and then factors in the tax effects. A discussion of the use of ARIMA models for inflation forecasting can be found in A. Meyler, G. Kenny and T. Quinn (1998), "Forecasting Irish inflation using ARIMA models", Central Bank of Ireland, *Technical Paper*, no. 3/RT/98.

6. The VEC model was not used in *Monetary Bulletin* 2011/1.

Central Bank GDP growth forecasts for 2011

In order to obtain a clearer view of the Central Bank's success in inflation forecasting, it is necessary to examine its success in forecasting developments in the real economy. For example, the Bank is likely to underforecast inflation during periods when it underestimates growth in demand or overforecasts the slack in the economy.

Statistics Iceland publishes national accounts estimates for each quarter about two months after each quarter-end. The first estimates for Q4/2011 and the full year 2011 were published in March 2012, and revised figures were published in September. Statistics Iceland's forecasts and estimates of changes in key macroeconomic variables from the previous year can be seen in Table 4. At the top of the columns showing the forecasts is the first quarter for which a forecast is prepared. Statistics Iceland's national accounts estimates for Q3/2010 were available in February 2011, when *Monetary Bulletin* 2011/1 was published. As a result, the Bank had to base its forecast for 2011 on the forecast for Q4/2010.

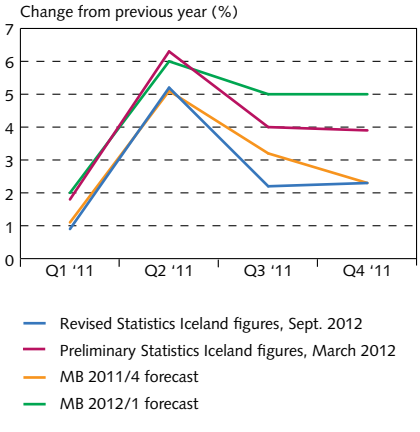
Table 4 *Monetary Bulletin* – Macroeconomic forecasts for 2011

Forecast horizon: *% change from prior year*	*Q4/ 2010 MB 2011/1*	*Q1/ 2011 MB 2011/2*	*Q2/ 2011 MB 2011/3*	*Q3/ 2011 MB 2011/4*	*Q4/ 2011 MB 2012/1*	*Prelim-inary figures mars 2012*	*Revised figures Sept. 2012*
Private consumption	3.1	2.7	3.8	2.9	4.5	4.0	2.7
Public consumption	-4.1	-4.1	-2.2	-0.2	-0.1	-0.6	-0.9
Gross fixed capit. formation	9.6	15.8	10.3	6.7	7.1	13.4	12.8
National expenditure	2.4	2.9	4.0	3.9	4.4	4.7	3.8
Exports	2.5	2.5	1.9	2.5	3.3	3.2	4.1
Imports	1.6	3.7	4.2	4.0	6.3	6.4	6.8
GDP growth	2.8	2.3	2.8	3.1	3.0	3.1	2.6

The output growth forecasts in the first *Monetary Bulletin* issues from 2011 were somewhat close to the final result according to Statistics Iceland's revised figures from September 2012. If Statistics Iceland's preliminary figures from March 2012 are considered, however, the forecasts in *Monetary Bulletin* 2011/3 and 2011/4 come closest to them, which is to be expected, given that a greater part of the year had passed by the time these forecasts were prepared. Statistics Iceland's figures then underwent a major revision between the preliminary figures from March 2012 and the revised figures from September. All sub-components of national expenditure were revised downwards, particularly private consumption. The upward revision of exports counteracted this, however, and ensured that output growth did not decline in equal measure.

Some of the errors in import growth forecasts were due to unexpected imports of ships and aircraft later in 2011. Imports of ships and aircraft totalled 13.7 b.kr. in 2011, twice as much as in 2010. They are offset with counteracting entries as investment and therefore do not affect output growth; nonetheless, they pose the same problems with investment forecasting. The forecasts in the first issues of *Monetary Bulletin* 2011 assumed a 4% contraction in public consumption. Published figures for the first half of the year indicated that public

Chart 6
Private consumption growth: Statistics Iceland figures and Central Bank forecasts



Sources: Statistics Iceland, Central Bank of Iceland.

consumption had grown marginally in volume terms, and a smaller contraction, or 0.2%, was subsequently forecast. The figures were then revised downwards in September.

Chart 6 shows how quarterly growth in private consumption developed in *Monetary Bulletin* forecasts over the year, in comparison with preliminary and revised figures from Statistics Iceland. It can be seen that the forecast of developments in private consumption in the latter half of the year, published in *Monetary Bulletin* 2011/4, were quite close to the revised figures. The published figures for Q3/2011 and the first preliminary figures for the year as a whole indicated much stronger private consumption than the revised figures did. This revision stemmed in part from the reclassification of a portion of private consumption as exported services, as is discussed in Section IV.

The economic recovery and Central Bank forecasts

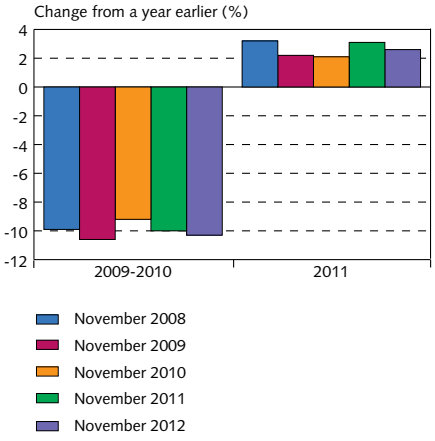
After the old banks failed in autumn 2008, it was clear that the economy would undergo a much deeper economic contraction than had previously been assumed. There was considerable uncertainty about when growth would resume and how robust it would be. Chart 7 summarises the Bank's forecasts from November 2008 through the current forecast. Box I-1 contains a more detailed discussion of the similarity between the November 2008 forecast and actual subsequent developments. It also shows that the forecast of GDP at the end of the then-current forecast horizon (Q3/2011) was virtually identical to Statistics Iceland's most recent measurement.

In the forecasts prepared between November 2008 and November 2012, it is assumed that the contraction beginning in Q4/2007 would conclude between Q4/2009 and Q2/2010, based on seasonally adjusted figures. The forecasts also assumed a contraction of 9-10½% in 2009-2010, and the actual contraction of GDP measured 10.3%. The forecasts were also quite consistent as regards the extent of the economic recovery. All of the Central Bank forecasts shown in Chart 7 assumed a slow recovery measuring 2.1-3.2% output growth in 2011. GDP grew by 2.6% according to the most recent figures from Statistics Iceland. The first forecasts after the fall of the old banks assumed that the economic recovery in 2011 would be driven by net trade, at least to some extent. The contribution from net trade was actually negative in 2011, however, and investment and private consumption were the main drivers of growth. In part, this is due to a sizeable decline in imports in 2008 and 2009, concurrent with growth in exports. After the contraction in 2008 and 2009, import growth has outpaced GDP and export growth.

Chart 8 shows the Central Bank's GDP growth forecasts for 2011, as compared with forecasts from the International Monetary Fund (IMF), Statistics Iceland, the Ministry of Finance and Economic Affairs, the Icelandic Federation of Labour, and financial institutions. All of the forecasts were prepared in the fourth quarter of the years 2008-2011. Only two were prepared in Q4/2008, those from the Central Bank and the IMF. For this reason, the difference between the highest and lowest forecast values is relatively small, although it widens in 2009, when a larger number of forecasts were prepared. It grew

Chart 7

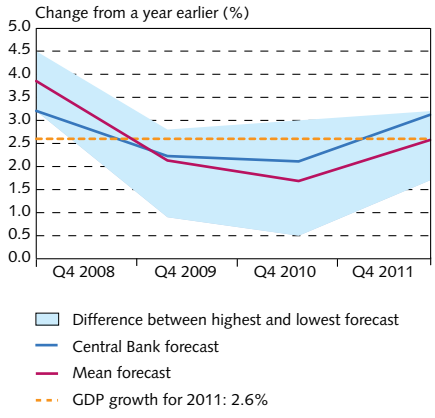
The scale of the economic crisis and recovery: summary of Central Bank forecasts[1]



1. The economic crisis is defined as the contraction in gross domestic product (GDP) between the average of 2007-2008 and the average of 2009-2010. The scale of the recovery is the growth in GDP between 2010 and 2011.
Source: Central Bank of Iceland.

Chart 8

GDP growth forecast for 2011



Sources: Statistics Iceland, Central Bank of Iceland.

even wider in 2010 and then narrowed again in 2011. Other things being equal, economic forecasts should become more consistent with one another as the period covered by the forecast approaches and more information becomes available. Chart 8 shows clearly the magnitude of the uncertainty about the strength of the economic recovery in 2011. At the end of 2010, for instance, the Central Bank assumed that output growth in 2011 would be 2.1%, while the other forecasts averaged 1.7%. At the end of 2011, all forecasters had grown more optimistic about growth during the year: the Central Bank projected output growth at 3.1%, while the other forecasts averaged 2.6%. In its first estimates of year-2011 output growth, published in March 2012, Statistics Iceland assumed that growth for the year was 3.1%. According to the revised figures from September 2012, output growth has been revised downwards to 2.6%.

Monetary policy and instruments

The objective and implementation of monetary policy

The objective of monetary policy is to ensure price stability. On 27 March 2001, a formal inflation target was adopted, as follows:[1]

- The Central Bank aims for an annual rate of inflation, measured as the twelve-month increase in the CPI, which in general will be as close as possible to 2½%.
- If inflation deviates by more than 1½ percentage points from the target, the Central Bank shall be obliged to submit a report to the Government explaining the reason for the deviation, how it intends to respond, and when it expects the inflation target to be reached again. This report shall be made public.
- The Central Bank shall publish inflation forecasts, projecting inflation three years into the future. Forecasts shall be published in the Bank's *Monetary Bulletin*, which shall also contain the Bank's assessment of the main uncertainties pertaining to the inflation forecast. The Bank shall also publish its assessment of the current economic situation and outlook.

Because monetary policy aims at maintaining price stability, it will not be applied in order to achieve other economic targets, such as a balance on the current account or a high level of employment, except insofar as these are consistent with the Bank's inflation target.

Main monetary policy instruments

In particular, the Central Bank implements its monetary policy by managing money market interest rates, primarily by determining the interest rate for its collateralised loan agreements with financial institutions, which then affects other interest rates. Yields in the money market also have a strong impact on currency flows and thereby on the exchange rate, and in the long run on domestic demand. Transactions between financial institutions and the Central Bank are subject to the Rules on Central Bank of Iceland Facilities for Financial Undertakings, no. 553 of 26 June 2009.

Fixed trading instruments

- Current accounts: Current accounts are deposits of financial institutions' undisposed assets. They also function as settlement accounts for financial institutions' transactions and are used for reserve requirements. The current account rate forms the floor of the Central Bank interest rate corridor and the interest rate floor in the interbank market for krónur. Current accounts must always have a positive balance at the end of each business day.
- Overnight loans: Overnight loans are loans granted by the Central Bank to financial institutions, upon the request of the latter, until the following business day. Their primary purpose is to provide

1. Joint declaration of the Government of Iceland and the Central Bank of Iceland. Published on the Central Bank of Iceland website.

financial institutions with access to liquidity so as to ensure that they fulfil reserve requirements and have a positive current account balance at the end of the day. Overnight loans are granted against collateral in securities. Overnight interest rates form the ceiling for overnight rates in the interbank market for krónur.

Regular facilities

Regular facilities can be granted for up to seven days. Their purpose is to increase or decrease the supply of liquidity in the financial system. The Central Bank decides in each instance how much liquidity it lends to financial institutions or drains from the market. In general, Central Bank facilities are transacted on Wednesdays; however, the Bank may engage in transactions on other days if necessary. The main types of regular facilities are:

- Collateralised loans: Collateralised loans have a maturity of seven days or less. Financial institutions must provide collateral that the Bank deems eligible for Central Bank facilities.
- Certificates of deposit: Certificates of deposit are issued with a maturity of seven days or less and are sold by the Central Bank to financial institutions.

In its auctions, the Central Bank may decide to keep interest rates and prices fixed or give financial institutions the option of bidding on either or both. The Bank may reject all bids or a portion of them.

Other financial instruments that the Central Bank may use to increase or decrease market liquidity are repurchase agreements, currency swap agreements, and term deposits.

Other facilities

The Central Bank may decide to carry out transactions with financial institutions for periods longer than a week, but with the same financial instruments as are used in regular facilities.

Reserve requirements

Required reserves apply to financial institutions that are not dependent on Treasury budget allocations for their operations. The required reserve base comprises deposits, issued securities, and money market instruments. The required reserve ratio is 2% for the part of the required reserve base that is tied for two years or less. The maintenance period is from the 21st day of each month until the 20th of the following month, and the average reserve must reach the stipulated ratio during the period. Reserve requirements do not apply to foreign branches of Icelandic financial institutions.

Intervention in the foreign exchange market

In keeping with the declaration on the inflation target from 2001, foreign exchange market intervention is employed only if the Central Bank deems it necessary in order to promote the attainment of the inflation target or considers exchange rate fluctuations a potential threat to financial stability.

Overview of Central Bank interest rates 14 November 2012

Traditional instruments	*Current rate (%)*	*Change (percentage points)*	*Last interest rate decision*	*Rate one year ago (%)*
Current accounts	5.00	0.25	3 October 2012	3.75
Overnight loans	7.00	0.25	3 October 2012	5.75
Required reserves	5.00	0.25	3 October 2012	3.75
Collateralised loans	6.00	0.25	3 October 2012	4.75
Certificates of deposit, 28 days	5.75	0.25	3 October 2012	4.50

Central Bank of Iceland interest rate decisions

	Key Central Bank interest rates, %[1]		
Interest rate decision date	*Collateralised lending rate*	*Financial institutions' current account rates*	*Maximum rate on 28-day CDs*
14 November 2012	6.00 (0.25)	5.00 (0.25)	5.75 (0.25)
3 October 2012	5.75 (0.00)	4.75 (0.00)	5.50 (0.00)
22 August 2012	5.75 (0.00)	4.75 (0.00)	5.50 (0.00)
13 June 2012	5.75 (0.25)	4.75 (0.25)	5.50 (0.25)
16 May 2012	5.50 (0.50)	4.50 (0.50)	5.25 (0.50)
21 March 2012	5.00 (0.25)	4.00 (0.25)	4.75 (0.25)
8 February 2012	4.75 (0.00)	3.75 (0.00)	4.50 (0.00)
7 December 2011	4.75 (0.00)	3.75 (0.00)	4.50 (0.00)
2 November 2011	4.75 (0.25)	3.75 (0.25)	4.50 (0.25)
21 September 2011	4.50 (0.00)	3.50 (0.00)	4.25 (0.00)
17 August 2011	4.50 (0.25)	3.50 (0.25)	4.25 (0.25)
15 June 2011	4.25 (0.00)	3.25 (0.00)	4.00 (0.00)
20 April 2011	4.25 (0.00)	3.25 (0.00)	4.00 (0.00)
16 March 2011	4.25 (0.00)	3.25 (0.00)	4.00 (0.00)
2 February 2011	4.25 (-0.25)	3.25 (-0.25)	4.00 (-0.25)
8 December 2010	4.50 (-1.00)	3.50 (-0.50)	4.25 (-1.00)
3 November 2010	5.50 (-0.75)	4.00 (-0.75)	5.25 (-0.75)
22 September 2010	6.25 (-0.75)	4.75 (-0.75)	6.00 (-0.75)
18 August 2010	7.00 (-1.00)	5.50 (-1.00)	6.75 (-1.00)
23 June 2010	8.00 (-0.50)	6.50 (-0.50)	7.75 (-0.50)
5 May 2010	8.50 (-0.50)	7.00 (-0.50)	8.25 (-0.50)
17 March 2010	9.00 (-0.50)	7.50 (-0.50)	8.75 (-0.50)
27 January 2010	9.50 (-0.50)	8.00 (-0.50)	9.25 (-0.50)
10 December 2009	10.00 (-1.00)	8.50 (-0.50)	9.75 (-0.25)
5 November 2009	11.00 (-1.00)	9.00 (-0.50)	10.00
24 September 2009	12.00 (0.00)	9.50 (0.00)	
13 August 2009	12.00 (0.00)	9.50 (0.00)	
2 July 2009	12.00 (0.00)	9.50 (0.00)	
4 June 2009	12.00 (-1.00)	9.50 (0.00)	
7 May 2009	13.00 (-2.50)	9.50 (-3.00)	
8 April 2009	15.50 (-1.50)	12.50 (-1.50)	
19 March 2009	17.00 (-1.00)	14.00 (-1.00)	
29 January 2009	18.00 (0.00)	15.00 (0.00)	

1. Change from last decision in parentheses.

Economic and monetary chronicle

April 2012

On 6 April, the Executive Board of the International Monetary Fund (IMF) completed its 2012 Article IV Consultation on the status and outlook for the Icelandic economy. At the same time, the Board discussed its report on the follow-up evaluation of the Stand-By Arrangement between the Fund and the Icelandic authorities, which concluded in August 2011.

On 13 April, the Financial Supervisory Authority issued a memorandum concerning the Supreme Court judgment of 15 February 2012 on the validity of full-payment receipts. The memorandum summarises the Authority's conclusions concerning the potential effect of the judgment on the book value of exchange rate-linked loans in credit institutions' loan portfolios. The Authority concluded that the Supreme Court judgment did not jeopardise financial stability; however, it reiterated that all uncertainty about settlement of exchange rate-linked loans was detrimental to the financial system and stressed the importance of eliminating such uncertainty.

On 16 April, the Financial Supervisory Authority announced rules on insurance companies' bonus systems. The new rules are similar to those on financial institutions' bonus systems, dated 30 June 2011. They took effect upon publication, 27 March. An employee's bonus may not exceed 25% of his or her annual salary exclusive of bonuses. Furthermore, payment of a portion of the bonus shall be deferred for at least three years so as to take into account business cycle fluctuations that might affect performance. The rules also provide for reduction, revocation, or reimbursement of bonuses when performance targets are not reached.

On 19 April, the Ministry of Economic Affairs received a Letter of Formal Notice from the EFTA Surveillance Authority (ESA), in which ESA announces that a general prohibition of exchange rate linkage of loans disbursed in Icelandic krónur, as is stipulated in the Act on Interest and Price Indexation, no. 38/2001, is in contravention of Article 40 of the EEA Agreement.

On 30 April, the Financial Supervisory Authority announced that it had revoked its confirmation of the mutual fund Stefnir – Lausafjársjóður [Stefnir – Liquidity Fund], operated by Stefnir hf. The fund was confirmed by the Authority on 27 January 2011 but has now discontinued its operations. The Authority has confirmed a new investment fund operated by the company under the same name.

May 2012

On 3 May, the Republic of Iceland finalised contractual agreements for the issuance of a bond in the amount of 1 billion US dollars (124 b.kr.).

The bond bears fixed interest and is issued for 10 years at a yield of 6.0%. Demand amounted to roughly 4 billion US dollars.

On 4 May, the Financial Supervisory Authority granted Negotium a licence to operate as a securities company.

On 4 May, Íslandsbanki announced that it had expanded two covered bond series previously admitted for trading on the stock exchange. The seven-year bond ISLA CBI 19 was expanded by 635 m.kr. at a yield of 2.90%, and the 12-year ISLA CBI 24 was expanded by 850 m.kr. at a yield of 3.48%. In all, Íslandsbanki has issued covered bonds in the amount of 8,815 m.kr. since its first issuance in December 2011.

On 9 May, the Central Bank of Iceland purchased euros in exchange for Icelandic krónur for long-term investment in the Icelandic economy, or in exchange for payment in Treasury bond series RIKS 33 0321. The Bank had also advertised for bids on the sale of Icelandic krónur for cash payment in foreign currency. The auctions were an element in the liberalisation of restrictions on movement of capital. In the euro purchase auction, the Central Bank accepted bids in the amount of 38.6 million euros. The auction was structured with a single-price format, so that all accepted offers were made available to primary dealers at the same price, which was set at 238.8 kr. per euro. In the króna purchase auction, bids in the amount of 9.1 b.kr. were accepted. All accepted bids were made available to primary dealers at the same price, which was set at 239 kr. per euro.

On 11 May, Parliament passed Parliamentary Resolution no. 20/140, which authorised the Government to confirm an agreement with Norway, the Faeroe Islands, Russia, and the European Union on fishing from the Atlanto-Scandian herring stock in 2012, with reciprocal fishing rights in territorial waters. The agreement permits Iceland to fish 120,000 tonnes per year from the stock.

On 11 May, Arion Bank announced the conclusion of its first auction of non-indexed covered bonds. Bonds were sold to institutional investors in the nominal amount of 1.22 b.kr. in the Arion CB 15 series.

On 16 May, the FME authorised Landsbankinn hf. to acquire all of the operations and assets of Sparisjóður Svarfdæla.

On 16 May, the Monetary Policy Committee of the Central Bank of Iceland decided to raise the Bank's interest rates by 0.5 percentage points. The overnight lending rate was raised to 6.5%, the seven-day collateralised lending rate to 5.5%, the maximum rate on 28-day certificates of deposit (CDs) to 5.25%, and the current account rate to 4.5%.

June 2012

On 8 June, a ruling was announced by the committee appointed to determine the fee to be paid by the Government to Landsbankinn

hf. for its takeover of deposits and assets of SpKef savings bank. The committee concluded that the Government must pay Landsbankinn hf. 19 b.kr.

On 13 June, the Monetary Policy Committee of the Central Bank of Iceland decided to raise the Bank's interest rates by 0.25 percentage points. The overnight lending rate was raised to 6.75%, the seven-day collateralised lending rate to 5.75%, the maximum rate on 28-day certificates of deposit (CDs) to 5.5%, and the current account rate to 4.75%.

On 15 June, it was announced that Landsbankinn hf. and the old Landsbanki Íslands hf. had concluded an agreement to the effect that Landsbankinn hf. would prepay one-fourth of the principal of so-called A-bonds, which were issued in 2010 due to the value mismatch between assets and liabilities transferred from Landsbanki Íslands hf. The prepayment is in euros, US dollars, and pounds sterling, in the equivalent of 73 b.kr.

On 18 June, it was announced that the Treasury of Iceland and the Central Bank of Iceland prepaid a total of 171 b.kr. on loans taken from the International Monetary Fund (IMF) and the Nordic countries in connection with the IMF-led Stand-By Arrangement (SBA). The transaction included the prepayment of SDR 319 million (the equivalent of 62 b.kr.) to the IMF, and 674 million euros (the equivalent of 109 b.kr.) to the Nordic countries.

On 18 June, Parliament passed Act no. 78/2012 Amending the Act on Collections; namely, the rules on repossession by collection agents. In the future, collections agents must obtain the written consent of a debtor in default before repossessing non-real estate assets. Otherwise, the collection agent must obtain authorisation in accordance with the Act on Execution, no. 90/1989.

On 18 June, Parliament passed Act no. 84/2012 Amending the Housing Act, no. 44/1998, with subsequent amendments. The main purpose of the Act is to comply with EFTA Surveillance Authority (ESA) guidelines requiring that the Icelandic authorities take the necessary action to ensure that the Housing Financing Fund's (HFF) lending arrangements are more consistent with the provisions on State aid in the EEA Agreement; that is, that the Fund shall not enjoy a Government guarantee in the form of an owner guarantee, interest subsidies, exemptions from profitability requirements, and payment of income tax. The Act strengthens the HFF's social role and revokes its authorisation to grant loans to firms, including construction contractors. As a result, it will only be permissible to grant loans to individuals for renovation, construction, or purchase of residential property. Loans from the Fund may not exceed 80% of the appraised value of the property (as opposed to the previous 90%), and the total HFF bond amount may not be less than 40% of the official property valuation. This means that the HFF will be prohibited from lending for the purchase of property with an official valuation exceeding 50 m.kr. The Act also incorporates

a fundamental but temporary change in the HFF's operations: that one of its roles will be to own and operate a leasing company for property repossessed by the Fund.

On 19 June, Parliament passed Act no. 69/2012 Amending the Value-Added Tax Act. Among the amendments are authorisations to reimburse municipalities for value-added tax on fire and pollution control equipment and to reimburse a portion of the value-added tax on hydrogen-powered, electric, and hybrid motor vehicles.

On 19 June, Parliament passed the Fishing Fee Act, no. 74/2012. The new Act provides for a basic fishing fee of 9.50 kr. per allocated cod equivalent kilogram and a special fishing fee totalling 65% of a base, which takes account of the value of the catch and/or product, less i) operating expenses other than cost of capital, and ii) a calculated annual payment in lieu of interest and depreciation, which shall be based on a return of 8%. The basic fishing fee will be subtracted from the special fee. At the same time, Parliament passed Act no. 75/2012 Amending the Fisheries Management Act to accord with the Act on Fishing Fees and extending the Temporary Provisions in the Fisheries Management Act.

On 19 June, Parliament passed Act no. 77/2012 Amending the Act on Financial Undertakings, no. 161/2002, with subsequent amendments. The aim of the Act is to strengthen the operational foundations of the savings bank system, which has been under pressure in recent years. In order to enable savings banks to meet their need for increased capital, it is permissible to operate them as limited liability companies. The term "savings bank" will therefore no longer be restricted to a specific type of non-profit organisation but will be a collective term for a specific type of financial institution that is operated either as a non-profit organisation or as a limited liability company but is nonetheless required to restrict its operations primarily to conventional commercial banking activities and to devote at least 5% of the profit from the previous year's operations to social projects in its geographical region of operation. In addition, the merger opportunities for savings banks operated as non-profit organisations are expanded. Moreover, savings banks with a minimum of 5 million euros in guarantee capital or share capital will be authorised to conduct securities trading. Finally, Temporary Provision VI of the Act on Financial Undertakings, concerning the Financial Supervisory Authority's authorisation to intervene in operations, is extended until year-end 2013, as the future structure of these issues has not been decided by the European Union.

On 19 June, Parliament passed Act no. 79/2012 Amending the Act on Deposit Guarantees and an Investor-Compensation Scheme, no. 98/1999, with subsequent amendments. The Act permanently incorporated the Temporary Provisions set with Acts no. 15/2011 and 55/2011, which pertained only to premiums for the year 2011, into the body of the Act on Deposit Guarantees and an Investor-Compensation Scheme. The main changes that appear in the new Act and

were not included in Temporary Provision II are that the general premium decreases from 0.3% to 0.225% and the Board of the Depositors' and Investors' Guarantee Fund is now authorised to grant permission to defer payment of the premium in extraordinary circumstances.

On 20 June, the Financial Supervisory Authority revoked the operating licence of EA fjárfestingarfélag ehf., as the company was subjected to winding-up proceedings with a ruling by the District Court of Reykjavík on 1 June.

On 20 June, the Central Bank of Iceland purchased euros in exchange for Icelandic krónur for long-term investment in the Icelandic economy, or in exchange for payment in Treasury bonds in the RIKS 33 0321 series. The Bank had also advertised for bids on the sale of Icelandic krónur for cash payment in foreign currency. The auctions were an element in the liberalisation of restrictions on movement of capital. In the euro purchase auction, the Central Bank accepted bids in the amount of 23.7 million euros. The auction was structured with a single-price format, so that all accepted offers were made available to primary dealers at the same price, which was set at 245 kr. per euro. In the króna purchase auction, bids in the amount of 7.5 b.kr. were accepted. All accepted bids were made available to primary dealers at the same price, which was set at 246 kr. per euro.

On 21 June, the Supreme Court confirmed the District Court ruling in Saga Capital's case against the Financial Supervisory Authority, which had revoked Saga Capital's operating licence. Saga Capital had subsequently been subject to winding-up proceedings with a District Court ruling. Saga Capital appealed the District Court ruling to the Supreme Court, which upheld the ruling with reference to the general rule that an appeal to the courts does not defer the legal effect of an administrative decision.

On 29 June, the EFTA Surveillance Authority (ESA) approved the State aid granted in connection with the recapitalisation and reconstruction of Íslandsbanki. According to the ESA decision, the Government's actions related to the establishment and restructuring of the bank entailed State aid that is permissible under the EEA Agreement, as the Government had provided the bank with a capital contribution in the form of share capital and a subordinated loan, as well as liquidity facilities.

July 2012

On 2 July, trading in real estate company Reginn hf.'s shares began on the NASDAQ OMX Iceland exchange. The company was the second to be listed on the exchange after the 2008 financial crisis.

On 13 July, the Minister of Fisheries announced catch quotas for the 2012-2013 fishing year. Cod quotas were increased by 18,000 tonnes from the previous year, haddock quotas were reduced by 9,000 tonnes, and other demersal fish quotas increased by a total of 1,400 tonnes from the 2011-2012 quotas.

On 20 July, it was announced that the European Central Bank (ECB) had recovered, in full, 4 billion euros loaned against collateral to subsidiaries of Glitnir, Kaupthing, and Landsbanki Luxembourg in October 2008, as a part of regular ECB facilities in the euro area. Close collaboration on the issue took place between the Central Bank of Iceland and the Banque centrale de Luxembourg, in part to prevent the sale of hypothecated assets under extremely adverse conditions.

On 30 July, the Central Bank of Iceland announced that it had decided to increase its regular foreign currency purchases from market makers for an unspecified period beginning on 31 July 2012. From September 2010 onwards, the Bank had bought half a million euros per week from each of the market makers in the interbank foreign exchange market. After the change, the Bank bought 1 million euros per week from each market maker.

August 2012

On 20 August, the Financial Supervisory Authority granted Straumur fjárfestingarbanki hf. [Straumur Investment Bank hf.] expanded authorisations to operate as a credit institution.

On 22 August, the Central Bank of Iceland Monetary Policy Committee decided to hold the Bank's interest rates unchanged. The overnight lending rate remained 6.75%, the seven-day collateralised lending rate was 5.75%, the maximum rate on 28-day certificates of deposit (CDs) 5.5%, and the current account rate 4.75%.

On 29 August, the Central Bank of Iceland purchased euros in exchange for Icelandic krónur for long-term investment in the Icelandic economy, or in exchange for payment in Treasury bond series RIKS 33 0321. The Bank had also advertised for bids on the sale of Icelandic krónur for cash payment in foreign currency. The auctions were an element in the liberalisation of restrictions on movement of capital. In the euro purchase auction, the Central Bank accepted bids in the amount of 18.6 million euros. The auction was structured with a single-price format, so that all accepted offers were made available to primary dealers at the same price, which was set at 235 kr. per euro. In the króna purchase auction, bids in the amount of 3.8 b.kr. were accepted. All accepted bids were made available to primary dealers at the same price, which was set at 236 kr. per euro.

On 30 August, it was agreed at a Cabinet meeting to entrust a work group with assessing the status and outlook for the Housing Financing Fund (HFF) balance sheet. The work group was to include representatives from the Ministry of Finance and Economic Affairs, Prime Minister's Office, Ministry of Welfare, and Ministry of Industry, in consultation with the HFF and its Board.

September 2012

On 1 September, the Ministry of Economic Affairs, Ministry of Industry, Energy, and Tourism, and Ministries of Agriculture and Fisheries merged to form the new Ministry of Industries and Innovation.

On 7 September, it was announced that the savings bank Sparisjóður Svarfdæla and Landsbankinn hf. had come to an agreement that Landsbankinn would abandon its plans to acquire the savings bank's operations and assets, as the Savings Banks' Guarantee Fund had agreed to contribute new guarantee capital to Sparisjóður Svarfdæla and grant a subordinated loan so that the savings bank would meet the Financial Supervisory Authority's 16% capital adequacy requirement.

On 11 September, the Financial Supervisory Authority granted Landsbréf hf. expanded authorisations to operate as a UCITS management company.

On 14 September, the Financial Supervisory Authority approved the merger of savings bank Sparisjóður Ólafsfjarðar and Arion Bank hf. Arion Bank will take over all rights and responsibilities of Sparisjóður Ólafsfjarðar, and the two companies will be merged under the name Arion Bank hf.

On 28 September, a mission from the International Monetary Fund (IMF) concluded its visit to Iceland in connection with post-programme monitoring of the Iceland's Stand-By Arrangement with the IMF.

Tables and charts

Tables and charts are generally based on statistical information available on 31 October 2012. A list of symbols is on p. 2.

A Tables

B Charts

Table 1 Main monthly indicators

	Consumer prices		Exchange rate		Yields (end of period, %)					Money and credit (end of period)[6]			
	% change in CPI[1] over the previous		% ch. in effective exchange rate [1,2]		Money market		Bond market[5]			12-month % change			
	1 month	12 months	1 month	12 months	Central Bank collateral loans[3]	3-month REIBOR[4]	RIKB 13 0517	RIKB 19 0226	HFF 150644	Base money	M3	DMB lending	DMB foreign liabilities[7]
2010													
August	0.2	4.5	2.0	12.7	7.0	6.1	4.0	5.3	2.9	-49.6	-8.0	-0.7	-21.7
September	0.0	3.7	1.1	13.4	6.3	5.4	4.2	6.1	3.4	-55.2	-10.2	-3.0	-40.2
October	0.7	3.3	0.0	14.2	6.3	5.3	4.8	6.5	3.5	-38.1	-10.5	-2.7	-42.5
November	0.1	2.6	0.5	15.5	5.5	4.8	3.7	5.6	3.4	-3.7	-9.6	0.9	-40.7
December	0.3	2.5	-0.8	13.8	4.5	4.2	2.9	5.7	3.3	-19.4	-9.6	0.9	-33.3
2011													
January	-0.9	1.8	-2.1	10.6	4.5	4.1	2.6	5.9	3.3	-2.8	-9.3	-5.6	-38.0
February	1.2	1.9	-1.6	7.5	4.3	4.0	3.3	6.3	3.2	16.4	-8.8	-5.0	-40.0
March	1.0	2.3	-0.6	5.6	4.3	4.0	3.1	6.2	3.1	-31.9	-8.2	-6.9	-46.4
April	0.8	2.8	-0.3	4.7	4.3	4.0	3.0	6.5	3.1	9.7	-7.7	-7.3	-40.2
May	0.9	3.4	-1.1	0.1	4.3	4.0	3.0	7.4	3.3	-25.1	-7.0	-7.3	-39.2
June	0.5	4.2	-0.6	-3.2	4.3	4.0	2.8	7.2	3.3	-17.8	-5.0	-6.8	-40.4
July	0.1	5.0	-0.4	-3.9	4.3	4.0	3.0	7.6	3.3	4.9	-2.0	-4.4	-37.1
August	0.3	5.0	0.8	-5.1	4.5	4.5	3.6	7.8	3.2	-14.8	0.0	-4.5	-38.9
September	0.6	5.7	1.5	-4.7	4.5	4.6	3.7	7.0	3.2	-1.0	5.5	-4.0	-19.5
October	0.3	5.3	1.2	-3.5	4.5	4.6	3.9	6.6	2.9	11.7	5.1	-4.8	-17.7
November	0.0	5.2	-0.3	-4.3	4.8	4.8	3.7	6.1	2.8	-15.8	5.8	-5.9	-23.2
December	0.4	5.3	-1.1	-4.6	4.8	4.8	3.8	6.2	2.7	-20.7	7.1	-1.2	-26.1
2012													
January	0.3	6.5	-1.2	-3.7	4.8	4.8	3.7	6.4	2.6	-5.6	9.5	-0.7	-27.9
February	1.0	6.3	-1.9	-4.0	4.8	4.8	4.1	6.8	2.5	18.7	8.9	0.2	-23.6
March	1.0	6.4	-2.0	-5.3	5.0	5.1	4.4	6.9	2.7	10.0	4.5	3.2	-16.8
April	0.8	6.4	-0.2	-5.3	5.0	5.1	4.1	7.0	2.6	-7.6	5.9	4.8	-14.4
May	0.0	5.4	2.1	-2.2	5.5	5.6	3.8	6.6	2.8	17.5	7.1	6.6	-22.8
June	0.5	5.4	1.5	-0.2	5.8	5.7	2.7	6.6	2.8	5.4	4.8	5.0	-25.1
July	-0.7	4.6	2.2	2.4	5.8	5.8	3.1	6.3	2.8	-22.9	0.9	4.6	-27.5
August	-0.2	4.1	3.7	5.4	5.8	5.8	2.8	6.2	2.5	20.6	-0.2	4.9	-14.4
September	0.8	4.3	-4.6	-1.0	5.8	5.8	3.1	6.3	2.5	-0.7	-4.7	6.3	-17.6
October	0.3	4.2	-1.5	-3.6	5.8	6.1	3.0	6.0	2.5	...	...	...	...

1. Percentage changes between period averages. 2. Based on the narrow trade-weighted effective exchange rate basket. A positive sign indicates appreciation of the Icelandic króna. 3. From June 2007, the presentation of the policy rate has been changed. It is now presented as a nominal rate instead of a yield. 4. Average yield on the interbank market in Icelandic krónur. 5. For Treasury bonds and HFF bonds, the quoted yield is in excess of changes in the CPI. Trading with HFF bonds began in July 2004; prior figures are for housing bonds. 6. Annual figures are changes over one year. Domestic borrowers only as of January 2002. Latest figures are preliminary. 7. DMBs = deposit money banks = commercial and savings banks and other institutions permitted to accept deposits from the public. Since July 2007, derivatives have been considered foreign liabilities and the presentation of Central Banks' short-term position has been changed.

Table 1 (continued) Main monthly indicators

	Foreign exchange market and reserves				Foreign trade and external conditions					Labour market		Public finance	Asset prices 12-mo. % changes	
	Gross foreign currency reserves:			CB										
		as ratio of:												
	Position (B.kr.)	Goods imports[8]	For. short-term liabil.[9]	net purchases (b.kr.)	Trade balance (b.kr.)	Goods exports, fob (b.kr.)	Goods imports, fob (b.kr.)	Marine product prices 12-mo.% ch.[10]	Real exchange rate of króna[11]	Unemployment	Wages, 12-mo. % change	Reg. Treasury financial balance, % of reg. revenues, from Jan.[12]	Equity prices[13]	Housing prices[14]
2010														
August	546.3	15.8	2.8	1.0	7.1	41.9	34.7	-1.2	76.6	7.3	6.0	-25.3	14.4	-3.6
September	487.2	14.5	3.6	1.4	10.7	49.8	39.1	5.1	77.2	7.1	6.0	-24.0	13.7	-3.2
October	468.3	13.9	3.6	0.9	11.2	47.0	35.9	1.0	77.5	7.5	6.0	-21.3	16.9	-2.3
November	542.5	15.6	4.1	1.2	6.9	48.3	41.4	0.9	77.8	7.7	4.7	-20.2	19.4	-0.9
December	664.8	18.9	3.3	25.5	13.9	50.4	36.5	-0.5	77.1	8.0	4.5	-20.1	14.6	0.2
2011														
January	732.7	20.2	5.8	0.9	6.8	42.2	35.4	1.5	75.0	8.5	4.4	-39.4	24.9	0.5
February	719.4	19.4	5.4	1.0	8.3	42.7	34.4	0.7	74.3	8.6	4.2	3.8	14.4	2.0
March	765.4	20.5	4.1	1.2	13.9	59.1	45.2	1.3	73.9	8.6	4.4	-2.6	5.8	1.9
April	759.2	20.2	4.1	1.0	3.2	40.3	37.0	1.5	73.9	8.1	4.4	-9.9	-0.6	2.7
May	708.6	17.9	3.9	1.2	5.7	55.5	49.8	-0.3	73.7	7.4	5.3	-15.8	11.2	3.5
June	827.8	20.7	4.7	1.0	8.7	51.7	43.0	1.1	73.7	6.7	7.1	-16.4	5.4	4.7
July	858.2	21.1	4.7	1.0	9.4	51.5	42.0	-0.2	73.7	6.6	7.8	-26.9	5.2	5.9
August	915.3	22.4	5.5	1.2	9.3	54.9	45.6	1.2	74.4	6.7	8.0	-20.1	-0.8	6.3
September	911.7	21.8	5.6	1.0	15.6	62.5	46.9	1.6	75.5	6.6	8.4	-21.1	-3.1	7.3
October	982.8	23.7	6.3	1.0	8.0	52.7	44.6	3.0	76.6	6.8	8.9	-16.6	-3.9	7.5
November	1,110.3	25.8	7.5	1.2	7.9	53.4	45.5	0.2	76.4	7.1	9.0	-18.3	-4.2	7.6
December	1,047.3	23.4	6.9	1.0	0.2	53.7	53.4	0.8	75.6	7.3	9.2	-13.2	-2.6	9.9
2012														
January	1,081.3	23.4	7.6	1.2	0.5	47.3	46.8	0.7	75.3	7.2	9.1	-38.1	-5.0	9.2
February	1,095.0	23.1	7.6	1.0	12.6	54.2	41.6	-2.5	74.2	7.3	11.3	6.1	-2.5	7.8
March	976.8	20.4	6.3	-1.0	6.1	55.4	49.3	0.0	72.9	7.1	12.1	-4.6	4.1	8.7
April	942.2	19.7	6.0	1.0	8.8	49.5	40.7	0.8	73.0	6.5	11.9	-3.4	8.6	7.7
May	1,062.8	21.8	7.9	1.2	-1.1	55.4	56.5	0.1	74.7	5.6	11.0	-6.3	8.1	5.3
June	851.6	17.9	6.4	1.0	0.5	52.7	52.2	0.7	76.4	4.8	6.9	-7.1	11.1	6.3
July	829.6	18.2	6.3	2.9	2.5	47.4	44.9	0.7	77.7	4.7	6.0	-9.8	1.9	7.3
August	786.2	17.1	5.6	1.8	13.1	52.0	38.9	0.4	80.2	4.8	5.9	-9.4	7.0	6.7
October	532.5	11.4	4.0	1.9	5.6	48.5	43.0	-1.7	76.6	4.9	5.7	-11.0	12.1	6.0

8. Gross foreign exchange reserves at end of period as a ratio of the 12-month average of goods imports. Calculated at fixed exchange rates. 9. The denominator is foreign short-term liabilities of credit institutions and investment banks and includes derivatives as of July 2007. 10. Foreign currency prices of marine products are calculated by dividing marine products prices in Icelandic krónur by the export-weighted trade basket. Annual figures are % changes between annual averages. 11. Real effective exchange rate of the Icelandic króna based on relative consumer prices (a trade-weighted average of 17 trading partner countries' consumer prices is used), 2000 = 100. Average over periods. 12. Cash basis. Without privatisation revenues. 13. OMXI6 index. 14. Residential housing in greater Reykjavík area. Annual figures are % changes over year.

Sources: Statistics Iceland, Directorate of Labour, State Accounting Office, Nasdaq OMX Iceland, Registers Iceland, Central Bank of Iceland.

Table 2 Historical economic indicators

	Consumer prices[1]		Króna effective exchange rate			Interest rates (%)			Money and credit % change over year			Ratio of FX reserves to goods imports[5]	Net ext. debt[6] GDP (%)	Growth of real GDP (%)
	Consumer price index	CPI inflation (%)	Nominal exchange rate[2]	Real exchange rate[3] Relative CPI	Real exchange rate[3] Relative ULC	Indexed gov. bonds, yield[4]	Banks' secured lending (real yield) Non-indexed	Banks' secured lending (real yield) Indexed	M3	DMB lending	Credit system lending			
1982	18.4	51.0	54.5	97.7	115.1	3.5	-9.4	2.9	58.0	92.0	100.2	2.1	46.4	2.2
1983	33.9	84.2	100.0	91.8	95.1	3.8	-14.2	3.0	78.7	85.6	82.9	2.5	57.2	-2.2
1984	43.7	29.2	116.3	96.3	92.1	7.0	3.4	5.5	33.4	43.0	40.2	2.1	60.2	4.1
1985	57.9	32.4	148.7	94.8	92.9	6.9	-2.3	5.0	47.6	29.7	35.2	2.8	63.6	3.3
1986	70.2	21.3	171.0	97.1	93.7	8.5	4.3	5.2	35.0	19.1	20.1	3.6	56.5	6.3
1987	83.4	18.8	177.3	106.0	120.3	8.7	4.7	7.7	35.2	42.1	31.4	2.4	49.4	8.5
1988	104.6	25.4	202.6	111.4	126.1	8.7	11.8	9.2	24.0	37.2	34.0	2.4	51.3	-0.1
1989	126.7	21.1	254.7	102.4	110.5	7.4	6.5	7.8	27.2	25.2	33.8	3.0	56.8	0.3
1990	145.5	14.8	283.7	99.1	99.6	7.0	9.3	8.0	14.9	11.0	12.5	3.3	43.8	1.2
1991	155.4	6.8	283.6	101.7	101.9	8.1	10.0	9.2	14.4	11.6	15.4	3.2	44.9	-0.2
1992	161.2	3.7	285.0	101.7	103.2	7.4	11.8	9.3	3.8	5.3	11.8	4.0	53.0	-3.4
1993	167.8	4.1	308.8	96.2	94.6	6.7	11.5	9.1	6.5	5.0	11.1	4.3	58.9	1.3
1994	170.3	1.5	324.8	91.0	83.2	5.0	9.5	7.9	2.3	-1.3	4.5	2.6	53.3	3.6
1995	173.2	1.7	322.3	91.1	88.6	5.6	10.1	8.7	2.2	-8.5	5.9	2.4	52.0	0.1
1996	177.1	2.3	322.9	91.3	88.5	5.5	10.5	8.9	6.8	11.5	9.3	3.0	49.8	4.8
1997	180.3	1.8	318.7	92.2	89.6	5.3	11.1	9.0	8.7	12.4	11.8	2.6	51.3	4.9
1998	183.3	1.7	313.6	93.8	93.7	4.7	11.8	8.8	15.1	30.0	15.1	2.2	57.4	6.3
1999	189.6	3.4	313.1	96.3	97.6	4.4	8.0	8.6	17.1	23.1	17.3	2.5	66.9	4.1
2000	199.1	5.0	313.3	100.0	100.0	5.1	12.7	9.5	11.2	50.1	17.2	2.1	93.8	4.3
2001	212.4	6.7	376.3	87.3	87.1	5.1	9.4	10.2	14.9	12.6	19.2	2.1	101.8	3.9
2002	222.5	4.8	365.2	91.7	90.2	5.2	13.7	10.1	15.3	2.7	3.2	2.5	89.3	0.1
2003	227.3	2.2	343.3	96.0	95.8	4.4	9.4	9.1	17.5	18.3	11.4	3.5	93.9	2.4
2004	234.6	3.2	336.3	98.1	92.3	3.9	8.3	8.0	15.0	39.0	19.9	3.6	112.3	7.8
2005	244.1	4.0	301.8	111.4	105.2	3.7	10.7	7.2	23.2	50.6	31.1	2.9	152.1	7.2
2006	260.6	6.8	337.2	104.2	103.0	4.6	10.9	7.1	19.6	41.5	31.0	4.8	193.1	4.7
2007	273.7	5.0	329.1	108.6	111.4	6.0	14.2	8.9	56.6	30.8	22.7	4.9	222.8	6.0
2008	307.7	12.4	462.1	85.5	84.7	4.6	7.9	10.1	32.1	-27.8	…	7.7	746.9	1.2
2009	344.6	12.0	622.3	70.0	61.6	4.4	4.2	8.0	-1.1	-15.5	…	13.8	770.5	-6.6
2010	363.2	5.4	604.0	74.4	69.9	3.4	4.9	6.4	-9.9	-0.2	…	18.9	669.7	-4.0
2011	377.7	4.0	598.1	75.2	72.4	2.2	2.3	6.1	7.1	-1.8	…	23.4	583.3	2.6

1. Annual averages (May 1988=100) and changes between years. 2. Annual averages. Exchange rate of the króna against a trade-weighted average of foreign currencies. 1983=100. 3. 2000=100. ULC=unit labour costs. 4. Annual average yield of indexed Treasury bonds of all maturities. Yields on Iceland Stock Exchange (Nasdaq OMX Iceland) from 1987. Before that, primary market yields. 5. Gross foreign exchange reserves at end of period as a ratio of the average monthly value of goods imports in the last 12 months. Calculated at fixed exchange rates. 6. External debt ratio is calculated as a percentage of GDP at current exchange rate.

Table 2 (continued) Historical economic indicators

	Components of GDP (% change from previous year)			External trade (% change from previous year)							Labour market (% of labour force)		Wages (% change from previous year)	
				Goods & services (volume changes)				General government (% of GDP)[7]						
	Private consump-tion	Gross fixed cap. formation	National expendi-ture	Exports	Imports	Terms of trade	Curr. acc. balance (% of GDP)	Financial balance	Revenues	Expend-itures	Unem-ployment	Labour particip.[8]	Real wages[9]	Real disp. income
1982	5.0	0.1	5.0	-8.9	-0.6	-0.7	-8.0	1.7	37.9	36.2	0.8	77.6	1.7	2.2
1983	-5.6	-12.7	-8.6	11.0	-9.7	-1.4	-1.8	-2.0	35.8	37.8	1.0	77.4	-16.7	-12.5
1984	3.7	9.4	6.4	2.4	9.1	0.7	-4.5	2.2	36.9	34.7	1.3	77.6	-3.1	-2.5
1985	4.2	1.0	2.7	11.1	9.4	-0.9	-3.8	-1.6	35.4	37.0	0.9	79.3	1.2	10.8
1986	6.9	-1.6	4.5	5.9	0.9	5.4	0.7	-4.0	35.4	39.4	0.7	80.9	5.7	9.5
1987	16.2	18.8	15.7	3.3	23.3	4.3	-3.3	-0.8	35.6	36.5	0.4	84.1	9.0	25.8
1988	-3.8	-0.2	-0.6	-3.6	-4.6	-0.8	-3.4	-2.0	39.5	41.5	0.6	80.1	2.2	-1.9
1989	-4.2	-7.9	-4.4	2.9	-10.3	-3.9	-1.3	-4.4	38.5	43.0	1.7	78.7	-9.1	-8.9
1990	0.5	3.0	1.5	0.0	1.0	0.3	-2.1	-3.3	38.1	41.4	1.8	77.5	-4.9	-3.9
1991	3.0	2.6	3.5	-5.9	5.3	3.5	-4.0	-2.9	39.8	42.7	1.5	81.0	1.4	3.1
1992	-3.2	-10.4	-4.6	-2.0	-6.0	-0.6	-2.4	-2.8	40.8	43.6	3.1	81.8	-0.8	-2.8
1993	-4.6	-9.8	-2.9	6.5	-7.5	-3.6	0.7	-4.5	39.0	43.4	4.4	81.1	-2.6	-2.0
1994	2.9	-0.2	1.8	9.3	3.8	0.3	1.9	-4.7	38.6	43.2	4.8	81.3	-0.3	2.5
1995	2.2	-1.7	2.2	-2.3	3.6	1.0	0.7	-3.0	39.6	42.5	5.0	82.9	2.8	2.7
1996	5.7	25.0	6.8	9.9	16.5	-3.1	-1.8	-1.6	40.5	42.0	4.4	81.6	4.0	4.2
1997	6.3	9.3	5.8	5.6	8.0	1.9	-1.8	0.0	40.5	40.5	3.9	81.0	3.6	7.3
1998	10.2	34.4	13.8	2.5	23.4	5.3	-6.8	-0.4	40.8	41.2	2.8	82.3	7.6	8.8
1999	7.9	-4.1	4.2	4.0	4.4	-0.7	-6.8	1.1	43.1	41.9	1.9	83.2	3.3	6.3
2000	4.2	11.8	5.9	4.2	8.6	-2.4	-10.2	1.7	43.5	41.8	1.3	83.5	1.6	8.2
2001	-2.8	-4.3	-2.1	7.4	-9.1	0.4	-4.3	-0.7	41.8	42.5	1.4	83.6	2.0	-3.0
2002	-1.5	-14.0	-2.3	3.8	-2.6	0.5	1.5	-2.6	41.6	44.1	2.5	82.8	2.3	5.0
2003	6.2	11.1	5.8	1.6	10.7	-4.0	-4.8	-2.8	42.7	45.5	3.4	82.1	3.4	3.8
2004	7.0	28.7	10.1	8.4	14.5	-1.2	-9.8	0.0	44.0	44.0	3.1	80.7	1.4	7.5
2005	12.7	34.4	15.4	7.5	29.3	1.0	-16.0	4.9	47.1	42.2	2.1	81.9	2.6	11.2
2006	3.6	24.4	9.9	-4.6	11.3	3.3	-24.3	6.3	47.9	41.6	1.2	83.1	2.6	8.4
2007	5.7	-12.2	-0.4	17.7	-1.5	0.1	-15.9	5.4	47.7	42.2	1.0	83.3	3.8	10.6
2008	-7.8	-20.4	-8.6	7.0	-18.4	-6.1	-24.6	-13.5	44.1	57.6	1.6	82.6	-3.8	0.3
2009	-15.0	-51.4	-20.4	7.0	-24.0	-9.8	-11.5	-10.0	41.1	51.0	8.0	80.9	-7.2	-17.5
2010	0.0	-8.6	-2.6	0.6	4.5	6.0	-8.0	-10.1	41.5	51.6	8.1	81.1	-0.6	-11.4
2011	2.7	12.8	3.8	4.1	6.8	-1.7	-7.0	-4.4	41.7	46.0	7.4	80.0	2.7	6.0

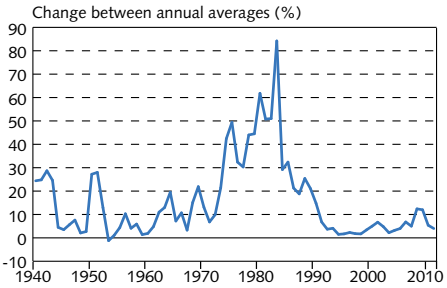
7. Central and local governments and the social security system. 8. Participation rate as per National Economic Institute definition until 1990, but based on Statistics Iceland labour market survey from 1991. 9. Statistics Iceland wage index. Deflated by consumer prices.

Sources: Directorate of Labour, Ministry of Finance and Economic Affairs, Statistics Iceland, Nasdaq OMX Iceland, Central Bank of Iceland.

Chart 1

Consumer price inflation 1940-2011

Yearly averages of CPI

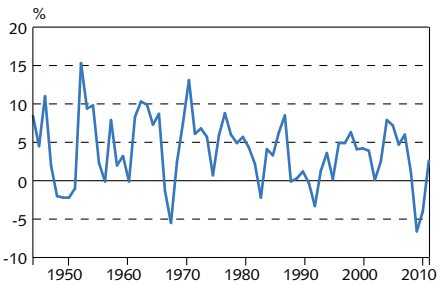


Source: Statistics Iceland.

Chart 2

Output growth 1945-2011[1]

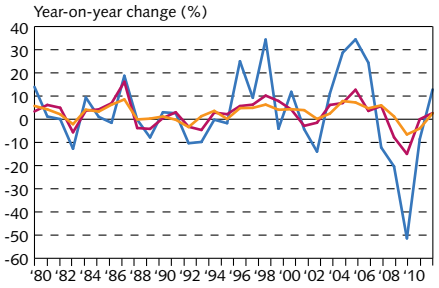
Change in real GDP between years



1. Preliminary 2011.
Source: Statistics Iceland.

Chart 3

Growth of GDP, private consumption, and gross fixed capital formation 1980-2011[1]

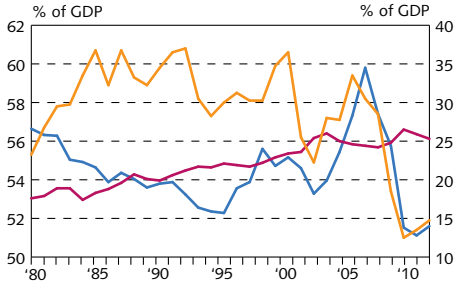


Gross fixed capital formation
Private consumption
GDP

1. Preliminary 2011.
Source: Statistics Iceland.

Chart 4

Private consumption, public consumption, and gross fixed capital formation 1980-2011[1]



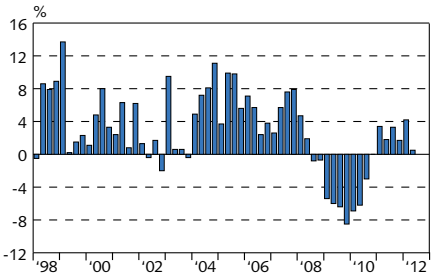
Gross fixed capital formation (right)
Public consumption (right)
Private consumption (left)

1. Preliminary 2011.
Source: Statistics Iceland.

Chart 5

Economic growth Q1/1998 - Q2/2012[1]

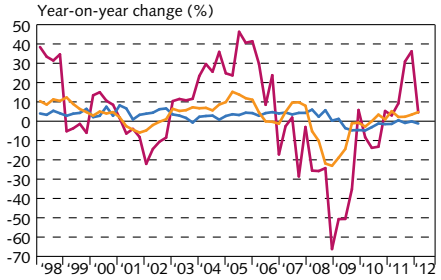
Change from same quarter a year earlier



1. Latest data are preliminary.
Source: Statistics Iceland.

Chart 6

Components of economic growth Q1/1998 - Q2/2012[1]

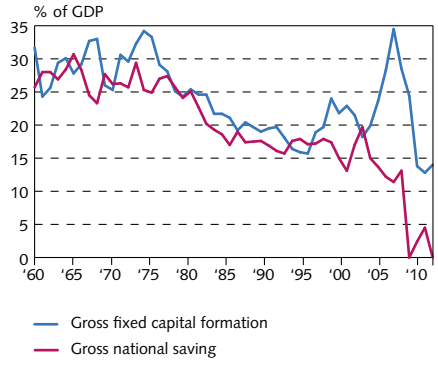


Public consumption
Gross fixed capital formation
Private consumption

1. Latest data are preliminary.
Source: Statistics Iceland.

Chart 7

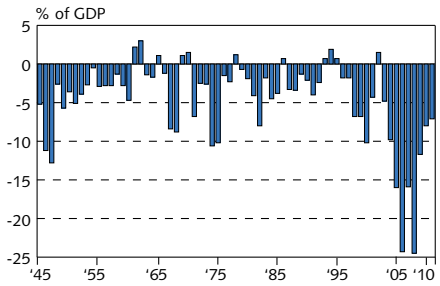
Gross national saving and fixed capital formation 1960-2011[1]



1. Preliminary 2011.
Source: Statistics Iceland.

Chart 8

Current account balance 1945-2011[1]

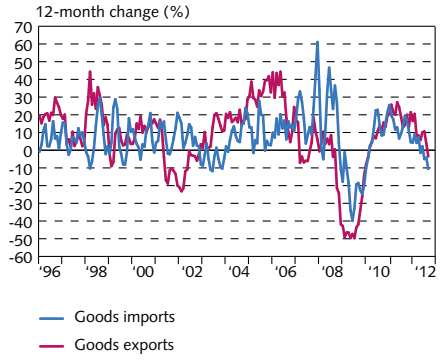


1. Preliminary 2011.
Source: Statistics Iceland.

Chart 9

Goods trade January 1996 - September 2012

3-month moving averages at constant exchange rates

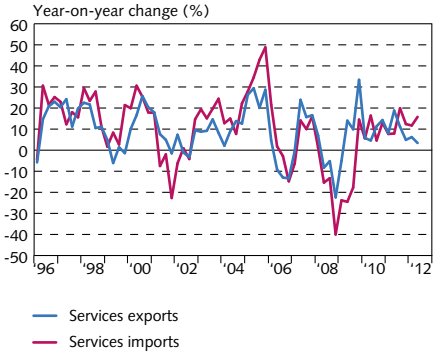


Sources: Statistics Iceland, Central Bank of Iceland.

Chart 10

Exports and imports of services Q1/1996- Q2/2012[1]

At constant exchange rates

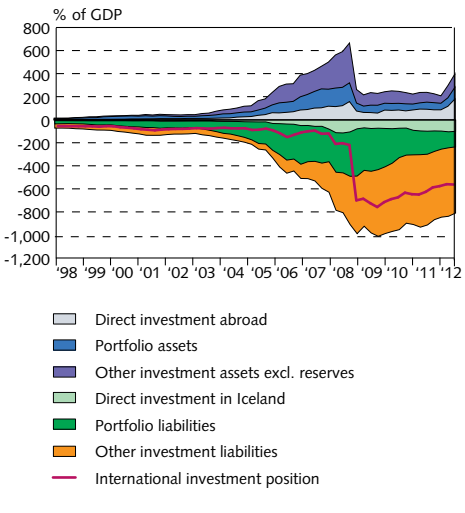


1. Latest data are preliminary.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 11

External debt and assets Q1/1998 - Q2/2012[1]

At current prices

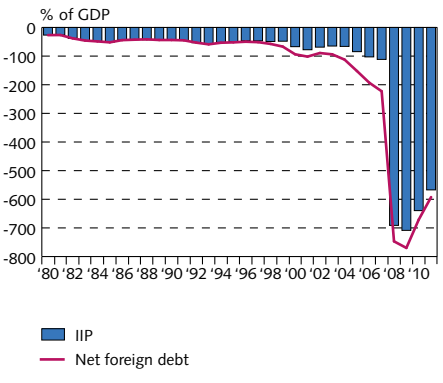


1. Latest data are preliminary.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 12

Net external debt position 1980-2011[1]

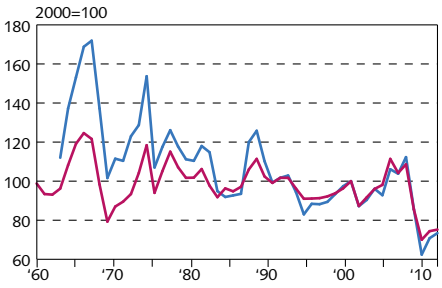
At year-end



1. Latest data are preliminary.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 13

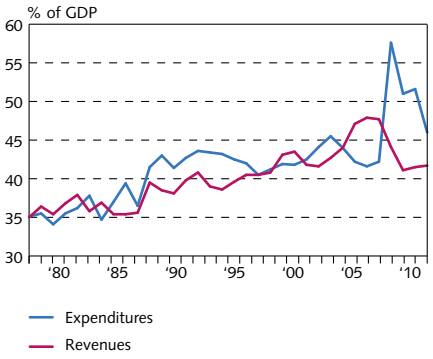
Real effective exchange rate of the Icelandic króna 1960-2011[1]



1. Preliminary 2011.
Source: Central Bank of Iceland.

Chart 14

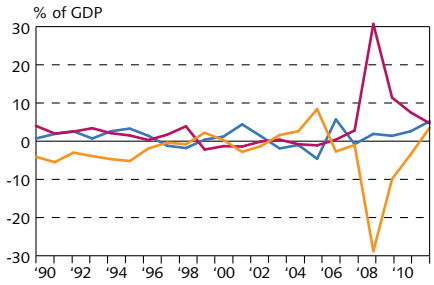
General government revenues and expenditures 1978-2011



Source: Statistics Iceland.

Chart 15

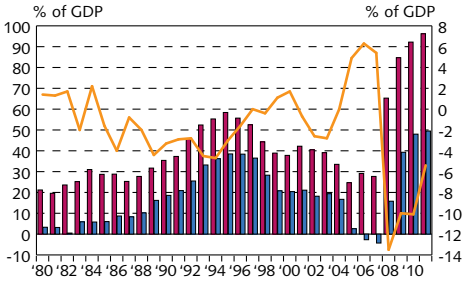
Treasury borrowing and credit budget balance 1990-2011



1. Including increase in pension fund commitments and outstanding long-term interest. State Accounting Office's preliminary calculations for 2011.
Sources: State Accounting Office, Statistics Iceland, Treasury accounts.

Chart 16

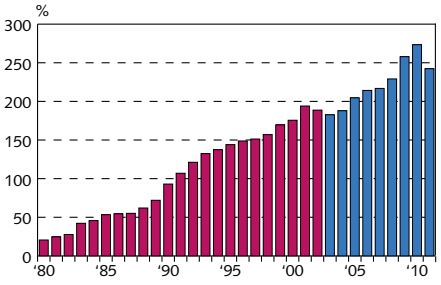
General government balance and debt 1980-2011



1. Debt excludes civil service pension liabilities. Assets include cash position but exclude equity holdings.
Sources: Statistics Iceland, Treasury accounts.

Chart 17

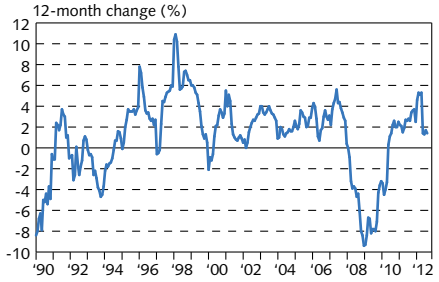
Household debt as percentage of disposable income 1980-2011[1]



1. New classification from 2003 (blue columns). Estimate for 2011.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 18

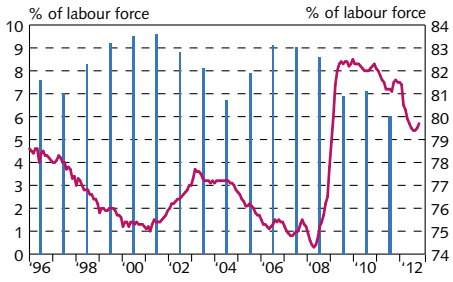
Real wages January 1990 - September 2012



Source: Statistics Iceland.

Chart 19

Unemployment and labour participation
January 1996 - September 2012



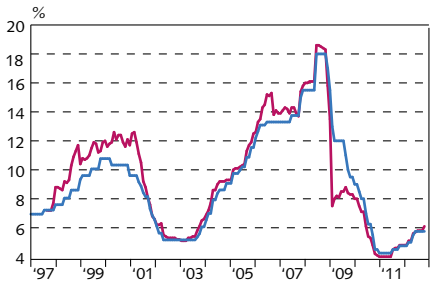
Participation[1] (right)
Unemployment, seasonally adjusted (left)

1. Statistics Iceland labour market survey 1996-2011.
Sources: Directorate of Labour, Statistics Iceland, Central Bank of Iceland.

Chart 20

Short-term interest rates
March 1998 - October 2012

At end of month



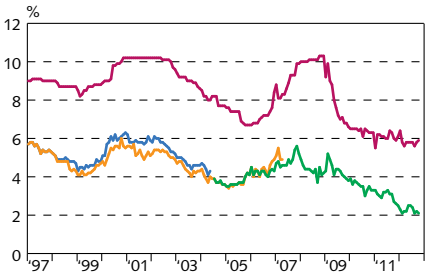
Central Bank 7-day collateralised lending rate
3-month REIBOR on the interbank market

Source: Central Bank of Iceland.

Chart 21

Long-term interest rates
January 1997 - October 2012

At end of month



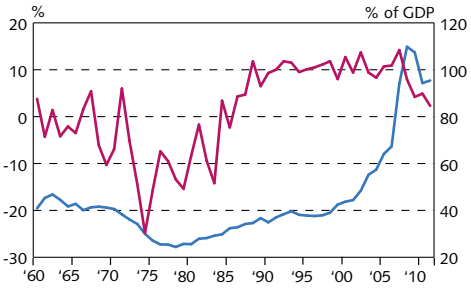
25-year housing bonds
Indexed bank loans
15-year Treasury bonds
30-year HFF bonds (HFF150434)

Source: Central Bank of Iceland.

Chart 22

Real yield and broad money 1960-2011[1]

Real yield on non-indexed bank loans and
M3 as percent of GDP

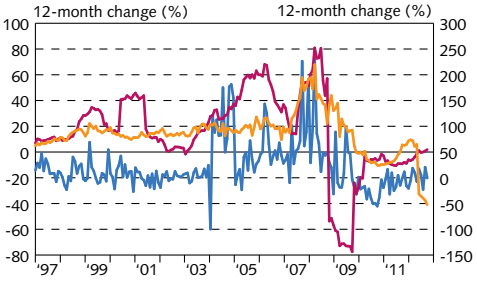


M3 (right)
Real yield (left)

1. Latest data are preliminary.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart 23

M3, DMB lending, and base money
January 1997 - September 2012[1]

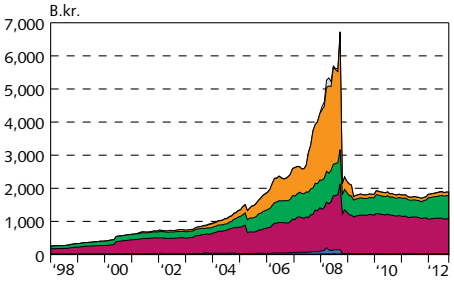


Base money (right)
DMB lending (left)
M3 (left)

1. Latest data are preliminary.
Source: Central Bank of Iceland.

Chart 24

Deposit money bank lending by sector
January 1998 - September 2012[1]



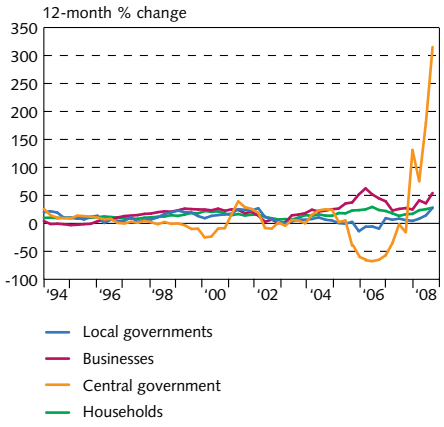
Treasury and government institutions
Industries
Foreign sector
Credit institutions
Households
Other

1. Reclassification of lending in September 2003 based on the ÍSAT-95 standard led to a reduction in household debt figures and an increase in business and municipalities' debt figures. Latest figures are preliminary.
Source: Central Bank of Iceland.

Chart 25

Growth of credit system lending Q1/1994-Q3/2008

Lending by sector[1]

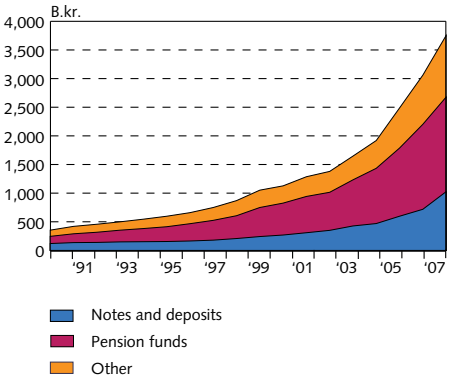


1. Reclassification of lending in September 2003 based on the ÍSAT-95 standard led to a reduction in household debt figures and an increase in business and municipalities' debt figures. Latest figures are preliminary.
Source: Central Bank of Iceland.

Chart 26

Credit system liabilities at year-end 1990-2007

Balance at year-end at current prices

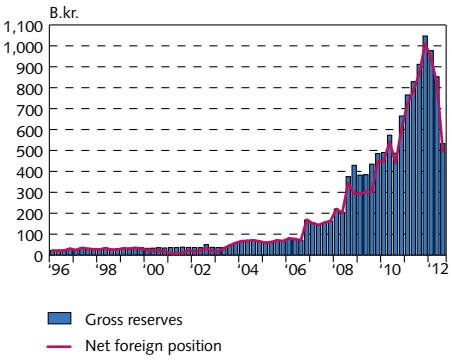


Source: Central Bank of Iceland.

Chart 27

Reserve assets and Central Bank net external positon, Q1/1996- Q3/2012[1]

At current exchange rates



1. Latest data are preliminary.
Source: Central Bank of Iceland.

Boxes and appendices

Public sector finances

2011/4 National Budget 2012
2010/4 National Budget 2011
2008/3 Sustainability of public sector debt

Labour market and wage developments

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2011/4 Is the increase of equilibrium unemployment reversing?
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Central Bank research and forecasts

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2010/2 Errors in Central bank forecasts
2009/2 Updated macroeconomic model
2009/2 Forecast errors in Central Bank of Iceland inflation forecasts

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2012/2 Baseline macroeconomic and inflation forecast 2012/2
2012/1 Baseline macroeconomic and inflation forecast 2012/1
2011/4 Baseline macroeconomic and inflation forecast 2011/4
2011/3 Baseline macroeconomic and inflation forecast 2011/3
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2011/1 Baseline macroeconomic and inflation forecast 2011/1
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2008/2 Financial market analysts' assessments of the economic outlook
2008/2 Changes in the macroeconomic forecast since *Monetary Bulletin* 2008/1
2008/2 Changes in the inflation forecast since *Monetary Bulletin* 2008/1
2008/2 Alternative scenarios
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