Economic and monetary developments and prospects[1]

Slightly improved economic outlook

The króna has been trading at around 180 against the euro in recent months and has been more stable in spite of reduced foreign exchange market intervention by the Central Bank. Exchange rate stability is a key factor in economic recovery because it shelters domestic firms, households, and financial institutions during the critical phase of post-crisis balance sheet restructuring. Global financial markets have gradually been normalising in recent months, and international investors' appetite for risk has increased. This is reflected, for example, in the decline in the Republic of Iceland's CDS spread. This, together with domestic economic developments reflected in a trade account surplus and continued disinflation, has enabled the Central Bank to lower its key interest rate from 18% to under 10% in seven months' time. The economic outlook for the next three years has improved slightly since August, when the Central Bank published its last forecast. The contraction in 2009 will be less than was forecast at that time, and economic recovery will be somewhat faster. The outlook is for output to begin growing again in Q1/2010, although the labour market will take longer to turn around. It is assumed that the króna will remain somewhat weaker than previously projected. Because of the lower exchange rate and the less pronounced slack in the economy, inflation will subside more slowly than was forecast in August. Inflation excluding direct tax effects is expected to be near the inflation target in the second half of 2010, and headline inflation is projected to reach the target less than a year later.

I Inflation outlook and monetary policy

Króna remains weak …

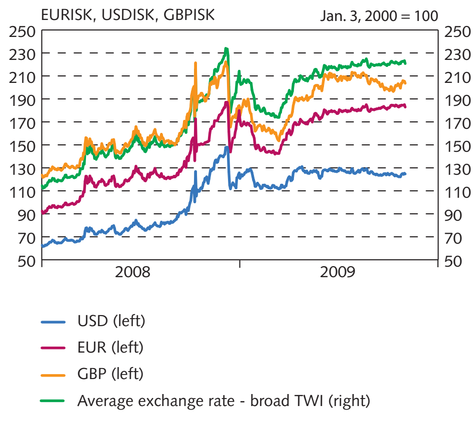
The exchange rate of the króna has fallen steeply since early 2008.[2] This depreciation is due both to domestic factors and to the global financial crisis, which led to pressure on a number of small currencies when international investors fled to the shelter of larger, more secure currencies. Terms of trade have also deteriorated in the wake of the global crisis, and this has undermined the exchange rate. Expectations of downward pressure on the króna once capital account liberalisation has begun have probably weakened the currency as well.

… but exchange rate volatility has declined

Since *Monetary Bulletin* 2009/3 was published in mid-August, the exchange rate of the króna has fallen 2½% against the euro, and by about 1½% in trade-weighted terms. Hence the exchange rate was 2½% lower in Q3 than was forecast in August. Furthermore, the outlook is for the króna to be somewhat weaker in Q4 than was forecast in August.

Although the currency has remained weak, exchange rate volatility has diminished as the year has progressed, and the fluctuations of the past three months have been similar in size to those in 2002-2004. The króna has held relatively steady at around 180 against the euro since mid-June, although the Central Bank has significantly reduced its foreign exchange market intervention since the summer. In

Chart I-1
Exchange rate of the króna
Daily data January 3, 2008 - November 3, 2009



Source: Central Bank of Iceland.

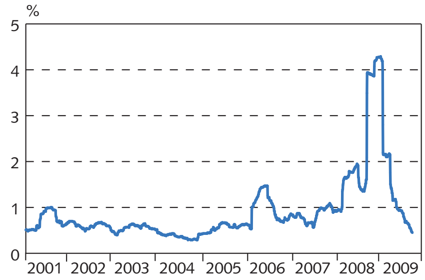
1. The discussion in this section is based on data available on November 4, but the forecast is based on data until November 3.
2. About two-thirds of the depreciation of the króna against the euro from the beginning of 2008, when the króna was at or near its strongest, until the present time, took place before the banks collapsed in September 2008, or about 34 percentage points of the 51% depreciation.

Chart I-2

Exchange rate volatility

90-day standard deviation of daily changes in the EURISK exchange rate

Daily data January 3, 2001 - October 26, 2009

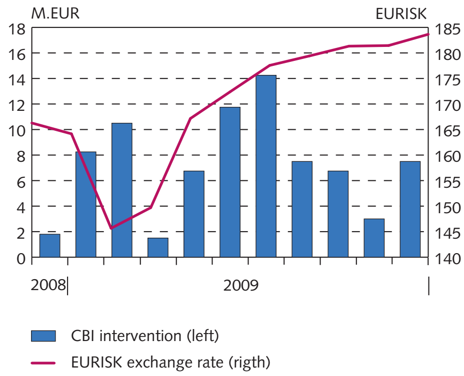


Source: Central Bank of Iceland.

Chart I-3

EURISK exchange rate and CBI intervention in the FX market

December 2008 - October 2009

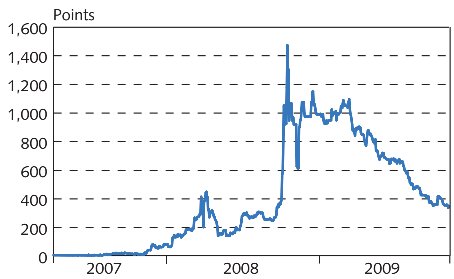


Source: Central Bank of Iceland.

Chart I-4

CDS spread for Iceland

Daily data March 28, 2007 - November 3, 2009



Source: Bloomberg.

September, the Bank's intervention totalled only 3 million euros, or just above 6% of total trading volume on the market, and in October, the Bank did no foreign exchange market trading until the third week of the month, when it traded for a total of 7.5 million euros. The Central Bank's share in Q3 foreign exchange market activity amounted to just under 19% of total volume, as compared with 36% in Q2.

Pressure on the exchange rate has therefore eased, and the spread between onshore and offshore exchange rates has narrowed. There may be a number of reasons for this. An increased trade surplus should support the króna, and terms of trade have begun improving again. Interest payments to abroad have contracted, and there are indications that export revenues are being repatriated in greater measure. Furthermore, there are signs of growing optimism in the global financial markets and of greater willingness to take risk. Risk premia on domestic financial assets appear to be tapering off, as is manifested by the continuing decline in the CDS spread on Government debt.

Domestic balance sheets vulnerable to exchange rate volatility

Domestic households and businesses are highly leveraged. At year-end 2007, Icelandic businesses' debts amounted to just over 300% of GDP. In comparison, European and US firms' debts totalled 70-80% of GDP.[3] At the same time, Icelandic households' debt amounted to about 220% of their disposable income, while the debt ratios of households in the US and the euro area were approximately 180% and 100% of disposable income, respectively.[4]

Households and businesses greatly increased both assets and liabilities during the years before the crash. Thus their balance sheets expanded enormously, and by 2007 their leverage ratio (total assets to net wealth) was about 1.4, which is considerably higher than the average in other OECD countries. As a result, Icelandic households were vulnerable to a sudden drop in asset prices, which would wipe out a large share of their net wealth and require an abrupt adjustment of expenditure levels to a lower level of income.[5]

The high proportion of foreign-currency debt further complicated the situation. Over the past several years, the share of foreign-currency debt grew rapidly, reaching about 20% of total household debt by year-end 2008. Among domestic businesses, the proportion of foreign-denominated debt was 70% as of June 2009. Municipalities also borrowed substantially in foreign currency, and by year-end 2008 foreign-currency loans constituted about 42% of their total debt.

Because of heavy indebtedness, foreign exchange exposure, and widespread financial indexation, the depreciation of the króna did more damage to domestic balance sheets than it would have otherwise. If the króna continues to fall, the number of indebted households and businesses that cannot fulfil their financial obligations

3. See International Monetary Fund (2008), "Iceland: Request for Stand-By-Arrangement", p. 9.

4. See OECD (2009), "OECD Economic Surveys: Iceland", p. 31.

5. The risk is even greater than is represented by these figures, as an unusually large proportion of Icelandic households' assets are tied up in pension funds and are inaccessible at short notice. See OECD (2009), "*OECD Economic Surveys: Iceland*".

will rise, and the contraction in private consumption and investment will deepen.

Exchange rate stability is an important precondition for economic recovery

In view of this, the principal task of post-crisis economic policy has been to promote exchange rate stability and prevent further depreciation of the króna. The aim is not to target a specific exchange rate level but to mitigate exaggerated swings in the exchange rate and counteract foreign exchange outflows that could undermine the króna. In this manner, economic policy protects exposed domestic balance sheets during the restructuring phase. Under current circumstances, it is also important to prevent further currency depreciation so as to ensure that inflation continues to decline.

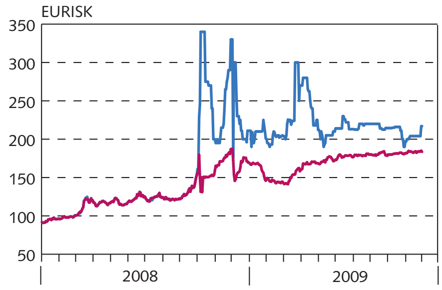
In order to support the króna and prevent disorderly capital outflows, it has been necessary to maintain tighter monetary policy than would otherwise have been needed. Temporary capital account restrictions have enabled the Central Bank's Monetary Policy Committee (MPC) to lower the policy rate markedly; nonetheless, it would clearly be desirable if monetary policy could provide better support for economic recovery. The scope to do this will increase if efforts to build sufficient confidence in monetary and fiscal policy, Iceland's capacity to repay its debt, and consequently, the Icelandic currency, are successful. It will also increase if the proportion of foreign-denominated loans declines, which could happen as a result of the ongoing restructuring of private sector debt.

Ample banking system liquidity alters the way monetary policy affects interest rate formation

In the wake of the global financial crisis and central banks' responses to it, financial system liquidity grew abundant in many areas of the world. Deposits in the banking system increased because of uncertainty and flight from higher-risk investments, particularly because deposits enjoyed generous government guarantees. Banking system lending contracted, however, when banks began restructuring their balance sheets. Thus liquidity accumulated in the system, reducing the banks' need for central bank liquidity facilities. The same developments occurred in Iceland, where they were even more exaggerated because of the scope of the banks' collapse. The interbank market virtually ceased functioning, and equity prices fell farther than in other markets.

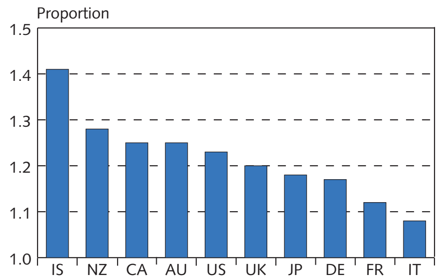
Under circumstances like these, conventional central bank policy interest rates – which are usually short-term lending rates for collateral loans or repurchase agreements between central banks and financial institutions – no longer determine the marginal cost of short-term market financing. Rather, it is the interest rate on short-term central bank deposits that assumes this role. This is the situation that has prevailed in Iceland since last spring. The interest rate on the Bank's seven-day collateral loans, currently 12%, is therefore a poor measure of the monetary policy stance under these conditions. The policy stance is determined instead by the Bank's deposit rates, particularly the current account rate, which is currently 9.5%.

Chart I-5
The ISK exchange rate markets against the euro
Daily data January 1, 2008 - November 3, 2009



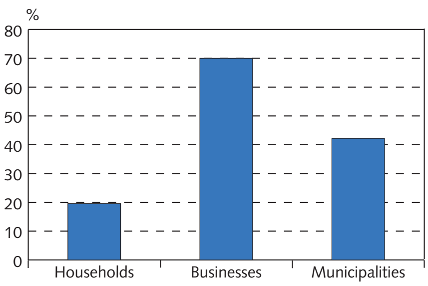
1. The onshore rate is the daily closing rate.
Source: Reuters.

Chart I-6
Total household assets as proportion of net wealth at year-end 2007[1]



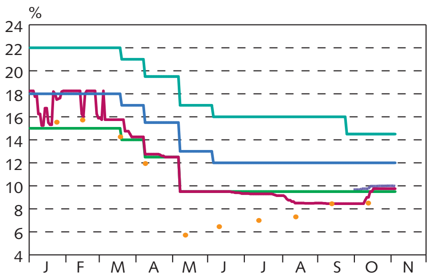
1. IS: Iceland, NZ: New Zealand, CA: Canada, AU: Australia, US: United States, UK: United Kingdom, JP: Japan, DE: Germany, FR: France, IT: Italy.
Sources: OECD, Reserve Bank of Australia, Reserve Bank of New Zealand, Central Bank of Iceland.

Chart I-7
Proportion of total foreign-denominated debt[1]



1. Figures for households and municipalities are as of year-end 2008, and figures for businesses are as of June 2009.
Source: Central Bank of Iceland.

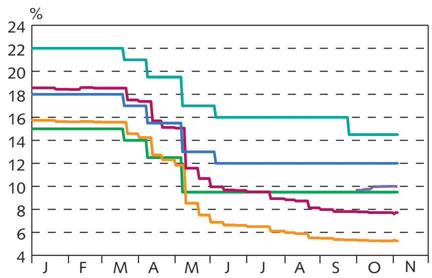
Chart I-8
Central Bank and short-term market interest rates
Daily data January 1 - November 4, 2009



- Collateral loan rate
- O/N REIBOR
- Average yield on acccepted bids in auctions[1]
- CBI current account rates
- Overnight CBI rates
- Average rates on 28-day CDs

1. Because turnover on the secondary market for Treasury bills is limited, only yields in Treasury bill auctions are included.
Source: Central Bank of Iceland.

Chart I-9
Central Bank and commerical bank rates
Daily data January 1 - November 4, 2009



- Collateral loan rate
- Highest commercial bank deposit rates[1]
- Commercial bank deposit rates[1]
- CBI current account rates
- Overnight CBI rates
- Average rates on 28-day CDs

1. Simple average. SPRON and nb.is rates are excluded from March 21, 2009
Source: Central Bank of Iceland.

Table I-1 Different measures of monetary policy stance

Central Bank deposit rate	9.5
Policy stance according to:	
12-month current inflation	-0.2
3-month annualised inflation (seas.adj.)	0.2
Central Bank inflation forecast[1]	2.5
One-year inflation exp. of corporate sector	5.5
One-year inflation exp. of household sector	-0.5
One-year inflation exp. of financial markets[2]	4.5

1. Based on seasonally adjusted annualised quarterly inflation (centred average one quarter back and forward).
2. One-year inflation expectations from the difference between nominal and indexed yield curve (5-days moving average).

Source: Central Bank of Iceland.

Since May, excessive liquidity has accumulated in the banking system, pushing retail deposit rates below the Bank's current account rate. The same situation arose temporarily with respect to short-term market rates. Average yields in Treasury bill auctions followed the deposit rate rather closely until May, when T-bill yields fell well below it. A similar situation developed with interbank rates. Late in the summer, interbank rates were somewhat below the Bank's deposit rate. Although there was little or no trading in the interbank market, the banks took advantage of the excessive liquidity to reduce their short-term funding costs. They were able to do this by submitting ever lower bids for interbank transactions without actually having to trade at those rates, as none of the banks needed liquidity and competition for it was more or less non-existent among them.

As a result, for a while the monetary policy stance was somewhat looser than the MPC had intended. Consequently, the Committee decided at its September meeting to issue certificates of deposit, with the aim of absorbing excess market liquidity. Since that time, short-term market rates have risen again towards the Bank's deposit rate, but retail deposit rates have not risen commensurably.

The monetary policy stance is less restrictive than might appear at first glance

Although the Central Bank's deposit interest rate is the rate that most strongly affects short-term market rates and bank rates, and the Bank's deposit rate is far below its collateral loan rate, the nominal policy rate is still quite high. However, the policy stance should be assessed in terms of the real interest rate – that is, the nominal rate less inflation expectations. Table I-1 illustrates estimates of the real policy rate based on different measures of next year's inflation expectations. As can be seen, the real rate varies according to which measure of inflation expectations is used, reflecting the uncertainty generally surrounding the inflation outlook. As a consequence, it is also common to estimate the real interest rate based on the current inflation level. This is also shown in Table I-1.

Based on these measures, the real policy rate ranges from roughly 0% to over 5%. Calculating the average of all of these measures yields a real rate of 2%, which is similar to that in Eastern Europe and South America and below the average in Asia. For instance, the real policy rate is just over 4% in Brazil, about 2% in Turkey and Hungary, and roughly 1% in New Zealand and South Africa, all of which have often been compared with Iceland.

This is also somewhat below the neutral policy rate, which is the rate that neither restrains nor stimulates the economy. The Bank's research suggests that a neutral real policy rate in Iceland could be in the 4-5% range.[6] It should be borne in mind, however, that the neutral rate has probably declined temporarily in the wake of the financial crisis because the propensity to save has increased and productivity

6. See, for example, Ásgeir Daníelsson, Magnús F. Gudmundsson, Svava J. Haraldsdóttir, Ásgerdur Ó. Pétursdóttir, Thorvardur T. Ólafsson, Rósa Sveinsdóttir, and Thórarinn G. Pétursson (2009), "A quarterly macroeconomic model of the Icelandic economy. Version 2.0", Central Bank of Iceland *Working Papers*, no. 41, and Ásgeir Daníelsson (2009), "QMM: A steady state version", Central Bank of Iceland *Working Papers*, forthcoming.

of capital has decreased. Thus it is not impossible that the current real rate is closer to the neutral rate than the above-mentioned research findings indicate, although the difference is unlikely to be significant. However, the European Union's Harmonised Index of Consumer Prices (HICP), which is commonly used to compare real interest rates in European countries, gives an even lower real policy rate, as HICP inflation in Iceland currently measures just over 15%.

Another measure of the monetary policy stance that is sometimes used is the difference between the nominal interest rate and the nominal growth rate of output. In Q2/2009, the seasonally adjusted annualised quarterly GDP growth rate measured just over 12%. For Q3, the outlook is for a growth rate of about 9%, which is close to the Bank's current deposit rate.

From the above, it can be concluded that short-term real rates are nonetheless relatively low, and probably below the neutral level. Under the current economic circumstances, it is to be expected that short-term real rates will be considerably below the neutral level because of the substantial slack in the economy, which significantly reduces the risk of persistent inflation. If monetary policy did not need to take into account the weakness of the króna, real rates would be even lower.

In order to assess the risk that low interest rates will negatively affect the exchange rate, it is also useful to examine the short-term interest rate differential with abroad. That differential has narrowed significantly in 2009 and now stands at about 8 percentage points. Considering the risk premium still demanded on króna-denominated financial assets, this is not a particularly large interest rate differential. If the CDS spread on the Republic of Iceland is used as a measure of risk premia, the risk-adjusted interest rate differential is about 4 percentage points. The capital controls increase the likelihood that this differential will suffice, however. Were the capital controls not in place, it would probably be necessary to maintain an even larger interest rate differential.

Smaller contraction so far in 2009 ...

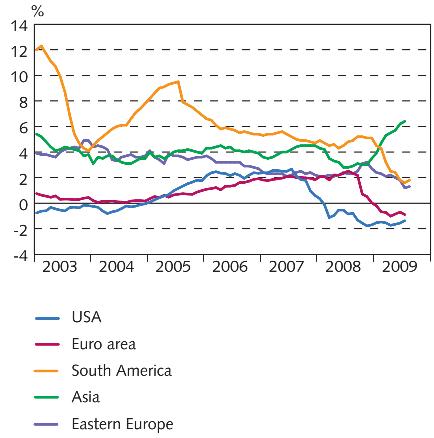
There are signs that the global economic contraction is subsiding and that recovery is closer at hand than previously thought. For example, some of Iceland's most important trading partners recorded output growth as early as Q2/2009. A number of leading indicators of private consumption, investment expenditure, private sector expectations, and developments in asset and commodity prices support this conclusion.

On the domestic front, however, the signs of recovery are weaker and less clear. The contraction in the first half of the year was less pronounced than previous forecasts indicated, and for the year as a whole, the outlook is for a smaller contraction than was forecast in August. Private consumption has contracted less strongly than previously estimated, most likely because disposable income grew far more in 2008 than previously assumed. In addition, the effects of third-pillar private pension savings withdrawals on consumption decisions have been stronger than previously assumed, and unemployment has been lower than previously forecast. Inflation was higher in Q3 than

Chart I-10

Short-term real interest rates around the world

Short-term real interest rates excluding core inflation

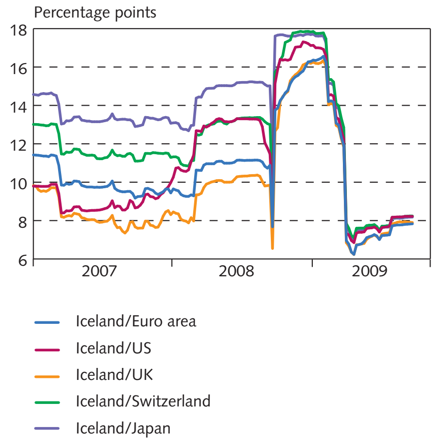


Source: International Monetary Fund.

Chart I-11

Short-term interest rate differential[1]

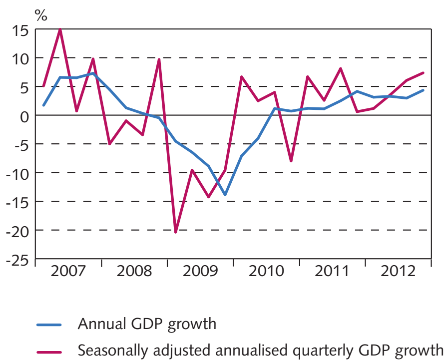
Weekly data January 4, 2007 - November 3, 2009



1. 3-month interbank rates.
Source: Reuters EcoWin.

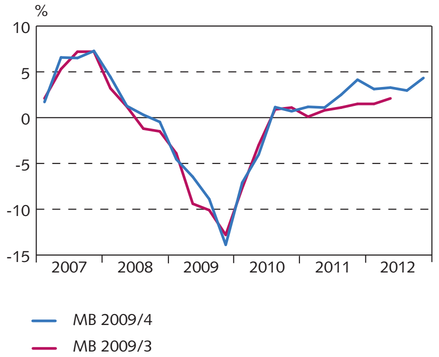
Chart I-12

Economic growth[1]



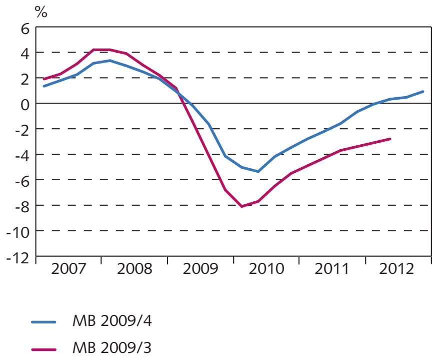
1. Central Bank of Iceland baseline forecast Q3/2009 - Q4/2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-13
Output growth - comparison with MB 2009/3



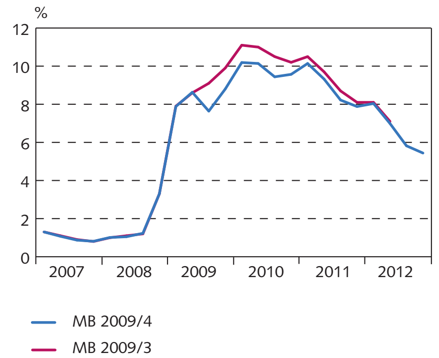
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-14
Output gap - comparison with MB 2009/3



Source: Central Bank of Iceland.

Chart I-15
Unemployment - comparison with MB 2009/3



Sources: Directorate of Labour, Central Bank of Iceland.

according to the August forecast, and underlying inflation looks set to exceed the August forecast in Q4 as well. The higher inflation rate is probably due to the fact that, in 2008 and 2009, the slack in the economy has been less than previously forecast, and the króna has also been weaker. Moreover, there are signs that the depreciation of the króna has passed through to prices of non-tradable goods, which should not be directly affected by the exchange rate.

… and the outlook for the next few years is somewhat more positive than previously forecast

A slightly improved economic outlook and unemployment rates below previously forecasted levels lead to a somewhat faster recovery in private consumption than was projected in August. That recovery will be sluggish, however, as indebted households need to deleverage by increasing savings and reducing their debt. Next year's contraction in disposable income will be more pronounced than previously assumed because of additional direct tax increases. On the other hand, because disposable income is contracting from a higher level, it will drop to a level similar to that assumed in the last forecast.

The recovery in investment will be slower to materialise, however, than was assumed in August, due primarily to the postponement of aluminium and power sector investment. Other business investment will be very limited for quite a long time. There is substantial excess capacity in the domestic economy after several years of high investment rates – for example, in the construction and service sectors – and this will hold back investment in coming years. The same applies to investment in the fisheries sector. The credit crunch and high leverage of domestic firms also reduces those firms' incentive to invest while they deleverage. Export growth will be greater than forecast in August due to a lower exchange rate and more rapid recovery of global trade. Against this, however, is a smaller contraction in imports.

For 2009 as a whole, the contraction in GDP is likely to be somewhat smaller than was projected in August, while in 2010 GDP is expected to develop more or less in line with the August forecast. GDP growth in 2011 will be stronger, however, and the outlook for 2012 is for solid output growth. Recovery is estimated to begin in Q1/2010, when seasonally adjusted quarterly GDP growth is expected to turn positive again. Unemployment is also expected to be lower than in the August forecast but to continue rising well into 2010. Unemployment is now projected to peak early in 2010 at approximately 10%, about a percentage point below the previous forecast.

Continued expectations of rapid disinflation

The growing slack in the economy reduces underlying wage and inflationary pressures. The effects of the contraction in demand will be less pronounced than might appear at first glance, however, because production capacity is lost as the capital stock contracts and the equilibrium unemployment level rises temporarily in the wake of the financial crisis. The output slack is likely to be smaller, however, and to disappear sooner than assumed in August, in accordance with improved prospects for GDP growth. On the other hand, the outlook is for the króna to remain weaker than was forecast in August, or about 180 against the euro, well into next year. It is expected to appreciate by approximately 8%, however, and trade at about 168 against the euro at the end of the forecast horizon.

Inflation adjusted for indirect tax effects is projected to subside more slowly and to remain slightly higher in 2010 than was forecast in August. As is discussed above, the lower exchange rate and smaller contraction in demand play a part in this development. Inflation excluding tax effects will nonetheless approach the inflation target in the latter half of 2010 and will temporarily be below the target, and if the króna remains relatively stable, the possibility of short-term deflation in early 2011 cannot be ruled out. Underlying inflation will have returned to target, however, by the end of the forecast horizon.

The new Budget for 2010 places stronger emphasis on generating revenues through direct rather than indirect taxes, compared to the assumptions used in preparing the August forecast. The effects of indirect tax hikes on CPI inflation will therefore be less in 2009 and 2010, but more pronounced in 2011. Headline inflation will exceed its August path, however, until end-2011.

Uncertain economic prospects

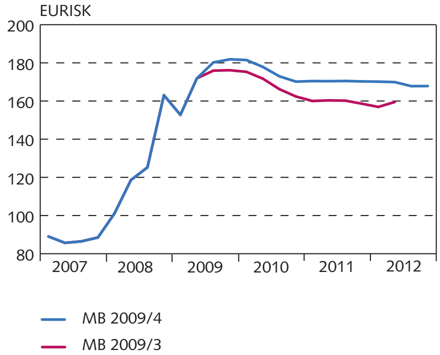
The baseline forecast reflects an assessment of the most likely economic developments over the next three years. The outlook is shrouded in uncertainty, however, partly because of the unprecedented scope of the current financial crisis. Alternative scenarios can provide useful indications of the effects of important assumptions in the baseline forecast on the economic outlook, and of the interaction between monetary policy and these different scenarios. Two alternative scenarios are described here, although the risks to the baseline forecast are far more numerous.

Further postponement of aluminium and power sector investment will delay recovery

As is discussed in Section IV, there is considerable uncertainty about the financing of the Helguvík aluminium smelter and related energy development projects. These projects have been subjected to repeated postponements and changes of plans. Given the financial position of the developers and the conditions in the global financial markets, the possibility of further delays cannot be ruled out. The first alternative scenario therefore outlines the effects of delays in addition to those assumed in the baseline forecast. More specifically, it is assumed that investment related to this project will be much less in 2009 and 2010, and that the bulk of the investment will not occur until 2012, one year later than in the baseline forecast. According to this alternative scenario, production will not begin in earnest at Helguvík until 2013, and not 2012, as in the baseline forecast.

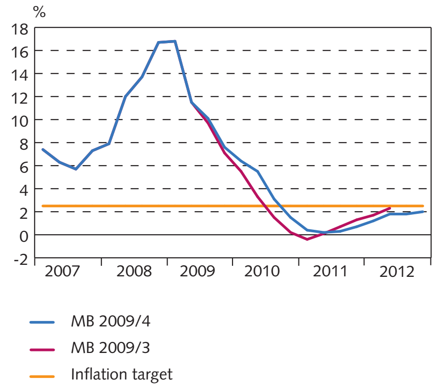
Because of postponements, business investment will begin to recover much later than in the baseline scenario. GDP growth will be more modest early in the forecast horizon, and unemployment will be higher. In 2010, GDP will contract by over 4% instead of the 2% projected in the baseline forecast, and unemployment will exceed 11%

Chart I-16
The ISK exchange rate against the euro - comparison with MB 2009/3



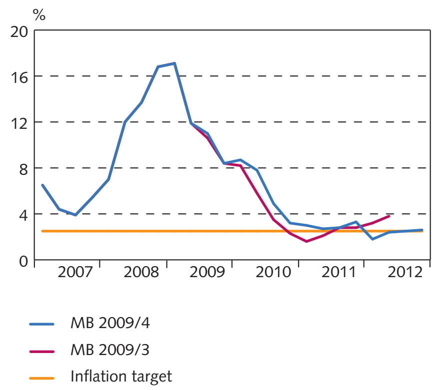
Source: Central Bank of Iceland.

Chart I-17
Inflation excluding tax effects - comparison with MB 2009/3



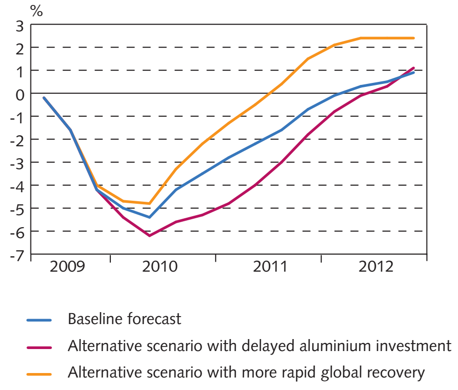
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-18
Inflation - comparison with MB 2009/3



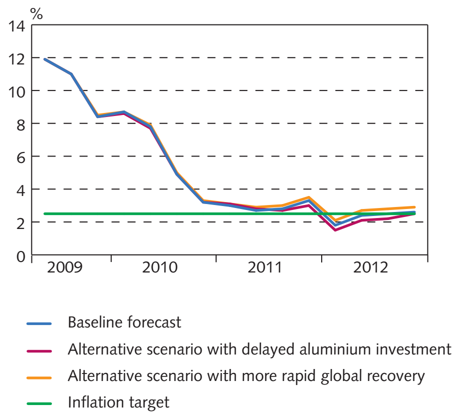
Sources: Statistics Iceland, Central Bank of Iceland.

Chart I-19
Output-gap - alternative scenarios



Source: Central Bank of Iceland.

Chart I-20
Inflation - alternative scenarios



Sources: Statistics Iceland, Central Bank of Iceland.

and not 10%, as in the baseline forecast. As a result, the output slack will be much more pronounced throughout virtually the entire forecast period. Consequently, economic recovery begins later than in the baseline forecast, and the exchange rate of the króna is lower. This would have a positive effect on the contribution from external trade, which offsets the negative impact on GDP growth as the forecast horizon progresses. Lower interest rates and a weaker currency also diminish the effect of a greater level of spare capacity in the economy on inflation, which develops broadly in line with that in the baseline forecast.

Stronger global recovery

As is discussed in Section II, the global economic situation is precarious, and recovery is expected to be sluggish; however, the level of uncertainty is enormous. The prospects for recovery have improved somewhat in the recent term. It is possible that the end of the contraction and other signs of a turnaround will contribute to greater optimism and prompt households and businesses to increase spending. If so, recovery could be more rapid than the baseline forecast indicates. The latter alternative scenario therefore assumes that the global economy will recover sooner, which will increase demand for domestic goods and services relative to the baseline scenario. A more rapid global recovery will also make international financial markets more accessible, which in turn could expedite aluminium and power sector development in Iceland. GDP growth prospects for the next two years will therefore improve, although offset by a stronger króna. It is assumed that the contraction in 2010 will be about 1% instead of the 2% in the baseline forecast, and that GDP growth will approach 4% in 2011, instead of 2%. In 2012, however, GDP growth is similar to the level indicated in the baseline forecast. Inflation will be somewhat higher over the forecast horizon, owing to a smaller output slack, but will be counteracted by a stronger currency and higher interest rates.

Formulation of monetary policy requires constant review

The MPC is faced with problems of unprecedented proportion. The Committee must aim to protect the stability of the króna with relatively high interest rates and capital controls while private sector balance sheets are rebuilt. On the other hand, there is a clear need to support post-crisis economic recovery by significantly easing the monetary policy stance.

In formulating monetary policy under these conditions, however, it is necessary to bear in mind that the financial crisis has probably led to a change in the equilibrium exchange rate of the króna.[7] As is discussed in Section II, that equilibrium may have shifted temporarily to a lower level than is justified by economic fundamentals. Monetary policy neither can nor should prevent this adjustment of the exchange rate towards its new equilibrium. On the other hand, a number of indicators suggest that the exchange rate of the króna is currently

7. The experience of other financial crises indicates that the real exchange rate takes a very long time to return to pre-crisis levels. See, for example, the Central Bank of Iceland's newly published report, *Financial Stability* 2009, p. 65.

below its temporary equilibrium value. As a consequence, it could be appropriate to apply monetary policy so as to speed up this adjustment process. However, the exact level of this new equilibrium rate is highly uncertain. New data on businesses' foreign-denominated debt could suggest that fewer firms have unhedged foreign-currency debt than previously thought (see Section IV). The vulnerability of businesses' balance sheets to a depreciation of the króna may therefore have been overestimated. Moreover, the proportion of foreign-currency loans can be expected to decline in the near future, in connection with debt restructuring and new lending in domestic currency. As regards new investment, particularly in smaller companies, the monetary policy stance could prove more important than the current composition of corporate debt indicates.

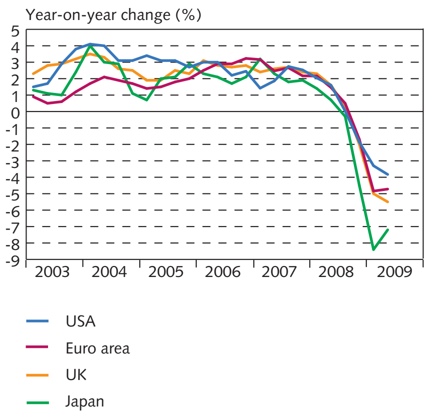
The conduct of monetary policy is complicated by the fact that the transmission of interest rate decisions throughout the financial system, all the way to households' and businesses' borrowing rates, has been distorted in the wake of the financial crisis, as the supply of new credit and pricing of risk are in disarray. In this environment, the MPC has deemed it necessary to exercise caution in lowering interest rates, in order to be able to assess the effect of its own actions on the exchange rate and the economy as a whole. The Bank's forecast assumes that monetary policy transmission will gradually normalise beginning in mid-2010, but this assumption is highly dependent on whether relatively normal access to international financial markets is re-established in the near future. If that process is delayed, there is the risk that the capital controls must be maintained longer and the restoration of a normally functioning financial system that transmits monetary policy decisions effectively to the real economy will be delayed as well.

The current setup is not viable as a long-term monetary policy framework

Inflation has been a persistent problem in Iceland for decades. Successful anchoring of inflation expectations is an important precondition for the resurrection of the Icelandic economy, as long-term price stability is monetary policy's most important contribution to economic well-being. In order for monetary policy to provide that anchor, its long-term goal must be explicit, clearly defined, and credible.

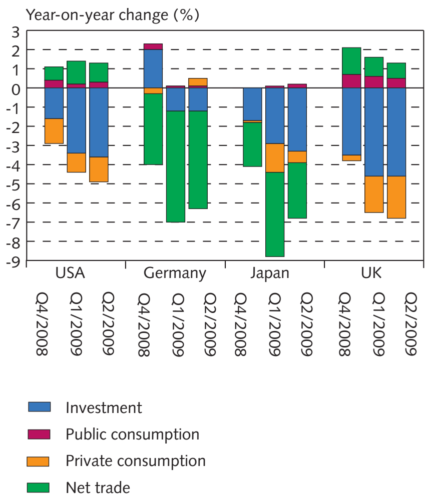
The current arrangement, with loosely defined exchange rate objectives and capital account restrictions, cannot provide a long-term framework for monetary policy. It is doubtful that the current arrangement will anchor inflation expectations sufficiently for the long term, although it serves well enough as an interim solution. In addition, the capital controls will not stand up over time and, if maintained for a protracted period, will be damaging to the economy. When conditions normalise once again, it will probably be most appropriate to revert to a floating exchange rate regime with a formal inflation target as a nominal anchor. For the longer term, membership in the European Monetary Union could also be an option.

Chart II-1
International growth
Real GDP growth Q1/2003 - Q2/2009



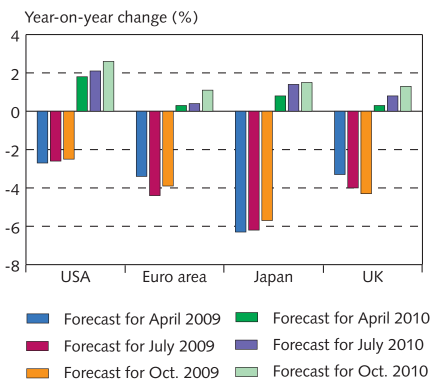
Source: Reuters EcoWin.

Chart II-2
Contribution to GDP growth



Source: Global Insight.

Chart II-3
Output growth forecasts for 2009 and 2010
The columns show month of forecast



Source: Consensus Forecasts.

II External conditions and exports

The global growth outlook has improved in recent months, although the future is still uncertain. Commodities prices have bounced back somewhat, and equity markets are beginning to rally. Deflation is common, however, and underlying inflationary pressures are limited. International trade has continued to contract year-on-year, although it appears to have bottomed out. The conditions for export-driven recovery are therefore improving. The low real exchange rate has been beneficial for the domestic tradable sector. However, the prices of Iceland's main export products dropped sharply in the first half of 2009. As a result, terms of trade will be much poorer on average this year than in recent years. Terms of trade began improving in Q2, however, and the outlook is for a marked improvement in 2010.

Economic outlook improving, but considerable uncertainty remains

The recession in Iceland's main trading partner countries appears to have hit bottom, and the global economic outlook is rather brighter than it was in August, when the last *Monetary Bulletin* was published. Emerging and developing countries are now leading the recovery, although they did not escape the downturn. In all of Iceland's main trading partner countries, production continued to contract year-on-year in Q2/2009. Some countries – such as France, Sweden, Germany, and Japan – showed quarter-on-quarter growth, however, indicating that the recovery has begun, but in others, such as Denmark and the United Kingdom, there was still evidence of contraction. In the United States, it appears that the recession came to an end this past summer after the country's longest economic downturn since World War II, and output now looks set to rise in Q3. Private consumption cannot be expected to lead the recovery, as it sometimes does, especially in view of the fact that the effects of fiscal stimulation packages are only temporary. Uncertain employment prospects, increased savings in response to the financial crisis, and fear of new tax levies in coming years to finance the mounting fiscal deficit will also dampen the growth of private consumption for the time being.

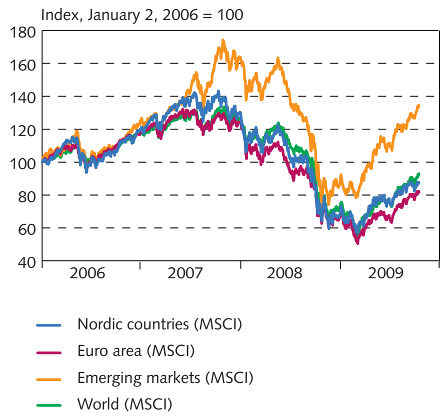
Revised forecasts for 2009 suggest that the contraction in global output will not be as strong as was assumed in the last *Monetary Bulletin*, but that the improvement will begin slowly. According to the International Monetary Fund's (IMF) most recent forecast, Iceland's main trading partners will record a 3.8% contraction in 2009, followed by 0.8% growth in 2010. The IMF expects Japan to fare worst, with GDP contracting by 5.4% in 2009 and then growing by 1.7% in 2010. Sweden, the UK, and the euro area follow closely, with contractions projected at 4.2%-4.8% in 2009 and growth ranging between 0.2% and 1.2% in 2010.

The slow pace of recovery is explained in part by the fact that the financial markets have yet to normalise. Moreover, the effects of governments' stimulative measures will gradually diminish at the same time as households are likely to increase savings and reduce their debt, as often happens following a financial crisis.

Asset prices turn the corner …

Global equity prices seem to have bottomed out in the first quarter of 2009. Since then they have risen by over 30%. Although the equity markets still have some lost ground to make up, these robust increases indicate growing optimism about companies' prospects. Housing markets also appear to have hit bottom in many countries. House prices have begun climbing again, after the difficulties that surfaced in the US real estate market just after mid-2007 triggered a severe housing market slump in a number of countries and deepened the economic downturn. A survey conducted by *The Economist* in sixteen countries reveals that house prices rose between Q1 and Q2 in half of the countries surveyed, including the US, the UK, and Sweden. In addition, the pace of the decline has slowed in most of the countries whose prices are still falling.

Chart II-4
Equity prices
Daily data January 2, 2006 - October 20, 2009



Source: Reuters EcoWin.

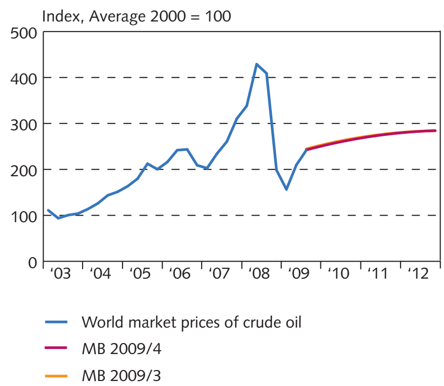
… and oil and commodities rebound

The last *Monetary Bulletin* projected that oil prices would drop by around 38% in 2009. That forecast remains virtually unchanged. Although oil prices have been considerably below last year's levels so far in 2009, they have climbed steadily during the year, with a large share of the increase due to the depreciation of the US dollar against most major currencies.

The Bank's forecast for oil prices is based on oil futures and projections by leading market analysts. The forecast assumes that crude oil prices will rise by roughly 22% next year. For 2010-2012, the outlook is for continued price rises in response to growing global demand.

Even though the anticipated economic upswing has not begun in earnest, commodity prices have risen by about one-fourth this year after plunging in 2008. Food prices are up much less sharply. Economic recovery in emerging Asian economies and developing nations is spurring increased demand for commodities. The pace and decisiveness of the global recovery will play a part in determining whether the upward trend in commodity prices continues.

Chart II-5
Oil prices
Q1/2003 - Q4/2012



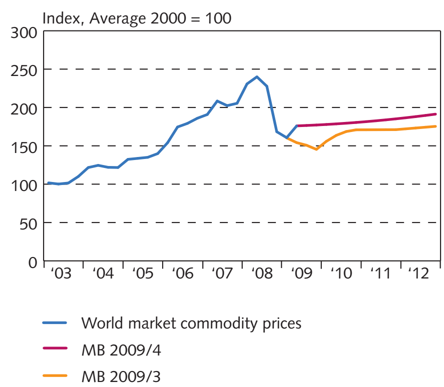
Sources: Bloomberg, Central Bank of Iceland.

Inflation has declined rapidly

Changes in oil and commodity prices have been one of the main drivers of global inflation in recent years, but the post-crisis drop in oil and commodity prices has led to significant disinflation in most economies. Because of base effects from earlier price hikes, particularly towards the end of 2008, a number of countries have experienced year-on-year deflation in spite of minimal changes in core inflation. The economic contraction has reduced underlying inflationary pressures, however, and the medium-term outlook is for negligible inflation in Iceland's main trading partner countries. Nonetheless, there are exceptions, such as Norway, where the recession has not been felt as keenly as it has in most other countries.

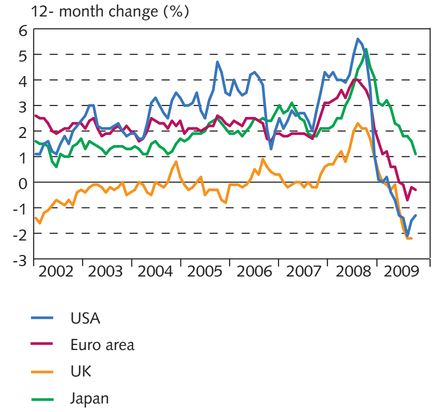
In the US, year-on-year inflation measured -1.3% in September, and deflation has been discernible since March. It is now assumed that prices will drop by 0.5% for the year as a whole. If this projection is borne out, it will be the first time the US has seen annual deflation in half a century. In the euro area, the deflationary period began in

Chart II-6
Commodity prices[1]
Q1/2003 - Q4/2012



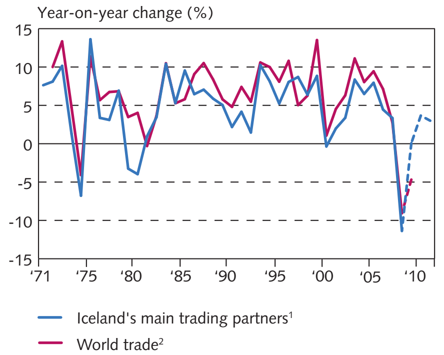
1. Non-oil commodity prices in USD.
Sources: Bloomberg, Central Bank of Iceland.

Chart II-7
Inflation in the US, UK, Japan and euro area
January 2004 - September 2009



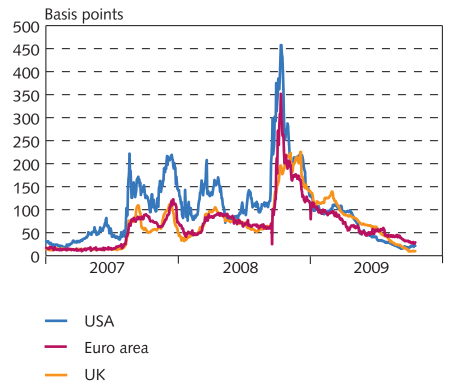
Source: Reuters EcoWin.

Chart II-8
World trade



1. Imports of goods and services in Iceland's main trading partners.
2. Arithmetic average of merchandise import and export volumes in OECD countries and the largest non-OECD countries.
Sources: OECD, Central Bank of Iceland.

Chart II-9
Difference between interbank rates and government bond rates[1]
Daily data January 2, 2007 - October 19, 2009



1. The differential is calculated as difference between the three-month interbank rate and three-month treasury rate.
Source: Reuters EcoWin.

June, with annual inflation measuring -0.3% in September. Inflation is expected to be close to zero for the year as a whole. Deflation has persisted throughout 2009 in Japan and has gained momentum as the year has progressed, and the outlook is for continued deflation for some time to come. The UK is one of few industrialised nations that have not been combating deflation, as the pound sterling has depreciated considerably over the past year. Nevertheless, inflation has slowed down significantly during the year, measuring 1.1% in September. Disinflation has also been pronounced in the Nordic countries in 2009, following a period of rather high headline inflation in 2008.

Dwindling inflation has enabled central banks to relax their monetary stance quite rapidly. In many instances, policy rates were cut substantially in 2008 and early 2009 and have remained low in the past several months. The world's major central banks have resorted to a range of unconventional measures in order to stimulate demand. Leading countries have made few changes in their monetary stance since the last issue of *Monetary Bulletin*, with the exception of the Reserve Bank of Australia and Norges Bank, which raised their policy rates by 25 basis points, to 3.25% and 1.5% respectively, in October.

International trade contracted sharply in the wake of the global crisis

International trade has continued to shrink in accordance with the contraction in consumption and investment and the rundown of inventories. Countries that depend on exports were greatly affected by the global contraction, but it is also likely that growth will return quickly in these countries once international trade recovers. A large number of emerging market economies, particularly those in Asia, are well on their way towards becoming major commodity consumers. Consequently, their economic performance is important for recovery in commodity-exporting countries. Despite signs of recovery, forecasts assume that global trade will shrink by roughly 9% this year, with the contraction to continue well into 2010. By comparison, the August forecast projected a 13% contraction.

The global financial crisis has had a strong impact on international trade; therefore, revitalising the global financial system is a key premise for the speedy recovery of trade. The financial markets have perked up recently, as can be seen most clearly in falling risk premia, which in many cases have declined to levels not seen since before the collapse of Lehman Brothers a year ago. Corporate bond issuance has also bounced back, and the upturn in the equity markets indicates growing optimism.

The lack of access to standard trade credit for firms in international trade has been considered one of the principal causes of the abrupt post-crisis decline in trade. However, in 2008 and the first half of 2009, global trade contracted more sharply than trade financing. A recent survey carried out by the IMF indicates that this strong contraction in global trade was mainly due to declining demand. However, the nature of trade financing has changed substantially.[1]

1. See International Monetary Fund (2009). "Trade Finance and Global Trade: New Evidence from Bank Surveys", Chapter 1 in *World Economic Outlook*, October 2009, pp. 8-9.

When the financial crisis struck, demands for letters of credit, cash or prepayment became much more common, as conventional trade credit had become much scarcer.

In Iceland, access to conventional trade credit also tightened palpably, far outstripping the contraction in external trade. Rough estimates indicate that foreign trade credit declined by 45% year-on-year in the first half of 2009, while imports contracted by 35% at fixed exchange rates. It therefore appears as though domestic importers have had to pay cash for goods and services or obtain financing from banks in much greater measure than before. Exporters have had to grant longer payment deadlines, and obtaining letters of credit has taken longer than before.

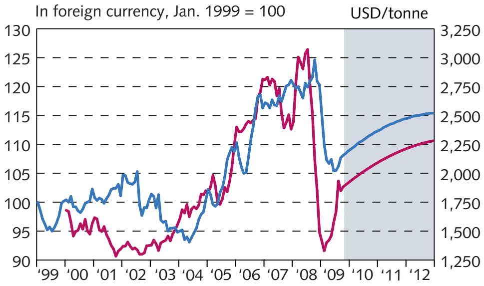
Aluminium and marine product prices fall sharply this year

Aluminium and marine products are Iceland's most important exports, representing a combined 80% of total exports for the first eight months of 2009. Aluminium prices were under tremendous pressure at the height of the banking crisis in 2008, toppling more than 50% in the latter half of the year. Prices began to recover in April, and by mid-October they were some 30% higher than at the beginning of the year, but they will still be about 36% lower in 2009 than in 2008. This is a slightly smaller decline than was assumed in the last *Monetary Bulletin*. Both futures prices and analysts' forecasts indicate strongly that aluminium prices will continue to rise in the next few years. The forecast in the present issue of *Monetary Bulletin* assumes an increase of nearly one-fifth in 2010 and another 10% between 2010 and 2012. Prices are not expected to return to 2006-2008 levels, however.

Iceland's three aluminium smelters are operating at full capacity and have been since mid-2008. This year's production increase is about 5%, and annual increases of 2-3% are expected for 2010 and 2011. Production is projected to begin at the Helguvík smelter in 2012, and the increase in Iceland's total production is estimated at 12% for that year. These assumptions are similar to those in the last *Monetary Bulletin*, which projected a 3.5% production increase in 2009 instead of the current estimate of 5%.

Prices of marine products, particularly demersal fish, began falling in Q4/2008 but have been on the rise since May. While the decline was sharpest for fresh and salted cod products, which are the most expensive, all demersals dropped in price. It is worth noting that a number of Iceland's major marine products had risen rather strongly in price in previous years. Marine product prices are projected to decline by just over 10% year-on-year in 2009, which is 2 percentage points less than was assumed in the last forecast. The outlook is for a 2.5% yearly increase in subsequent years. Price developments in aluminium and marine products have largely followed global commodity prices (Chart II-11), although fluctuations have been much less pronounced. Prices of food at the primary production stage began falling steeply worldwide in mid-2008, when consumer purchasing power contracted. The relationship between the price of marine products and food prices at the primary production level (that is, the food commodity price index) is not as clear. However, it should be borne in mind

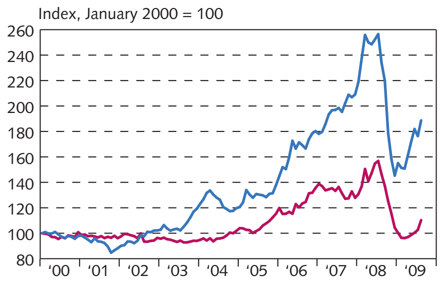
Chart II-10
Prices of marine exports and aluminium



Marine products (left)
Aluminium (right)

Sources: London Metal Exchange, NYMEX, Statistics Iceland, Central Bank of Iceland.

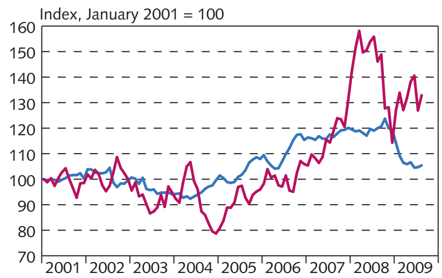
Chart II-11
Commodity prices in international markets and Iceland's export prices
January 2000 - August 2009



Non-fuel commodities
Export prices (aluminium and marine products)

Sources: The Economist, Central Bank of Iceland.

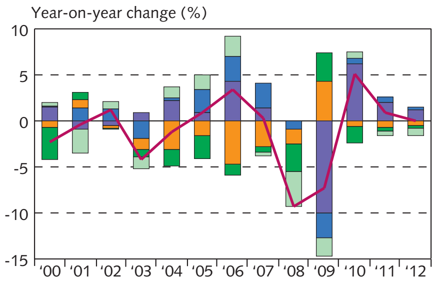
Chart II-12
World food prices and marine products
January 2001 - August 2009



Marine products
World food prices

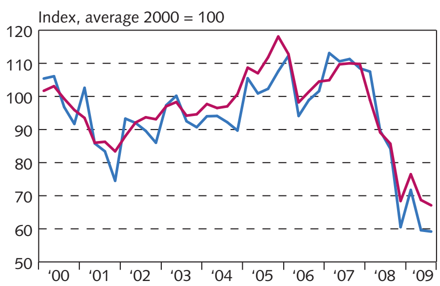
Sources: OECD, Statistics Iceland.

Chart II-13
Terms of trade and their main components 2000-2012[1]



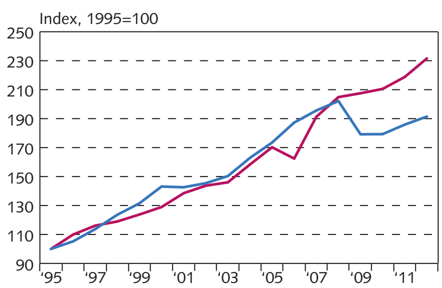
1. Central Bank baseline forecast. The contribution of the main sub-indices to year-on-year changes in terms of trade is determined by weighting the annual change in the sub-index concerned together with its weight in the import or export of goods and services. The item "other" is a residual.
Sources: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

Chart II-14
Real exchange rate
Q1/2000 - Q3/2009



Source: Central Bank of Iceland.

Chart II-15
World trade and Icelandic exports
Annual data 1995 - 2012[1]



1. Central Bank of Iceland forecast 2009-2012.
2. Imports of goods and services in Iceland's main trading partners.
Sources: OECD, Central Bank of Iceland.

that the vast majority of marine exports are processed products with a relatively high level of added value.[2]

Terms of trade have deteriorated

As Chart II-13 shows, the chief driver of trends in terms of trade are aluminium and marine product prices on the export side and oil and industrial supplies prices on the import side. The rise in oil and commodity prices was the main cause of worsening terms of trade in 2008, and the steep decline in aluminium prices weighs heaviest in this year's 7% deterioration. In 2010, however, terms of trade are projected to improve by 5%, due in large part to the expected 20% rise in aluminium prices. The modest improvement expected in 2011 is also due primarily to the projected increase in aluminium prices during that year.

Low real exchange rate improves the competitive position of the tradable sector ...

The real exchange rate has continued to lose ground in 2009 and is now about 30% below the averages for the last ten and twenty years. It was 2% below the August forecast for Q3 and will likely be 1.5% below the August forecast for the year as a whole.

The competitiveness of conventional export sectors has improved due to the favourable real exchange rate, which can create conditions for new commercial activities that were not viable when the króna was stronger. Other things being equal, this should foster increased exports and shift demand from imports to domestic production.

The production capacity of many export manufacturers, apart from aluminium producers, is underutilised. Hence it would be easy in many instances to increase export production volumes without significant additional expense. In other cases, however, where production is at full capacity, it is more difficult to benefit from the low real exchange rate by increasing production, as this could require large-scale investment that is difficult to finance as long as access to global credit markets remains limited. Pharmaceuticals, medical supplies, and food manufacturing supplies constitute about 5% of Iceland's exports. While these sectors have significantly increased their export volumes in the past several years, their competitive position had grown increasingly difficult in the years before the crash because of the elevated real exchange rate, and manufacturing in Iceland was being scaled back. But the substantial reduction in relative costs gives rise to the expectation that production in these sectors will be stepped up in the near future. It is more difficult, however, to assess how and to what extent the low real exchange rate and dramatically improved competitive position will affect industrial exports other than those discussed here. Most likely, 2010 will see an increase in volume because of favourable conditions for manufacturing, not only because of the

2. Most Icelandic demersal fish products lie towards the upper end of the value chain, as they are rather close to end consumers. Only fishmeal and fish liver oils can be considered pure commodities. Furthermore, a growing proportion of Icelandic demersal fish products are pure consumer products. As a result, the price of such products is not nearly as volatile as the price of food products at the primary production level.

low real exchange but also due to an increased supply of labour and other factors of production. These sectors represent some opportunity for growth.

… but an excessively low real exchange rate leads to inefficient utilisation of resources

The real exchange rate is now below its likely long-term equilibrium, even though that equilibrium has probably undershot its long-term value temporarily. A protracted period with a low real exchange rate is a characteristic of other countries that have experienced financial crises.[3] At its present level, the real exchange rate is probably lower than necessary to strengthen the competitive position of the tradable sector. A low real exchange rate can be a source of difficulty for domestic firms, which often carry foreign-denominated debt or need imported intermediate goods for their production. There is also the danger that such a low real exchange rate will distort the recovery of the economy: Resources could be shifted excessively towards sectors that are unlikely to be competitive at an exchange rate that is more likely to prevail for a longer time.

The effect of the global business cycle on exports

Iceland's two largest export sectors, fisheries and aluminium, have little or no opportunity to take advantage of the low real exchange rate in order to expand production and increase export volumes. This is because aluminium smelters are usually operated at full capacity and the total production of the fishing industry is limited by the quotas set each year. As a result, the global economic crisis and the contraction in world trade have made limited impact on export volumes. The impact is much clearer when looking at export prices. Export prices in local currency have not increased as much as exchange rate developments would suggest, due to lower foreign-currency prices, but most exporters are price-takers and therefore have very limited influence on pricing.

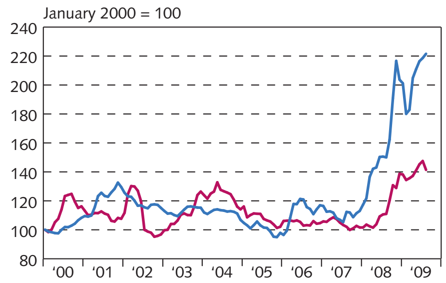
The impact of the global business cycle on other important export sectors – such as pharmaceuticals, medical supplies and equipment, and food processing equipment – has also been limited. Demand for these products is much more independent of the business cycle than demand for consumer durables.

Improving outlook for Icelandic exports

The economic outlook has improved in Iceland's chief trading partner countries. As a result, the outlook for Icelandic exports is brighter than it was in August. Exports of goods and services are expected to increase by 1½% per year in 2009 and 2010. The low real exchange rate and the global economic recovery should support robust export growth in 2011-12. Towards the beginning of that period, this growth will be led by other exports than aluminium and marine products.

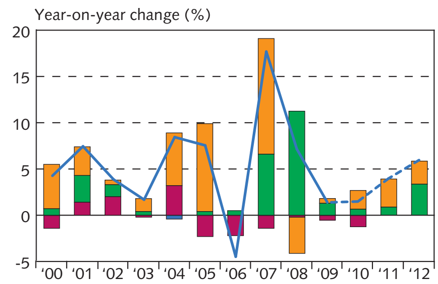
3. See, for example, Ásgeir Daníelsson (2009), "QMM: A steady state version", Central Bank Iceland *Working Papers*, forthcoming, and Robert Tchaidze (2007), "Estimating Iceland's real equilibrium exchange rate", IMF Working Papers no. 07/276.

Chart II-16
Iceland's export prices and exchange rate index
January 2000 - August 2009



Sources: Statistics Iceland, Central Bank of Iceland.

Chart II-17
Export development and its main components 2000-2012[1]



1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

For example, it is expected that income from tourism will increase somewhat. By 2012, some growth in aluminium product exports will begin to weigh in. The current forecast projects export growth at 4% in 2011 and about 6% in 2012.

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

	Change from prior year (%) unless otherwise specified[1]			
	2009	*2010*	*2011*	*2012*
Exports of goods and services	1.3 (-1.8)	1.4 (0.4)	3.9 (2.7)	5.9
Marine production for export	-2.0 (-1.0)	-5.0 (-4.0)	0.0 (0.0)	0.0
Metals production for export	4.7 (3.5)	2.3 (1.8)	3.0 (3.0)	11.7
Export prices of marine products	-10.3 (-12.6)	2.5 (2.8)	2.5 (2.0)	1.4
Aluminium prices in USD[2]	-36.2 (-38.7)	22.2 (11.5)	7.2 (4.5)	4.4
Fuel prices in USD[3]	-37.7 (-37.8)	21.6 (23.0)	5.1 (4.8)	3.6
Terms of trade for goods and services	-7.3 (-10.2)	5.1 (3.2)	0.9 (0.2)	0.0
Main trading partners' inflation[4]	0.3 (-0.3)	1.3 (0.9)	1.7 (1.7)	1.9
Main trading partners' output growth[5]	-3.6 (-3.8)	1.3 (0.2)	2.2 (2.1)	2.6
Main trading partners' short-term interest rates (%)[6]	1.2 (1.2)	0.5 (0.6)	1.0 (1.2)	2.5

1. Figures in parentheses from forecast in *Monetary Bulletin* 2009/3. 2. Based on aluminium futures and forecasts of international analysts. 3. Based on fuel futures and forecasts of international analysts. 4. Consensus Forecasts. 5. Consensus Forecasts. 6. Based on weighted average forward interest rates of Iceland's main trading partner countries.
Sources: IMF. Bloomberg. Consensus Forecasts. Statistics Iceland. New York Mercantile Exchange. Central Bank of Iceland.

III Financial conditions

Because of the ample liquidity in the banking system, the Central Bank's deposit rate is now a better measure of the monetary policy stance than its main refinancing rate, the collateral lending rate. Since last spring, surplus liquidity in the financial system has resulted in a laxer policy stance than the Monetary Policy Committee (MPC) had aimed for. The Bank has responded by issuing certificates of deposit (CDs) so as to align short-term interest rates more fully with the Bank's targeted policy stance. The exchange rate of the króna has been relatively stable in the recent term, despite diminishing foreign exchange market intervention by the Central Bank. The exchange rate on the offshore market has also moved closer to the official onshore rate. Financial conditions are still difficult and access to credit remains tight, as can be expected after a financial crisis.

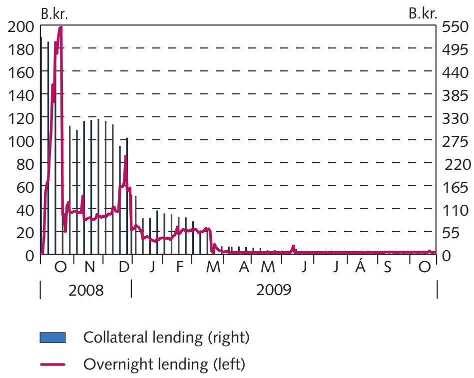
Collateral loans negligible while Central Bank deposits are considerable

Since the banks collapsed, domestic financial institutions' need for Central Bank loan facilities has diminished considerably. Facilities granted by the Central Bank to financial institutions - e.g. collateral loans and overnight loans - reached a historical high of nearly 660 b.kr. in October 2008, whereas they now total less than 10 b.kr. At the same time, financial institutions' reserves with the Central Bank have increased. Their reluctance to lend to one another led to increased demand for deposits at the Central Bank. Furthermore, generous deposit guarantees and limited investment opportunities prompted an increase in retail deposits, ultimately leading to an accumulation of reserves with the Central Bank. The use of banknotes and coin also increased substantially when individuals chose to hold more cash than they had previously. Cash holdings have declined again as conditions in the financial market have normalised, however.

Because of the substantial increase in reserves and cash holdings, the monetary base doubled year-on-year in September 2008. Since then, that growth has stopped and the monetary base now amounts to approximately 160 b.kr.[1] The Central Bank's balance sheet has expanded correspondingly and is now more than twice its end-2007 size. A similar trend can be seen in other countries; for example, the balance sheets of the US Federal Reserve Bank and the Bank of England have more than doubled, and Sweden's Riksbanken has seen its balance sheet more than triple in size. This enormous expansion of central bank balance sheets reflects the scope of the action taken by central banks worldwide, in order to provide liquidity to financial institutions after interbank markets went awry and to support impor-

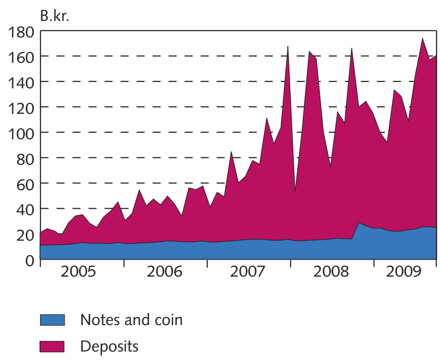
1. In the wake of the financial crisis, the composition of the Central Bank's balance sheet also changed substantially, for example, when domestic financial institutions began depositing foreign currency with the Bank. This created a problem in defining exactly what should be considered part of the monetary base and necessitated a revision of the series. At present, only banknotes and coins in circulation, deposit institutions' general deposits with the Central Bank, and their balances due to reserve requirements are considered part of the monetary base. This definition is more consistent with the economic definition of the monetary base, as well as being more in line with international standards.

Chart III-1
Central Bank overnight and collateral lending
Daily data October 1, 2008 - October 30, 2009



Source: Central Bank of Iceland.

Chart III-2
Base money January 2005 - September 2009
Balance sheet of the Central Bank

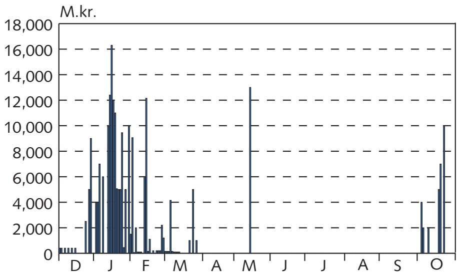


Source: Central Bank of Iceland.

Chart III-3

Turnover on interbank market for Icelandic krónur

Daily data December 1, 2008 - October 30, 2009

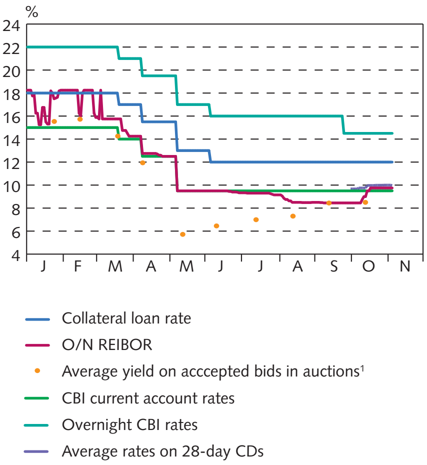


Source: Central Bank of Iceland.

Chart III-4

Central Bank and short-term market interest rates

Daily data January 1 - November 4, 2009

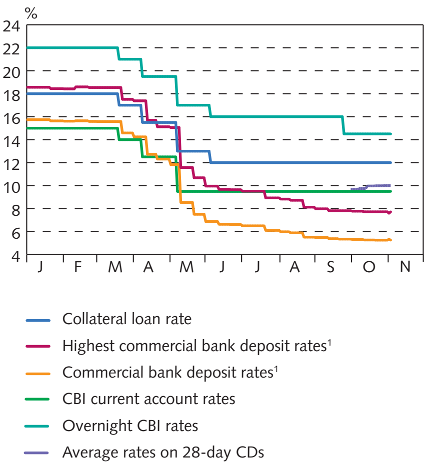


1. Because turnover on the secondary market for Treasury bills is limited, only yields in Treasury bill auctions are included.
Source: Central Bank of Iceland.

Chart III-5

Central Bank and commerical bank rates

Daily data January 1 - November 4, 2009



1. Simple average. SPRON and nb.is rates are excluded from March 21, 2009.
Source: Central Bank of Iceland.

tant credit markets so as to ensure efficient transmission of monetary policy.[2]

Increased liquidity in the financial system need not indicate mounting future inflation if it primarily reflects increased precautionary demand for liquidity services among financial institutions. Over the long term, however, such a development is cause for alarm. It will therefore be necessary to reduce these oversized balance sheets when financial markets normalise again. To an extent, the recent increase in the domestic money supply (M3) also reflects increased demand for safe deposits following the crash. Annual growth in M3 has slowed somewhat in recent months, however, and M3 is now nearly 22%.[3]

Limited lending activity and substantial contraction in interbank trading

The high level of uncertainty and the banks' efforts to restructure and downsize their own balance sheets in the wake of the crash prompted them to cut back on new lending. Trust between market participants all but vanished, and it became difficult to channel liquidity through conventional interbank routes, as can be seen, for example, in the increased spread between interbank interest rates and T-bill yields.[4] This type of behaviour was common in many markets in the wake of the global financial crisis, but it was even more apparent in Iceland because of the scope of the domestic crisis. Trading on the domestic interbank market had been rather sparse before the crash, but it was even more limited afterward, and from the spring of 2008 onward there was no activity at all until very recently, when some overnight lending commenced once again.

The Central Bank deposit rate has taken over the collateral lending rate's role as the appropriate measure of the monetary policy stance

Limited use of collateral loans from central banks reduces the importance of the policy interest rate in monetary policy transmission. Standard policy rates have therefore become an imperfect measure of the monetary policy stance. Central banks' current account rates, which generally provide a floor for various types of central bank facilities, have recently become a better indicator of the policy stance.[5] In Iceland, the seven-day collateral lending rate has generally been referred to as the policy rate, but in the past several months, the interest rate on financial institutions' current accounts with the Central Bank – currently 9.5% – has taken over that role. Furthermore, it can be said that since late September, when the Central Bank began issuing CDs again at interest rates between 9.5% and 10.0%, the effective policy rate has been in that range.

2. See, for example, the European Central Bank (2009). "Recent developments in the balance sheets of the Eurosystem, the Federal Reserve System and the Bank of Japan", *ECB Monetary Bulletin*, October 2009, pp. 81-94.
3. Based on the most recent available data, which are from September 2009.
4. Unlike central bank lending, interbank lending is not against collateral.
5. This situation has persisted in Norway for years but has now developed in other counties such as the US and the UK as well.

Short-term interest rates fall below deposit rates

In the spring of 2009, overnight lending rates on the interbank market fell below the Central Bank's collateral lending rate and then, during the summer, fell below the Bank's deposit rate as well. The banks appear to have taken advantage of the ample liquidity in the system in order to submit ever lower quotes in the interbank market without actually trading at the quoted rates, as their liquidity was so abundant that they had no need for liquidity from other banks.[6] Such an arbitrage between comparable types of deposits in the Central Bank and in the interbank market should not develop if markets function reasonably well. Chart III-5 shows how the banks' money market deposit rates fell below the Central Bank's deposit rate.[7]

Measures have been taken to reduce excess liquidity

The excess liquidity in the system has led to an easing of the monetary policy stance, which could weaken the króna, among other things. At its September meeting, the MPC therefore considered it necessary to drain liquidity from the market. To that end, the Central Bank began weekly issuance of 28-day CDs on September 30. In support of the issue, overnight lending rates were lowered from 16% to 14.50% at the same time. In addition, the Treasury announced a supplementary T-note issue of up to 60 b.kr. over the remainder of the year and stated that the proceeds of the issue would be deposited to the Treasury's account with the Central Bank. At this writing, six auctions have been held, and about 45.4 b.kr. are outstanding, as well as one Treasury bill auction in which bids were accepted for just under 33 b.kr.

Since these measures were adopted, interbank market trading has resumed, although volumes are still small. Furthermore, interbank market interest rates have risen and are now in line with the Central Bank's deposit rate, whereas the banks' deposit rates have changed little, as they are affected by a number of other factors.

Treasury bill yields have also moved toward the Central Bank deposit rate, based on primary market rates as they were in the last Treasury bill auction in mid-October. It should be borne in mind that the supply of Treasury bills has always been small in Iceland, and secondary market activity correspondingly limited. T-bills are most often purchased in auctions and held to maturity. There are no plans to cut down Treasury bill issuance because of the new CD issues, as many investors in the T-bill market do not have access to CD auctions. Because of the abundance of liquidity in the market at the time

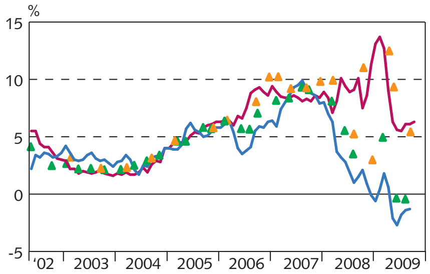
6. The banks are only obliged to trade at quoted interbank rates if other market participants seek out such transactions. Because of abundant liquidity, general lack of trust in the market, and a shortage of competition among market participants, these quotes were never put to the test.

7. To a large degree, conventional banking operations involve asset transformation; that is, changing illiquid short-term deposits into long-term loans. Under normal circumstances, banks' lending rates should reflect their cost of funding, which they obtain partly through deposits, plus a credit risk premium and an administration fee. Under current circumstances, where lending is at a historical low, difficulties have developed in this conventional transmission role, as domestic banks receive deposits from the general public and change them into deposits with the Central Bank. Their profit margin has therefore diminished. The fact that a substantial portion of loans are foreign-denominated while the majority of deposits are in krónur is also conducive to creating imbalances between income flows and funding costs.

Chart III-6

Central Bank interest rate in real terms[1]

May 2002 - October 2009 (end of month)

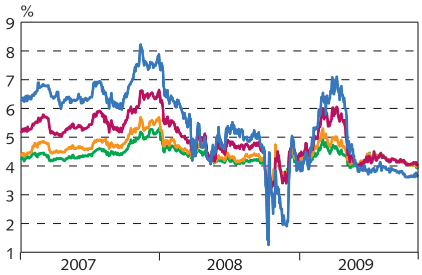


1. From April 2009 onward, the Central Bank deposit rate is considered the effective policy rate. 2. According to 12-month inflation. 3. Spread between RIKB 13 0517 and RIKS 15 1001 until June 2004. Spread between RIKB 13 0517 and HFF 150914 from July 2004.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart III-7

Yields on indexed HFF bonds

Daily data January 3, 2007 - October 30, 2009

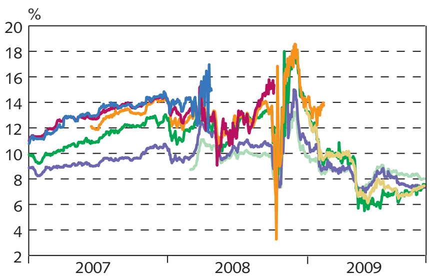


Source: Central Bank of Iceland.

Chart III-8

Long-term nominal Treasury bond yields

Daily data January 3, 2007 - October 30, 2009



Source: Central Bank of Icealnd.

CD issuance began, the effects on the Treasury bill market have been limited.

Measures to drain surplus liquidity could raise Treasury yields

Yields on Treasury notes have declined in recent months, as Central Bank interest rates have been lowered significantly since March 2009. Measures to drain liquidity from the market could push T-note yields up, however, as the supply of Government bonds increases and interbank and bank deposit rates rise. Even though both enjoy a Treasury guarantee, it is not certain that investors consider bank deposits and investments in Treasury notes to be equivalent options, as can be construed from the difference between interbank rates and Treasury bill yields. As is explained in Section II, this interest rate spread widened following the economic crisis. Because there is no secondary market for T-bills, it is more difficult to determine whether this risk premium has developed in a similar manner in Iceland. On the other hand, it is likely that investors will consider the risk greater than before the crisis. In Iceland, it is also necessary to consider that a large proportion of Treasury note owners are non-residents who are prohibited from expatriating their funds by the capital controls. In many instances, these investors are not permitted to invest in the banks' deposits.

The Central Bank's real interest rate has declined ...

During the spring, the effective Central Bank policy rate was the Bank's collateral lending rate, whereas now the interest rate on the Central Bank's current account is a better measure of the actual policy stance. As a result, it can be said that the effective policy rate has declined from 18% to 9.5% over the course of the easing cycle. In other words, monetary policy has become much laxer during the year. Although inflation has fallen at the same time, the Bank's key real rate has declined, whether in terms of headline inflation or in terms of various measures of inflation expectations.

... as have long-term indexed interest rates

Indexed interest rates have also fallen somewhat in the recent term, probably due to the limited supply of Housing Financing Fund (HFF) bonds. It appears as though HFF bond issuance will be less than originally planned and below expectations, as new mortgage lending by the HFF is very limited. There is also uncertainty about the effects that the newly passed legislation on private sector debt restructuring will have on HFF issuance, as the new law entails broad-based smoothing of indexed residential mortgage payments. Most likely, the average duration of the lending portfolio will lengthen and the need for further issuance will increase. Furthermore, it can be assumed that the perceived risk of sovereign default has diminished, partly due to the resolution of the Icesave dispute and the reduced likelihood of a sovereign credit rating downgrade. The risk premia on Treasury obligations have therefore declined, as is discussed below.[8] The possibility cannot be

8. In this context, it is appropriate to emphasise that the Icelandic Government considers the risk of default virtually non-existent under current conditions.

excluded that the poor post-crisis actuarial position of many pension funds increased their demand for HFF bonds as they attempted to improve their position in advance of their annual reports, thus limiting the potential need to reduce pension rights.

Non-indexed short-term interest rates rise while long-term rates fall

Nominal Treasury note yields have also fallen in line with falling Central Bank interest rates and the decline in indexed yields. As in the indexed market, strong investor demand and a limited range of investment options have pushed yields downward.

Short-term yields have tended to rise since the September rate-setting meeting, however, in line with the Central Bank's measures to drain liquidity from the market. The publication of the MPC minutes somewhat reversed that development, as the discussions in the minutes seem to have created expectations among investors that interest rates would be lowered earlier than previously believed. Yields at the shortest end of the yield curve have risen by approximately 0.5 percentage points since the MPC's last rate-setting meeting; however, nominal yields at the longer end of the yield curve have declined since the last rate-setting meeting, in line with lower indexed rates.

The shorter end of the yield curve has shifted upward while the longer end has lowered

The shorter end of the yield curve has therefore risen somewhat, although it still slopes decisively downward. The longer end of the yield curve has remained flat but has inched downward since the September rate-setting meeting. Market agents now appear to have priced a nearly 1 percentage point interest rate cut in the coming month into the yield curve but seem to assume that longer-term rates will rise slightly, which could reflect expectations of economic recovery and/or expectations that the Treasury's significant funding needs over the coming months will push long-term rates up. It should be noted, however, that the turmoil of the past several months makes any interpretation of the yield curve extremely difficult.

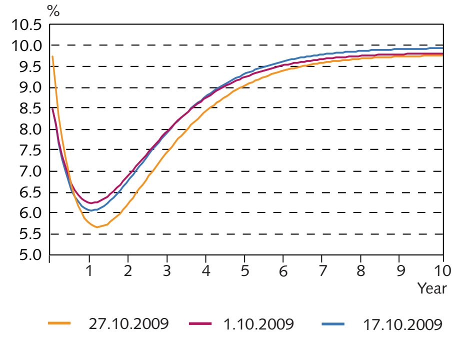
Pressure on the króna appears to have subsided …

Since *Monetary Bulletin* 2009/3 appeared in mid-August, the króna has depreciated by 1½% according to the trade-weighted exchange rate index (TWI), and by about 2½% against the euro, but it has appreciated by nearly 2% against the US dollar and about 3% against pound sterling. In Q3, the króna was 1½% weaker in terms of the TWI, and 2½% weaker against the euro, than was forecast in August. Furthermore, the outlook is for the króna to be somewhat weaker in Q4 than was forecast in August.

Nonetheless, pressure on the króna appears to have eased. Consequently, it has held rather stable at 180 against the euro, in spite of greatly reduced foreign exchange market intervention by the Central Bank. The Bank's share of foreign exchange market activity amounted to just over 6% of total trading volume in September and slightly less than 19% for Q3 as a whole, as opposed to 36% in Q2

Chart III-9

Forward interest rates on Treasury bond market

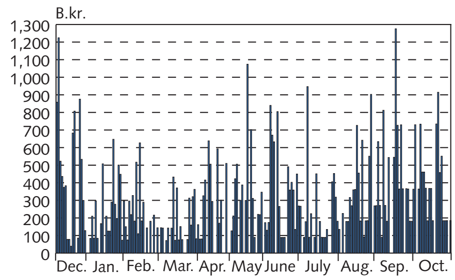


Source: Central Bank of Iceland.

Chart III-10

FX market turnover

Daily data December 4, 2008 - October 30, 2009

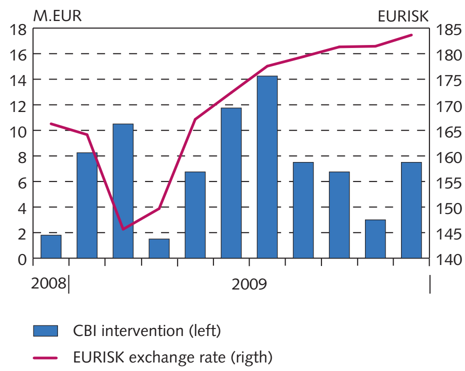


Source: Central Bank of Iceland.

Chart III-11

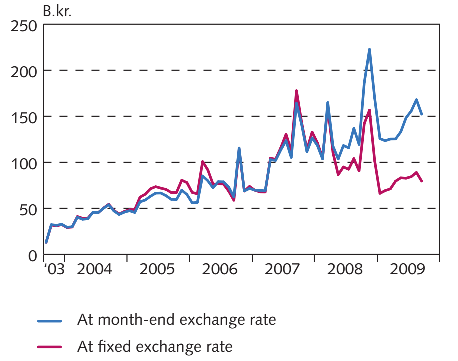
EURISK exchange rate and CBI intervention in the FX market

December 2008 - October 2009



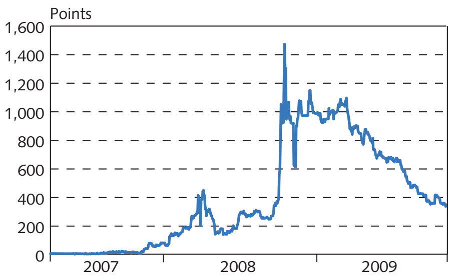
Source: Central Bank of Iceland.

Chart III-12
Foreign-currency deposits at domestic banks[1]
September 2003 - September 2009



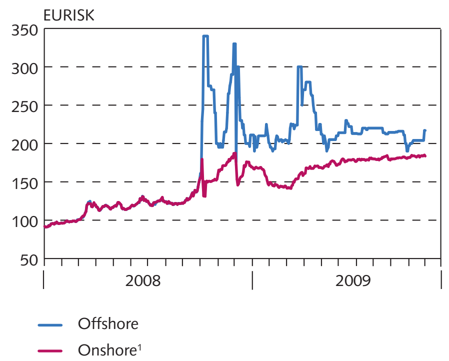
1. The exchange rate index is used to fix the exchange rate but does not take into account the weight of various currencies in the calculation.
Source: Central Bank of Iceland.

Chart III-13
CDS spread for Iceland
Daily data March 28, 2007 - November 3, 2009



Source: Bloomberg.

Chart III-14
The ISK exchange rate against the euro
Daily data January 1, 2008 - November 3, 2009



1. The onshore rate is the daily closing rate.
Source: Reuters.

and 26% in Q1. The króna therefore appears to be standing on firmer ground now than it did earlier in the year, when trading flows tended to be concentrated on the selling side.

There may be a number of reasons for this. A considerable trade surplus has developed, and export prices are rising once again. Interest payments to abroad have been lower in the second half of the year than in the first half. Repatriation of export revenues through the foreign exchange market has probably increased as well; for example, the accumulation of foreign exchange in foreign-currency accounts in domestic banks has stopped. Furthermore, less pressure on the exchange rate could indicate rising confidence in the króna in response to reduced uncertainty about the domestic financial system, although there is still some way to go before normal functioning has been fully restored. Moreover, global market sentiment is more upbeat and risk appetite has been on the rise. Risk premia on various interest rates have declined as well. Risk premia on domestic financial assets have fallen, but it is uncertain whether domestic or external circumstances weigh heavier in that development. The CDS spread on the debt of the Republic of Iceland, which reflects the cost to investors of protecting themselves from the risk of default on sovereign debt, has fallen sharply in the recent term and is now below 4 percentage points, whereas it was about 5 percentage points when *Monetary Bulletin* was published in August, and about 10 percentage points at the beginning of the year. The CDS spreads of other sovereigns that were hit hard by the global crisis have also fallen recently, but the decline in Iceland's spread is somewhat larger.

… and the offshore exchange rate has moved closer to the official exchange rate

The exchange rate on the offshore market has inched closer to the official domestic exchange rate in the recent term. The offshore rate has fallen to close to 200 against the euro, after having hovered around 220 for an extended period. Most likely, developments in the offshore exchange rate are attributable to the same factors as explain developments in the onshore market. On the other hand, it is important to remember that the offshore market is very thin, and individual transactions can have a proportionally strong impact on it. As a result, it is probable that large contracts such as the purchase of a 5.2% stake in the Icelandic company Marel by a foreign asset management firm bolstered the króna in the offshore market. In addition, it is not impossible that factors such as announcements of tightened capital controls surveillance and the Central Bank's measures to reduce excess liquidity have had some effect.

The narrowing of the spread between the onshore and offshore exchange rates has probably made a positive impact on trading volumes and price formation in the domestic foreign exchange market because the incentive to circumvent the onshore market is lessened as the spread narrows. A smaller spread between the two markets could also indicate reduced likelihood of substantial króna depreciation upon removal of the capital controls.

Financial conditions remain difficult …

Access to credit is still limited, and the financial conditions of households and businesses remain difficult, as is often the case following a recession. The banks are still reluctant to grant new loans because of uncertainty about their own balance sheets and ownership structure, and some of the pension funds have even tightened their lending requirements. The Housing Financing Fund, however, has kept its lending rules unchanged and recently lowered its mortgage lending rate from 5.10% to 5.05%.

Credit supply could increase when the restructuring of the banking system is complete. Conditions for borrowing are difficult, however, as collateral values have declined following the fall in asset prices. Moreover, it can be assumed that, in view of recent events, households and businesses will be cautious about taking on new debt. The willingness to take risk is therefore less. It is probable that households and businesses will concentrate on deleveraging by paying down debt instead of engaging in new investment, and that they will try to increase their saving as well. This has been the pattern following economic crises in many parts of the world; for example, after Japan's economic collapse in the 1990s.

… but household debt service eases temporarily …

Offsetting this, however, is the expected temporary decline in household debt service after the entry into force of the new legislation on private sector debt restructuring. Debt service on indexed loans will revert to January 2008 levels and foreign currency denominated loans to May 2008 levels. Thereafter, payments of principal and interest will develop in line with the so-called modified mortgage payment index, which takes account of general wage developments corrected for employment levels. The aim is to enable indebted households to smooth their debt service over the business cycle; that is, to reduce it during the recession and pay down debt more rapidly when employment levels and wages rise again.

… and financial restructuring of firms is on the horizon

Businesses' debt service has grown heavier in recent months, particularly due to the depreciation of the króna. Some 70% of loans to businesses are foreign-denominated. In comparison with export revenues, the unhedged foreign exchange risk is sizeable, although it is slightly less if holding companies are excluded.[9] Debt service on such loans is a burden for many firms, which are faced with rising costs and a contraction in demand as well. In spite of this, leaders of 38% of firms state that, as a proportion of turnover, their profits will be higher in 2009 than in 2008.[10]

Loans to businesses generally have shorter maturities than loans to households. Approximately 70% of business loans will mature in the next four years, and over one-fourth have a remaining maturity

9. As is discussed in Section IV, only about 44% of firms are carrying foreign-denominated debt, even though a large portion of total loans to businesses are in foreign currency.

10. Based on a survey carried out by Capacent Gallup in September 2009.

of less than a year. In view of changes in the economic outlook, it is thus foreseeable that businesses' refinancing needs will be substantial in the next several months, and many of them will find themselves in difficulties as a result of drastically reduced collateral values. Consequently, businesses will probably undergo financial restructuring in the near future. It is essential that domestic banks become fully operational as soon as possible so that they can help firms to address these problems. One-fourth of businesses are in default on their loan payments;[11] however, it is possible that this figure is underestimated because one-third of loans to businesses are bullet loans, which do not appear in default registers until maturity.

11. Based on a survey carried out by the Central Bank on June 30, 2009, where information on loans to businesses was obtained from commercial banks, savings banks, and credit institutions. The research findings are discussed in greater detail in Section 2.2 of *Financial Stability* 2009.

IV Domestic demand and production

So far in 2009, the contraction in GDP has proven somewhat smaller than was assumed in the Central Bank's August forecast. Households have been more resilient, and private consumption has been stronger than expected. The global economy is also gradually gathering steam, and exports have been more robust than previously estimated. Nevertheless, a sharp adjustment is taking place in the Icelandic economy, as is manifested in a marked contraction in demand, dampened production, and a clear desire to deleverage the balance sheets that had grown so large before the collapse. Recovery is expected to begin in the first quarter of 2010, and solid GDP growth is projected for 2011 and 2012; nonetheless, the outlook for the Icelandic economy is quite uncertain.[1]

Adjustment emerges in deleveraging of balance sheets ...

Lack of trust in the commercial banks and the Icelandic economy led to a steep decline in the exchange rate of the króna at the beginning of 2008, which kicked off the economic adjustment that is still ongoing. The collapse of the banking system and the króna's continuing slide during the autumn aggravated the adjustment in demand and output and precipitated large-scale balance sheet restructuring.

The balance sheets of households, businesses, and the public sector have been ravaged by the crisis, and a major readjustment is underway, with debt restructuring and asset sales. This type of balance sheet deleveraging is taking place around the world, particularly in economies where asset and credit bubbles have burst. In all likelihood, the adjustment is more radical in Iceland than in most other countries, as private sector debt is proportionally higher, foreign-denominated debt widespread, and the currency depreciation more pronounced.

The contribution of monetary policy under these circumstances is to create the scope for balance sheet restructuring by protecting households and businesses from further shocks caused by exchange rate volatility. The experience of other countries that have undergone systemic financial crises shows that an adjustment of this type is often time-consuming. The reconstruction of the banking system is well advanced, however, and the premises for broad-based debt restructuring are developing.

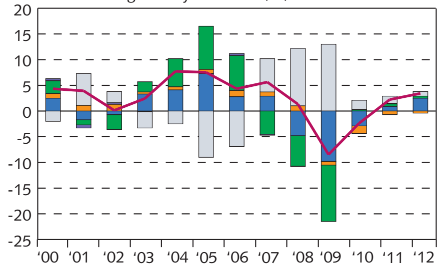
... a significant contraction in demand, ...

To a large extent, domestic demand has adjusted to reduced income. The credit squeeze has curtailed Icelandic residents' ability to borrow in order to finance consumption and investment. Domestic demand is projected to hit bottom early in 2010, when it will have declined by about one-third from its peak in Q4/2006. The surge in demand during the upswing was based on rapid growth of disposable income and ready access to credit. The generous supply of credit stemmed in large part from the massive inflows of foreign capital in which domestic

1. More detailed statistical information concerning the macroeconomic forecast can be found in Appendix 1 on p. 55.

Chart IV-1

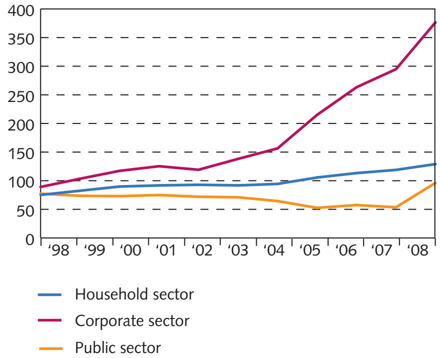
Output growth and contribution of underlying components 2000-2012[1]



1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-2

Household, corporate and public debt 1998-2008[1]

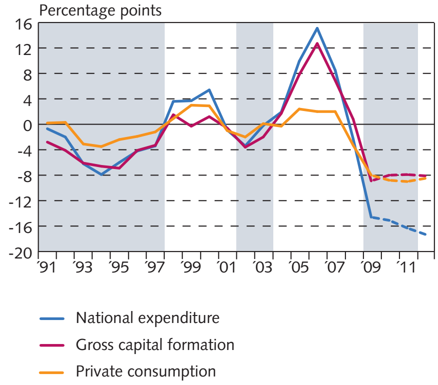


1. Household and corporate debt is debt to the credit system, but public sector debt is total debt. The 2008 value for households and firms is for September 2008.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-3

Private consumption, gross capital formation and national expenditure as % of GDP 1991-2012[1]

Deviation from average for 1970-2007

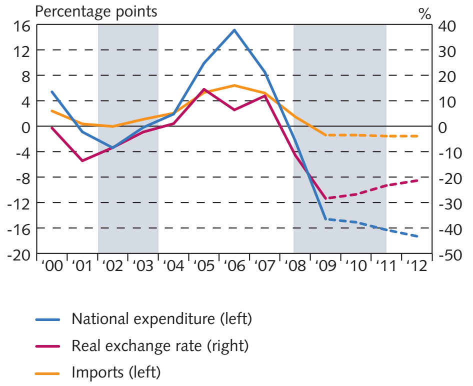


1. Central Bank baseline forecast 2009-2012. Shaded areas show periods with negative output gap.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-4

National expenditure and imports as % of GDP and the real exchange rate 2000-2012[1]

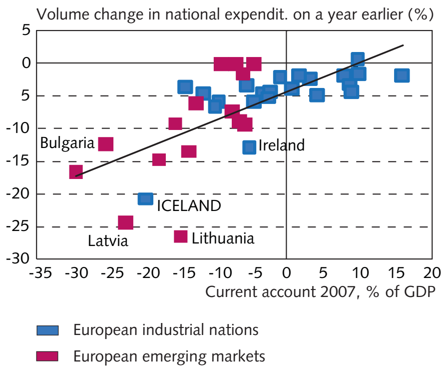
Deviation from average for 1970-2007



1. Central Bank baseline forecast 2009-2012. Shaded areas show periods with negative output gap.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-5

Domestic demand in 2009 and current account balance in 2007

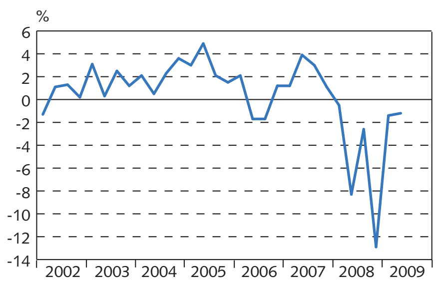


Source: International Monetary Fund.

Chart IV-6

Quarterly changes in seasonally adjusted private consumption

Q1/2002 - Q2/2009



Source: Statistics Iceland.

banks played a key role. The share of domestic demand in GDP was far above historical averages (see Chart IV-3), and the real exchange rate was well above the long-term average (see Chart IV-4). It could be said that the interplay of economic policy and external conditions amplified the asset, credit, and disposable income bubble.

Other European countries with macroeconomic imbalances at the time the global financial crisis struck are also faced with a massive contraction in domestic demand (see Chart IV-5).[2] The contraction in domestic demand has been extremely strong in Iceland, and the Government's scope for stimulative measures virtually non-existent. On the other hand, the contraction has been concentrated in particular on imports, which have shrunk by approximately half year-on-year so far in 2009. A stable level of external demand for Icelandic products and services has also protected domestic firms. The contraction in GDP has thus been smaller than is indicated by the reduction in national expenditure, and only slightly more than in many other countries, although the shock was considerably greater in Iceland. The flexibility of the Icelandic economy has therefore been of pivotal importance under extremely demanding economic circumstances.

… and a downturn in potential output

Domestic output has declined in the wake of the financial crisis and is likely to contract further. Potential output has diminished, on the whole, but production has shifted in part to the export sector, which has become more profitable and offers more numerous investment options. It is to be expected that the reduction in potential output will persist longer than the contraction in demand; therefore, unemployment is projected to remain high for a number of years. The scope and nature of foreign investment and lending will affect the degree to which demand and production contract. If domestic savings must provide the bulk of the capital for development, the recovery will be more sluggish.

The resilience of the economy has nonetheless come as a surprise …

The revised national accounts for 2008 and Q1/2009 were published on September 4, as were the first preliminary figures for Q2. According to the revised figures, output growth was 1.3% in 2008, 1 percentage point higher than indicated by the preliminary figures from March. This stronger growth is due particularly to more public consumption and investment, as well as to a larger positive contribution from external trade than was measured in March. Revised output growth figures, however, are roughly in line with the Central Bank's forecasts from 2008 and January 2009, in which the Bank projected 1-2% GDP growth for 2008.

GDP contracted by 5.5% year-on-year in the first six months of 2009, about 1 percentage point less than according to the Bank's August forecast. The difference is due largely to a smaller-than-expected contraction in private consumption and exports.

2. See International Monetary Fund (2009). "Country and regional perspectives", Chapter 2 of *World Economic Outlook*, October 2009, pp. 67-91.

... and private consumption has contracted less and appears likely to rebound earlier than previously projected ...

Private consumption began contracting in early 2008, when the global crisis deepened, the credit crunch became more severe, the króna fell, and real wages began giving way. The contraction in private consumption intensified as the year passed, peaking at 13% between Q3 and Q4, in the wake of the banks' collapse. It then eased significantly between quarters, measuring just over 1% between Q1 and Q2/2009.[3] Various indicators such as payment card and consumer perishables turnover, retail sales, consumer imports, consumer expectations, and unemployment suggest that the contraction continued to lose momentum in Q3 (see Charts IV-7 and IV-8).

... in part because of the short-term stimulative effects of private pension fund payouts

The Central Bank's August forecast assumed that private consumption would recover more slowly than Statistics Iceland figures for Q2 and leading indicators suggest. New data from Statistics Iceland on disposable income show that households were better prepared to deal with the shock than previously thought. Real disposable income is now considered to have grown marginally in 2008, while the previous estimate suggested a contraction of more than 7%. Last year's growth was sustained by increases in nominal wages, employment, and other income, as can be seen in Chart IV-9. This will be offset in 2010 by a somewhat larger contraction in real disposable income than assumed in August because direct tax hikes will be larger than in that forecast. In 2010, tax effects, inflation, and the contraction in employment and non-wage income will all contribute to the erosion of real disposable income (see Chart IV-9). However, private consumption next year will be roughly in line with the August forecast, as income is falling from a higher level and will therefore fall to about the level assumed then. It is estimated that, in comparison with previous forecasts, the revised disposable income figures decrease the contraction in private consumption by roughly 2 percentage points for 2009 and about 1 percentage point for 2010.

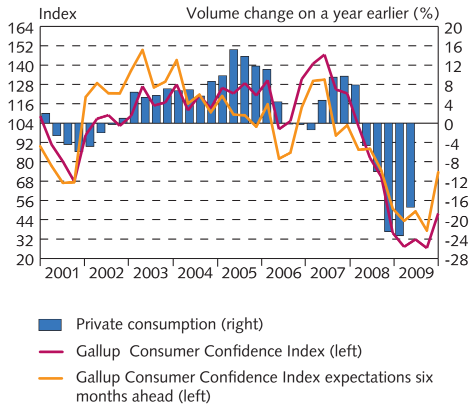
Another explanation of the smaller contraction in private consumption to date could be that the impact of payouts from third-pillar private pension savings was underestimated in earlier Central Bank forecasts. Nearly 40,000 individuals had requested pension fund payouts as of mid-October 2009. The total amount of approved payouts to date is approximately 24 b.kr. before taxes, or about 1½% of GDP. Thus the scope of the payouts is roughly equivalent to the temporary stimulative measures that many governments have adopted in the recent past (see Chart IV-10). However, measures in Iceland are not funded through increased public sector debt. A rough estimate suggests that these measures have added nearly 1 percentage point to private consumption in 2009 and will add another percentage point

3. Based on quarterly changes in seasonally adjusted private consumption according to Statistics Iceland. In terms of the year-on-year change, the contraction in private consumption was greatest in Q1/2009, when private consumption measured 23.3% less than in the same quarter one year earlier.

Chart IV-7

Private consumption and consumer confidence

Q1/2001 - Q4/2009[1]

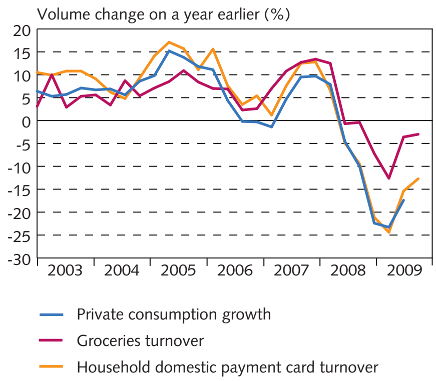


1. Three-month average of Gallup Consumer Confidence Index. The Q4/2009 value for the index is for October.

Sources: Capacent Gallup, Statistics Iceland.

Chart IV-8

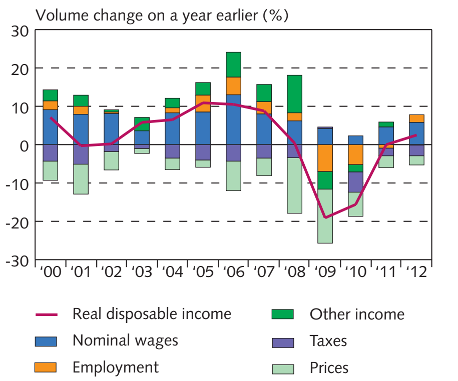
Private consumption, groceries and payment card turnover Q1/2003 - Q3/2009



Sources: Federation of Trade and Services, Statistics Iceland, Central Bank of Iceland.

Chart IV-9

Developments in real disposable income and contribution of components 2000-2012[1]

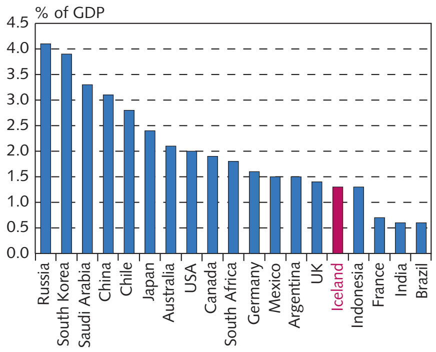


1. Central Bank baseline forecast 2009-2012. The contribution of the main underlying factors in the yearly changes in real disposable income is calculated based on each factor's weight in disposable income. The combined contribution of underlying factors does not add up to the total change due to rounding and incomplete income accounts for households from Statistics Iceland.

Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-10

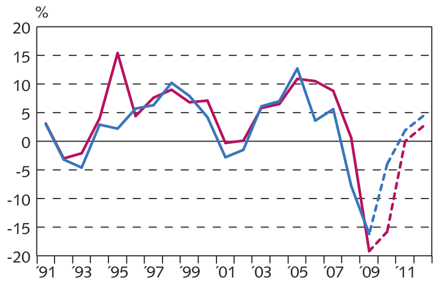
Size of gross payments from individual pension saving schemes and special measures in various countries due to the crisis



Sources: Central Bank of Chile, Central Bank of Iceland.

Chart IV-11

Private consumption and disposable income 1991-2012[1]

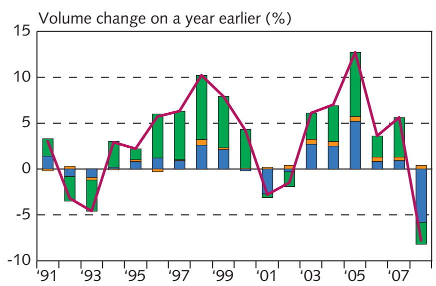


Private consumption
Disposable income

1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-12

Private consumption and contributions of its main components 1991-2008[1]



Total private consumption
Imported durable consumer goods
Residential investment
Non-durable consumer goods and services

1. Durable consumer goods that are either imported or have a high content of imported inputs include furnishings, household equipment, motor, telephones, audio, visual, photographic and information processing equipment, etc.
Sources: Statistics Iceland, Central Bank of Iceland.

in 2010.[4] The Government has stated that it is considering extending the authorisation period for the payouts. A review of data on disposable income and a revised estimate of the impact of private pension fund payouts explain the bulk of the smaller contraction in private consumption in 2009, as well as explaining to a large extent why private consumption projections for the forecast horizon are higher than in August.

Private consumption as a share of GDP will nevertheless remain below the historical average throughout the horizon

According to the baseline forecast, private consumption will contract by 4% in 2010 and then grow by about 2% in 2011 and 4½% in 2012. This is a slightly more positive outlook than in earlier forecasts, as is discussed above. Nonetheless, private consumption as a share of GDP will remain far below the historical average throughout the horizon.

Saving will probably increase as households attempt to strengthen their balance sheets, but it is uncertain just how strong the propensity to save will be. It is possible that households will need a longer time than previously assumed to restore their financial position. It is clear that developments in the labour market will have a marked impact on private consumption, and recovery could be slower if unemployment subsides more slowly after peaking. Foreign investment can affect private consumption strongly, as in earlier downturns, in part because of the impact on labour market developments and consumer expectations.

Milder contraction in public consumption and investment than in the last forecast

As is discussed in Section V, the Government has adopted extensive measures to reduce the deficit and guarantee fiscal sustainability. Neither the State nor the municipalities are in a position to implement stimulative measures involving increased public consumption and investment. The baseline forecast assumes that public consumption and investment will contract somewhat throughout the forecast horizon, but less than was projected in August. According to the forecast, the contraction in public consumption will amount to just over 1% in 2009 and about 4% in 2010, which is 2 percentage points less than the August projection for 2010. The contraction in 2011 will be smaller, however.

Residential investment and house prices are in a protracted slump ...

Households in Iceland and many other countries spent a substantial portion of their income and borrowed funds on residential investment during the boom years. In Iceland, residential investment soared nearly 75%, and nominal house prices doubled between 2002 and

4. If households had access to efficient financial markets, enabling them to distribute private consumption over time, measures such as private pension fund payouts should not affect consumption patterns, as households would be spending their own savings. Under current circumstances, however, it can be assumed that households view the payouts as new supplementary income and will allocate a portion of it to private consumption.

2007. And the result was the same as in most other markets: a glut of housing and an inevitable plunge in prices. As of June 2009, some 3,600 apartments in the greater Reykjavík area were in various phases of construction, from the first stages of groundwork to nearly finished homes, and another 4,300 lots had been prepared, with the accompanying municipal investment in infrastructure for the neighbourhoods concerned.[5] It is therefore clear that the oversupply of apartments and unused lots will impede residential investment for some time to come. The supply of credit for residential investment will also be tight, and demand will be weak. Households are likely to hold back from making big-ticket purchases until their financial security has been restored.[6] As a result, residential investment will remain well below the historical average, in spite of modest growth in 2011 and 2012 (see Chart IV-13).

Real estate market turnover has been extremely limited, and the proportion of housing swaps is high. This has caused problems in measuring house prices (see Box IV-1). House prices have declined by about 12-13% in nominal terms after peaking in January 2008, and in real terms, they have fallen by a third from their peak in October 2007. The Central Bank assumes that residential housing prices will continue to drop in real terms in the months to come.

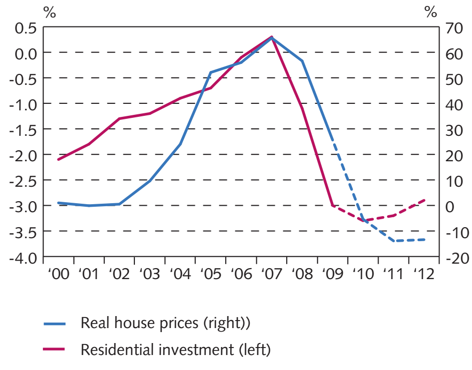
... and a large number of firms are in distress

Corporate distress has been aggravated by the currency depreciation, the collapse of the banking system, and the plunge in demand. A reduced supply of credit, rising outstanding debt, increased debt service, and dwindling revenues have posed severe problems for heavily indebted firms that depend on external financing. Companies in the sectors that benefited most from the upswing – such as real estate, construction, and importation of consumer durables – have suffered most acutely. Defaults have increased and bankruptcy is on the rise (see Chart IV-14), and a number of firms have been taken over by the commercial banks. A large number are engaged in debt restructuring and operational reorganisation in collaboration with creditors.

Half of firms have króna-denominated debt only, and that figure will probably rise in the near future, ...

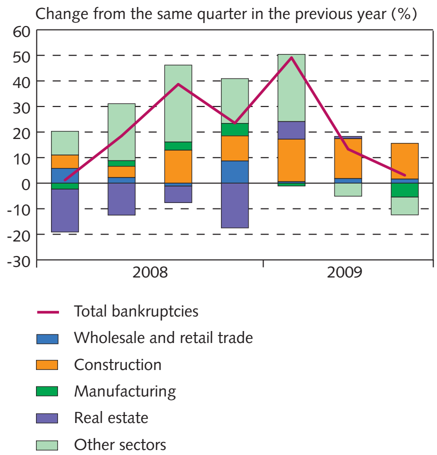
Before the banks' collapse, about 70% of Icelandic businesses' total debt was denominated in foreign currency. This is quite a large share, but more important are the distribution of that debt and the percentage of firms that have foreign debt and no foreign revenues with which to service it. It appears that the proportion of firms carrying foreign-denominated debt was somewhat lower, or just under half.[7]

Chart IV-13
Residential investment as a share of GDP and real house prices 2000-2012[1]
Deviations from long-term averages



1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-14
Corporate bankruptcies and contribution from sectors
Q1/2008 - Q3/2009



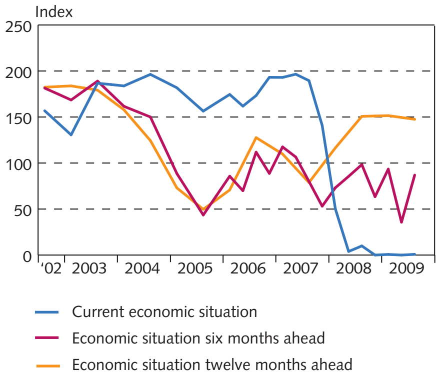
Sources: Statistics Iceland, Central Bank of Iceland.

5. VSÓ Consulting (2009). "Byggingavaktin – Framboð í byggingu á höfuðborgarsvæðinu [Construction Monitor – Supply of buildings under construction in the greater Reykjavík area]", June 2009.
6. The Capacent Gallup poll from end-September revealed that less than 3% of respondents consider themselves likely or very likely to invest in residential housing in the next six months.
7. Further discussion of the findings from the Central Bank's analysis of businesses' position can be found in Section 2.2 of *Financial Stability* 2009.

Chart IV-15

Sentiment among executives in Iceland's 400 largest firms[1]

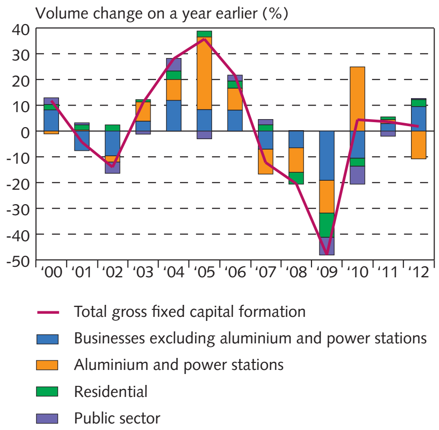
Q3/2002 - Q3/2009



1. The index is calculated in the following manner: ((Very good + Rather good) / (Very good + Rather good + Rather bad + Very bad)) *200.
Source: Capacent Gallup.

Chart IV-16

Gross fixed capital formation and contributions of its main components 2000-2012[1]

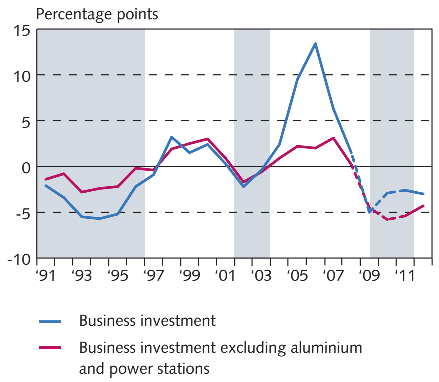


1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart IV-17

Business investment as % of GDP 1991-2012[1]

Deviation from average for 1970-2007



1. Central Bank baseline forecast 2009-2012. Shaded areas show periods with negative output gap.
Sources: Statistics Iceland, Central Bank of Iceland.

Most large and medium-sized companies do carry foreign debt, however, and most of the businesses with domestic debt only are small ones. Because the duration of foreign-currency loans is generally short and access to foreign credit is limited, the share of firms with foreign-denominated debt will probably decline in the near future. Those with foreign-currency revenues will still be able to hedge their foreign exchange risk, however, if they have access to foreign credit.

... so that monetary policy affects companies' position more than figures on percentage of foreign loans would suggest

Widespread indebtedness in foreign currency tends to dilute the effect of monetary policy on firms' position. During the upswing, many businesses evaded tighter monetary policy by borrowing in foreign currency at low interest rates. Cheap credit was in generous supply until the global financial crisis struck. Because a solid half of Icelandic businesses have króna-denominated debt only, and a substantial share of their debt is in non-indexed short-term loans, changes in non-indexed interest rates may affect businesses – particularly small ones – more strongly than the composition of total debt would tend to suggest. This effect can be expected to increase over the quarters to come.

A number of factors combine to restrain general business investment ...

Companies will attempt to strengthen their financial position by deleveraging and will be cautious in investments in the near future. A number of other factors will also tend to reduce business investment: Credit will probably be in short supply for a while yet, a number of sectors have underutilised production capacity, and investors have access to Government-guaranteed investment options such as bonds and deposits. Moreover, the general uncertainty about the future is unconducive to investment. There should be opportunities in the export sector, however, although not all exporters will be able to take advantage of the favourable exchange rate in order to increase production, as is discussed in Section II.

The Central Bank projects that, with the exception of the aluminium and power sectors, the contraction in general business investment will persist until the end of 2010. Business investment is expected to total about half of its historical average as a proportion of GDP (see Charts IV-16 and IV-17).

The results of the Capacent Gallup poll carried out in September among executives from Iceland's 400 largest firms bear witness to the pessimism that has predominated among them since the banks collapsed (see Chart IV-15). The results indicate that business investment could contract by more than 40% in 2009 and about one-third in 2010, which is in line with the baseline forecast.

... and uncertainty surrounds the planned aluminium and power sector investments

The Central Bank forecasts published so far in 2009 have assumed that investment related to the aluminium industry will offset the large contraction in other investment. The present forecast does so as well. It assumes 25% growth in business investment in 2010, driven by a doubling of aluminium and power sector investment year-on-year. Moderate growth is forecast in 2011 as well, and marginal growth is expected in 2012. As a share of GDP, however, business investment will be below historical lows for the entire forecast horizon.

The baseline forecast presented here does not assume any development in the Neðri-Þjórsá river area, and investment in the aluminium and power sectors is somewhat less in 2011 and 2012. It also assumes that investments in data centres will be delayed. Uncertainty about the planned Helguvík aluminium smelter and other large development projects has escalated, due in particular to difficult financing conditions. As a result, the forecast includes an alternative scenario that allows for further delays in aluminium and power sector development (see Section I).

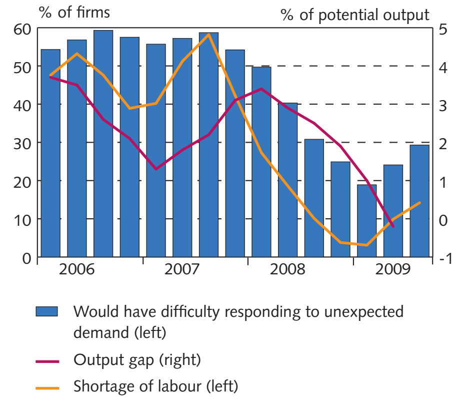
Recovery begins earlier and is stronger ...

According to the Bank's baseline forecast, the contraction in domestic demand will be just under 20% in 2009, but because of a positive contribution from external trade, the contraction in GDP will be only about 8½%. This is a smaller contraction than in the Bank's earlier forecasts from 2009, but it is consistent with the forecast in *Monetary Bulletin* 2008/3, which was the first Central Bank forecast published after the crash. Economic recovery is assumed to begin earlier than previously projected, in line with a brighter outlook for the global economy. Seasonally adjusted quarterly output growth is forecast to turn positive as soon as Q1/2010, although GDP will continue to contract between 2009 and 2010. Modest growth is projected for 2011 and 2012. A variety of indicators imply that the global recovery could be more rapid than in the baseline forecast. Such an outcome is described in the latter alternative scenario in Section I.

... and the slack in output disappears sooner than expected

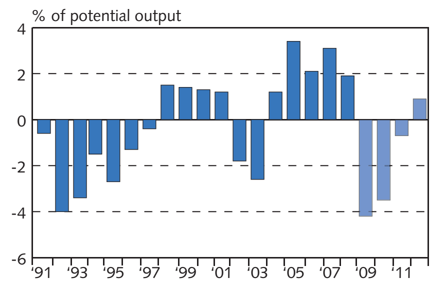
As has been discussed previously, production is adjusting to changed circumstances. A portion of the capital stock has been lost and other production capital has been wasted, bankruptcies have risen, jobs have been lost, vitality is lacking in new investment, credit is in short supply, and labour needs to be transferred to the export sector and to import-competing sectors. The production capacity of the economy has declined concurrent with a sharp drop in demand. An estimate of the output gap is subject to great uncertainty under such circumstances. It appears clear, however, that there is a considerable slack in the economy. Assessing the status of the labour market is also subject to uncertainty about equilibrium unemployment, which has probably risen. The results of surveys indicate the presence of a sizeable slack in production. Few firms are beset by a shortage of staff or would have difficulty responding to a sudden spurt in demand. It is notable, however, that companies' responses indicate a turnaround in the recent term, suggesting that the slack in the economy has stopped growing (see Chart IV-18). The Central Bank's forecast assumes that the slack will reach a maximum in Q2/2010 and then taper off gradually. It is expected to disappear somewhat earlier than according to the August forecast, and a positive output gap is projected to develop again in 2012 (see Chart IV-19).

Chart IV-18
Indicators of use of production factors and output gap[1]
Q1/2006 - Q3/ 2009



1. According to Capacent Gallup Sentiment Survey among Iceland's 400 largest firms. Output gap is Central Bank estimate.
Sources: Capacent Gallup, Central Bank of Iceland.

Chart IV-19
Output gap 1991-2012[1]



1. Central Bank output gap estimate. Central Bank baseline forecast 2009-2012.
Source: Central Bank of Iceland.

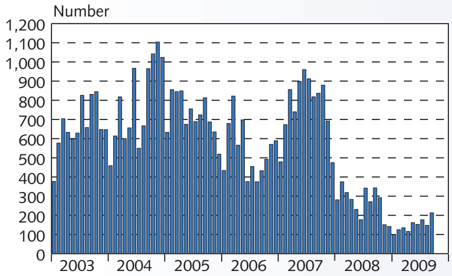
Box IV-1

Developments in house prices: Different calculation methods point in the same direction

Chart 1

Number of registered contracts in the greater Reykjavík area

January 2003 - September 2009

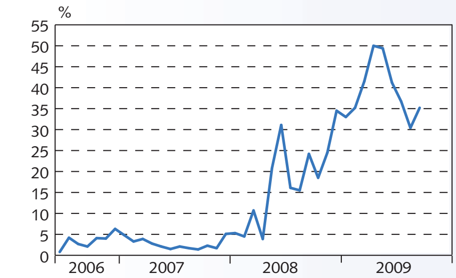


Source: Icelandic Property Registry.

Chart 2

Housing swaps in greater Reykjavík as a portion of total turnover

June 2006 - September 2009



Source: Icelandic Property Registry.

On several occasions in recent months, measurements have shown a rise in house prices, and opinion diverges on whether the housing slump of the last several months has come to a halt. Both the Icelandic Property Registry (IPR) and Statistics Iceland (Statice) calculate indices that illustrate developments in domestic house prices. While the two indices are calculated using the same data – that is, information on registered purchase agreements – the methodology used differs slightly. Under conditions like those reigning at present, with housing market turnover at an all-time low, the methodology used to compute these two indices can be critical for the results, at least in terms of short-term price fluctuations.

The greatest differences in the calculation methods used by the two institutions are that the reference periods vary in length and the treatment of housing swaps differs. Statice uses purchase agreements for three-month periods in its calculations, while the IPR uses agreements from each month. Both IPR and Statice divide housing into a larger number of size categories than are published, and specific rules apply to the minimum number of purchase agreements in each category. Because of the extraordinarily low housing market turnover in the recent term, it has been necessary to lengthen the reference period for both indices in order to achieve the minimum number of agreements in a given reference period.

The IPR index ignores swap agreements, yet they have constituted some 30-50% of total housing market turnover in the past few months, as Chart 2 illustrates. The Statice index includes these agreements in its calculations but, in calculating the present value of the agreements, reduces the price of the properties by a specific percentage based on inflation plus interest on the banks' supplemental loans.[1] That percentage has declined in recent months due to lower inflation and falling interest rates.

It is clear that neither method is without flaws. It can be argued that, in an economic climate like the current one, price changes emerge with a shorter time lag in the Statice index because the longer reference period reduces the need to base calculations on older agreements. As regards the treatment of swap agreements, it can be argued that omitting them, as the IPR does, ignores a large segment of the past few months' housing market turnover. However, the large proportion of swap agreements in real estate market transactions could result in an over- or underestimation of the decline in house prices according to the Statice index if the percentage used to adjust contract values has been estimated incorrectly. It can be argued that Statice's price correction has been developing inversely with the market in the recent term. Perhaps it would have been more appropriate to correct swap agreements less at the beginning of the slump and more as house prices have fallen farther.

Chart 3 gives a comparison of the IPR and Statice indices, showing price house developments in the greater Reykjavík area.[2] The chart shows that developments can diverge from month to month because of differences in calculation methods, yet the long-term trend is broadly the same for both indices. For the greater Reykjavík area, for instance, the IPR index shows a 12% reduction in nominal house prices from their January 2008 peak as calculated using that index. The Statice index gives a 13% drop in nominal

1. This percentage is used to reduce the price only when real estate is used as a form of payment.

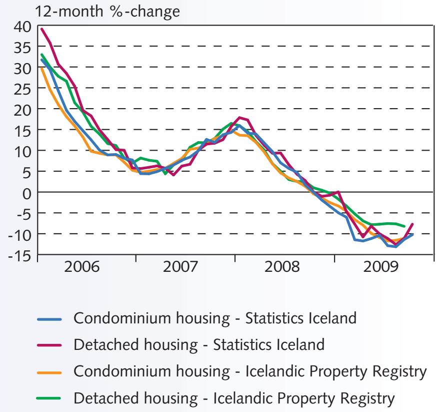
2. The IPR calculates its housing index only in the greater Reykjavík area, while Statice's index covers the entire country. In order to enable the comparison of comparable data, only prices for apartments in multi-family dwellings and detached housing in the greater Reykjavík area are included.

house prices nationwide since they peaked according to that index in March 2008. It is also worth noting that a comparison of the Statice index for the entire country and the IPR index for the greater Reykjavík area reveals virtually the same decline in real terms – about one-third – from the historical peak in October 2007. For the short term, the two indices may differ, but in terms of long-term developments, they point in the same direction.

Chart 3

Market price of residential housing in greater Reykjavík

3-month moving averages

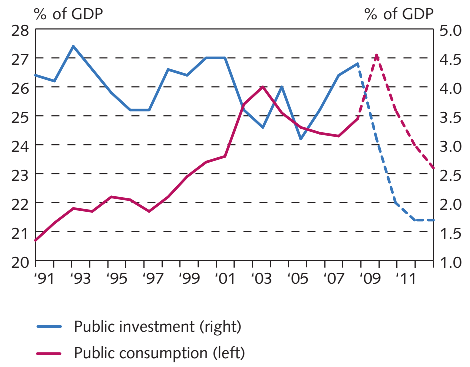


Sources: Icelandic Property Registry, Statistics Iceland.

V Public sector finances

In the first half of 2009, growth in public consumption was considerably stronger than the Central Bank projected in August. The National Budget bill for 2010 assumes that public sector finances will adjust to the greatly reduced tax base and the large increase in Treasury debt. The consolidation measures aim at quickly achieving a surplus on the primary balance so as to arrest debt accumulation, thereby ensuring fiscal sustainability for the long term. The measures are more comprehensive than was assumed in the last *Monetary Bulletin*, mostly because of larger direct tax hikes. If the Government's plans are successful, public sector performance will improve substantially during the forecast horizon, with debt peaking in 2010 and then tapering off again.

Chart V-1
Public consumption and public investment as % of GDP[1]

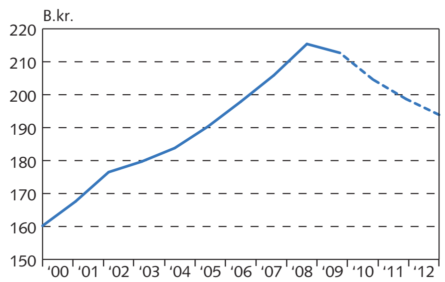


1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Expenditures repeatedly exceed estimates

The Government has found it difficult to control expenditures in recent years, and this year is no exception. Treasury expenditure was set at 556 b.kr. according to the National Budget for 2009, but current estimates indicate that it will be about 6% higher, or 589 b.kr. The previous Government adopted a fiscal rule that public consumption growth must not exceed 2% per year in real terms. Adhering to that policy has proven difficult, however, and public consumption growth has generally been well over the 2% limit.

Chart V-2
Public consumption
At fixed prices, 2000-2012[1]

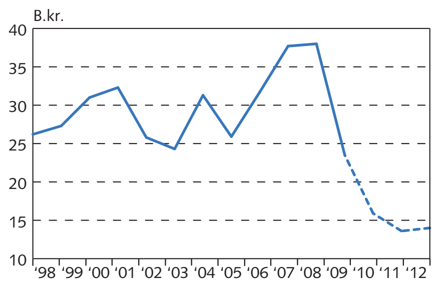


1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Public consumption higher than expected

According to preliminary figures from Statistics Iceland for the first six months of 2009, public consumption has grown by 0.4% in real terms. This is considerably higher than the Central Bank's August forecast, which assumed a 2.3% contraction during the year. The current forecast assumes a contraction of 1.2% year-on-year. That forecast takes account of the fact that the Ministry of Finance has responded to a poorer performance than estimates had allowed for. Restraint was increased through special measures amounting to 22 b.kr., 40% of which is to be obtained with expenditure cuts and the rest with increased revenues.

Chart V-3
Public sector fixed investment
At fixed prices, 1998-2012[1]



1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Fiscal restraint greater than previously assumed

The National Budget bill for 2010 shows that interest expense on the Treasury's heavy debt burden crowds out other expenditures. It includes sizeable cutbacks in conventional expenditures and allows for tax increases as well. The scope of the fiscal restraint measures is 30 b.kr. greater than was assumed in the last *Monetary Bulletin*. According to the economic programme of the Government and the International Monetary Fund, the necessary scope was estimated at 56 b.kr. in the spring of 2009. The Central Bank's assessment was that this was insufficient to reach the desired primary balance; therefore, the Bank assumed measures amounting to 90 b.kr. in its last forecast. According to the National Budget bill for 2010, fiscal consolidation measures amount to 120 b.kr., and the forecast in this *Monetary Bulletin* is based on that figure.

Primary and overall surplus achieved a year early

On the revenues side, the current forecast assumes a larger increase in direct taxes than was forecast in the last *Monetary Bulletin*, while the assumed rise in direct taxes has changed little. The aim of the economic programme is to achieve a surplus on the primary balance in 2011, and on the overall balance in 2013. It is difficult to evaluate the estimates on the revenues side, as the bill specifies only the amount that must be raised from tax increases; it does not state exactly how those tax revenues are to be obtained. At the time the Central Bank prepared the current forecast, there was no detailed plan for the taxes proposed in the fiscal budget. It is assumed that the Ministry's revenue forecast will materialise, as the tax legislation will be amended as needed. Earlier issues of *Monetary Bulletin* have assumed lower tax revenues than the Ministry of Finance's forecasts allow for, with the difference lying chiefly in indirect taxes. As a result of the Central Bank's less favourable revenue forecasts, it was not assumed that the planned surplus on the primary and overall balances would be reached until a year later than the Ministry estimated. Because it is based on the budgetary bill, the revenue forecast in this *Monetary Bulletin* is higher than previous forecasts, and it is now assumed that the primary and overall surpluses will be achieved a year earlier, in accordance with the Ministry of Finance's projections.

Direct taxes rise more than indirect taxes

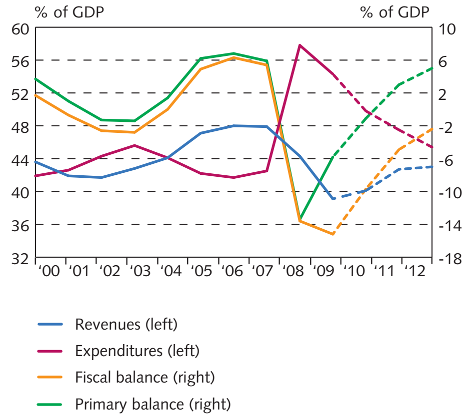
The revenue estimate in the budgetary bill assumes that tax revenues will increase by 61 b.kr. over and above estimated tax revenues for 2009, with nearly 38 b.kr. derived from direct taxation, 8 b.kr. from indirect taxes, and 16 b.kr. from new energy, environmental, and natural resource taxes. This is an increase in revenues in nominal terms, but direct measures on the revenues side amount to 40 b.kr. As a percentage of GDP, tax revenues rise by 3.3 percentage points to 27.1%. At the same time, Treasury expenditures as a share of GDP decline by 3.3 percentage points to 39.8%. The improvement in performance year-on-year would then be 5.3% of GDP.

Direct expenditure-cutting measures amount to nearly 43 b.kr. according to the bill and are divided equally among the three largest expenditure categories, as was assumed in the last forecast. The current forecast, however, takes into account the experience of recent years and does not assume that the measures will be entirely successful. The forecast is also lowered by the amount of a smaller contraction in public consumption at the municipal level. A large number of municipalities have responded swiftly to changed circumstances and have reduced expenditures. Their financial position varies, however, and it is difficult to gain a sufficiently clear view of how they stand.

Public sector performance set to improve rapidly in coming years

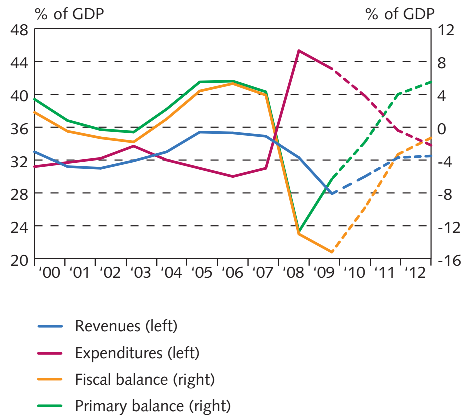
If the Government's plans are successful, public sector performance should improve significantly over the forecast horizon. The deficit, which amounted to 14% of GDP in 2008, should peak this year at 15.2% of GDP, as fiscal restraint measures have been kept to a minimum. The deficit is then assumed to decline from 9.7% of GDP in 2010 to 2.4% of GDP in 2012.

Chart V-4
Public sector finances 2000-2012[1]



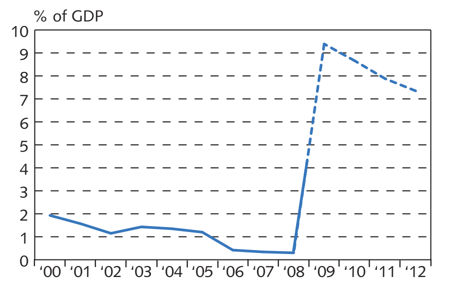
1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-5
Treasury finances 2000-2012[1]



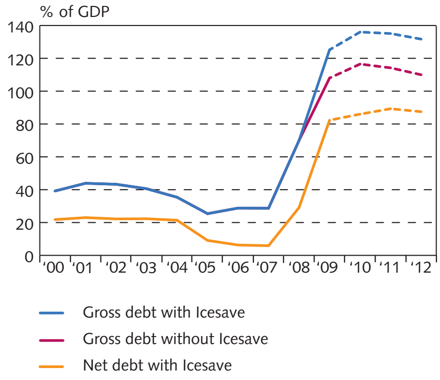
1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-6
Net interest expenditure 2000-2012[1]



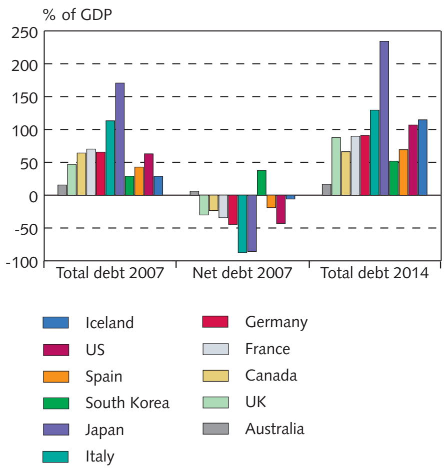
1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart V-7
Government debt as a % of GDP[1]



1. Central Bank baseline forecast 2009-2012.
Sources: Ministry of Finance, Central Bank of Iceland.

Chart V-8
Government debt in Iceland and other countries



Sources: IMF, OECD, Central Bank of Iceland.

Government debt to peak in 2010 and then begin tapering off

The total gross debt of the Treasury, the municipalities, and the social security system is estimated to peak at 136% of GDP in 2010. The debt ratio will remain high for the ensuing two years and then begin to decline beginning in 2013. It is projected to fall to 115% by 2014.

Net debt is a better measure of the long term sustainability of public finances and the real burden placed on taxpayers. The Treasury's net debt lies between 55% and 65% of GDP during the forecast period, while net general Government debt is in the 80-90% range. As can be seen in Chart V-8, the debt ratio is certainly high but is by no means unprecedented in an international context. The debt ratio is lower than in the last issue of *Monetary Bulletin* because net Icesave obligations are now included in the debt figures instead of gross obligations. This is in line with international standards, which stipulate that only the part of a state guarantee that is likely to become a debt liability should be included in Government debt figures. Net Icesave obligations amount to approximately 20% of GDP.

Public sector funding requirements put pressure on interest rates

The restraint measures provided for in the National Budget for 2010 are unavoidable given the deficit operations and significant public sector debt in 2009. The option of prolonging the adjustment is hardly feasible. The fiscal consolidation measures will certainly deepen the economic contraction over the short term, as the expenditure cuts will have a direct dampening effect on domestic demand and tax hikes will cut into disposable income. However, it is essential to gain control of the debt situation and ensure that public sector finances become sustainable as soon as possible by achieving a surplus on the primary balance. Otherwise, there is the risk that the public sector's funding needs will push up domestic real interest rates and delay economic recovery. Risk premia on the Treasury's obligations would also rise, which would not only affect the Treasury's access to funding and credit terms in the international markets but would also compromise a number of domestic firms that plan to seek financing from abroad. Unsustainable growth in public sector debt would undermine the stability of the króna as well. It is therefore of paramount importance that the fiscal programme be pursued with firm commitment.

VI Labour market and wage developments

The economic contraction has continued to make its mark on the labour market. Seasonally adjusted unemployment is rising, although registered unemployment, labour market participation, and hours worked have fallen and emigration from Iceland has increased. According to the Central Bank's forecast, unemployment has not yet peaked, as all indicators suggest that demand for labour will decline in the near future. The Icelandic labour market is very flexible, however, and unemployment will be lower as a result. The pay cuts individual firms have implemented in an attempt to reduce costs have been counterbalanced by contractual wage rises, and this will continue until new wage agreements are made. Unit labour costs will rise somewhat this year, as productivity has fallen and the payroll tax has been raised, even though nominal wage growth will be more modest than in previous years. Unit labour costs will increase less in 2010-2012 because rising productivity will offset nominal wage increases after new wage agreements are concluded.

Unemployment lower than anticipated

Registered unemployment measured 7.2% in September and has declined steadily after peaking at 9.1% last April. Seasonally adjusted unemployment has risen progressively over the past year, however, measuring 9.4% in September.

Developments in unemployment since April, when the Directorate of Labour stepped up its surveillance of unemployment registration, indicate that the jobless rate never actually reached the levels recorded at the beginning of the year. In addition, it can be assumed that official unemployment figures are about ½-1 percentage point higher in this downturn than in earlier ones because wage earners and self-employed individuals have the option of applying for unemployment benefits while employed part-time. The Central Bank's August forecast was based on the figures available at that time, which projected 9% unemployment in Q3 instead of the 7.6% that actually materialised.

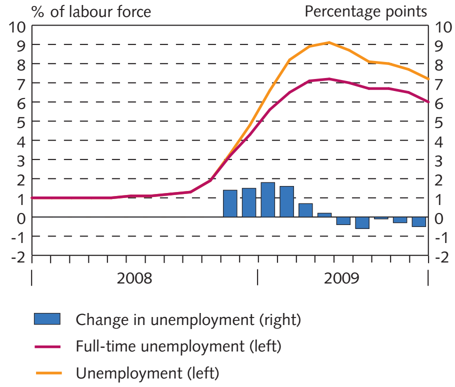
Firms considering redundancies outnumber those considering adding staff …

According to the Gallup Consumer Sentiment Index, the general public's expectations concerning the labour situation have been more upbeat since at the end of the summer, although pessimism still predominates. The survey carried out by Capacent Gallup among Iceland's 400 largest companies last September indicated that companies are more upbeat as well, particularly exporters of goods and services. Fewer companies want to cut staffing now than in a comparable survey conducted in May, and more of them want to recruit.

The results of the survey indicate that the labour market has yet to soften still further, however, as firms intending to shed staff in the next six months outnumber those wanting to recruit. Just under one-fourth of companies intend to lay off staff in the next six months, while one-fifth expressed an interest in recruiting staff.

Chart VI-1

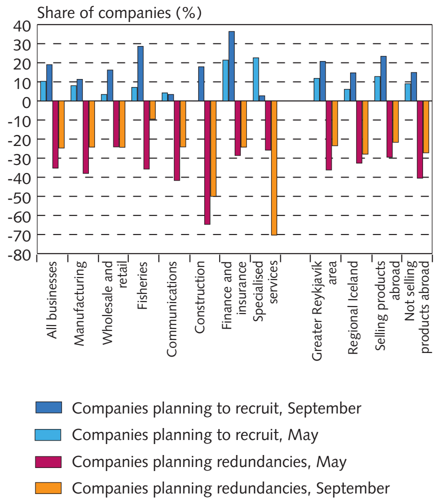
Unemployment Jan. 2009 - Sep. 2009



Sources: Directorate of Labour, Central Bank of Iceland.

Chart VI-2

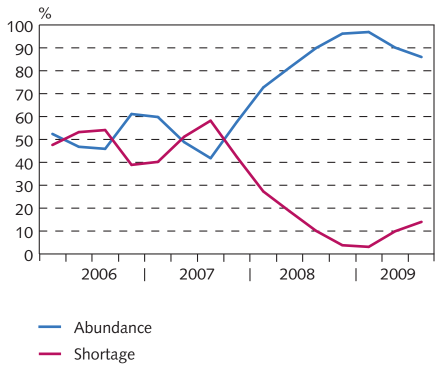
Companies planning to change staffing levels during the next 6 months



Source: Capacent Gallup.

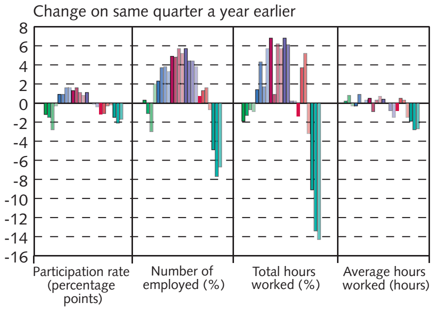
Chart VI-3

Share of companies experiencing shortage or abundance of labour



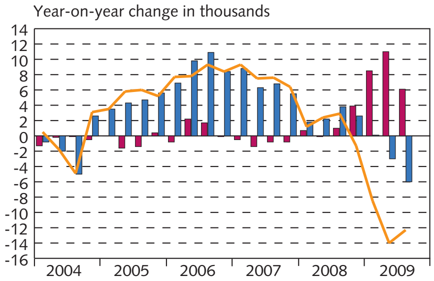
Source: Capacent Gallup.

Chart VI-4
Changes in labour market
Q1/2004 - Q3/2009



Source: Statistics Iceland.

Chart VI-5
Changes in labour market
Q1/2004 - Q3/2009



Sources: Statistics Iceland, Central Bank of Iceland.

... but one-third of fisheries companies want to recruit

In almost all sectors, more companies want to increase staffing levels than in May, and fewer are considering redundancies. In view of the low real exchange rate, it is not surprising that the most pronounced change in staffing plans is among exporters of goods and services. In the fisheries sector, about 30% of firms expressed an interest in recruiting in September, as opposed to 7% in May; and only 10% intended to lay off staff, as compared with over one-third in May. About one-fifth of export companies consider their staff too small, as opposed to only 10% in May, but attitudes among companies that sell domestically have not changed. The only sector in which a greater number of companies wanted to downsize in September than in May is the specialised services sector, where over 70% of companies wanted to shed staff, as opposed to about one-fourth in May. The anticipated cutbacks in the public sector probably play a large role in this change of sentiment.

The results of an early October survey carried out by the Confederation of Icelandic Employers (SA) among its members are similar to those for the Capacent Gallup survey. The SA survey shows that one-fourth of companies in the private sector intend to cut staffing levels in the next six months, while 14% intend to recruit. SA estimates that these results correspond to a net increase in private sector unemployment of about 2,000 persons over the next six months, which would raise unemployment by just over 1 percentage point. The results of the Capacent Gallup survey and the national and municipal governments' planned cutbacks also indicate rising redundancies among public sector employees in the near future.

Flexibility of the domestic labour market accelerates economic adjustment

During downward cycles, the flexibility of the domestic labour market has greatly facilitated the adjustment of the economy towards equilibrium, and unemployment has therefore increased less than it would otherwise. This flexibility generally emerges in changes in labour market participation and hours worked. The same has happened in the current recession.

According to the Statistics Iceland labour market survey, the total number of hours worked contracted by more than 14% year-on-year in Q3/2009. The decline in hours worked was due to both a three-hour decrease in average weekly hours worked and a drop of nearly 9% in the number of people working during the reference week. In the past year, the total number of hours worked fell by 10%.

More workers leave the labour market

As Chart VI-5 indicates, diminishing demand for labour was manifested initially in a rise in the number of unemployed persons, but beginning in Q2, the number of persons who have left the labour market has risen as well. This is a typical response to a severe financial crisis, and the experience from previous crises indicates that some of these people may not return to the labour market at all. Labour market participation in Q3/2009 was about 2 percentage points below the Q3 participation rate for the last three years. Seasonally adjusted labour market participation was just over 80%, or roughly 2 percentage points below the average since 1991.[1] If participation in the labour market had remained close to the average for the period since 1991, unemployment would have been an estimated ½ percentage point higher in Q3/2009 than it actually was according to the labour market survey.

The response to diminishing demand has differed somewhat from group to group. The number of males in the labour market in the greater Reykjavík area, who constitute just over one-third of the labour force, dropped by over 6,000, which is equivalent to the decrease in the total labour force. Males in regional Iceland and females in the greater Reykjavík area increased in number, however. The youngest workers (aged 16-24) have tended to leave the labour market, as is customary when demand for labour contracts, and the number of students outside the labour market has risen correspondingly. No matter whether the decline in the number of employed or the total number of hours worked is examined, the results are the same: Males in the greater Reykjavík area and the youngest group of workers account for a much larger share of the decrease than corresponds to their share of the employed or their contribution to total hours worked.

Firms reduce employment percentages to cut wage costs

Employers wishing to reduce wage costs have other options than cutting nominal wages. A considerable number of firms have changed full-time positions into part-time positions during the current recession, and indicators suggest that use of this measure is on the rise.[2] Figures from the labour market survey show that the number of persons employed part-time rose by nearly one-fifth year-on-year in Q3, or by 5,000, while the number of full-time employed fell by 11%, or 17,000. The SA survey indicates that, so far in 2009, over one-fourth of firms have resorted to reducing employment percentages in order to avoid lay-offs; this is an increase since February, when a comparable survey revealed that 18% of companies had taken this step.

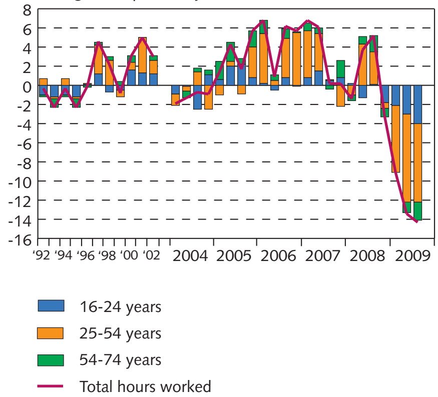
The contraction in the total number of hours worked during the past year corresponds to a reduction of approximately 2,000 full-time positions, or the equivalent of 1 percentage point in unemployment.

Few foreign nationals leave Iceland ...

The heavy inflow of foreign workers to Iceland over the past several years has further enhanced the flexibility of the Icelandic labour market. Some uncertainty reigns concerning foreign workers' response to the current economic hardships. In 2005-2008, approximately 28,000 foreign nationals migrated to Iceland, and 12,000 left the country. In spite of the relatively large proportion of foreign workers in the sectors hardest hit by the crisis – construction and services – and their

Chart VI-6

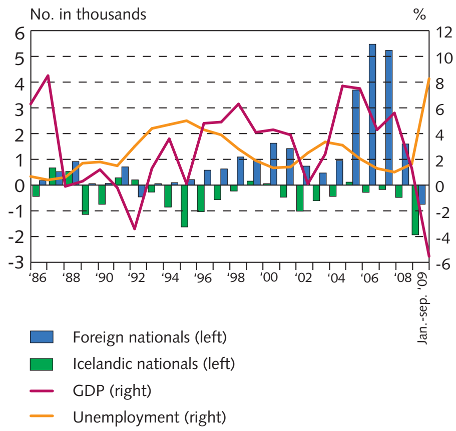
Contributions to changes in total hours worked



Source: Statistics Iceland.

Chart VI-7

Internal migration, unemployment and GDP growth 1986-2009



Source: Statistics Iceland.

1. The period covered by the Statistics Iceland labour market survey.
2. This solution was facilitated by the aforementioned amendments to the Act on Unemployment Benefits, which allow persons employed part-time to apply for unemployment benefits.

consequently high representation among the unemployed, figures on repatriation of foreign nationals so far in 2009 indicate that only a small proportion of those immigrating to Iceland in recent years have left the country after losing their jobs, as their home countries have been badly affected by the global recession. This accords with information from other countries that experienced a large influx of foreign nationals from EU-8 countries during the upswing.

... but more Icelanders have emigrated than in previous downturns

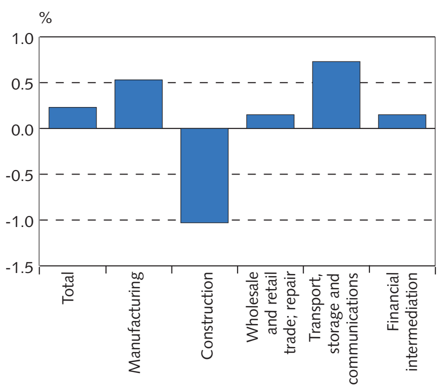
During the first nine months of the year, net emigration from Iceland totalled 2,700. Of those leaving Iceland, almost 1,950 were Icelandic citizens and about 750 were foreign nationals. Net emigration from Iceland in the current recession is substantially above the average in previous economic crises, as this economic contraction is considerably deeper.[3] So far in 2009, emigration has been far more than earlier research indicated, even among Icelandic nationals. Without this expatriation, unemployment would probably be about 1½ percentage points higher.

More firms are cutting wages

Although the labour market survey and emigration figures indicate that the number of people leaving the labour market after becoming unemployed has increased as the recession has deepened, unemployment is high enough that considerable downward pressure on wages should remain. According to the SA survey, about one-fourth of firms have resorted to pay cuts during the year in order to ensure continuing operations, while about 18% had done so according to the February survey.

Healthy operating performance in export sectors could exert pressure in the opposite direction, however, particularly in view of the number of exporters that consider themselves short-staffed. One indicator of this surfaced during the spring, when fisheries implemented contractual wage rises earlier than stipulated by wage contracts.

Chart VI-8
Change in wages by economic sector
Q3/2008 - Q2/2009



Source: Statistics Iceland.

Contractual wage rises offset pay cuts

While nominal wages as measured by the Statistics Iceland wage index do not appear to have changed in accordance with the SA survey, the reduction in nominal wages is probably greater than statistics indicate. The wage index measures only changes in regular wages among those holding the same position within the same firm. As a result, it does not fully capture the effect of job changes, within the same firm or between firms, which in a downturn generally implies that workers accept lower wages.

Furthermore, because of the emphasis on the lowest wages in the 2008 wage settlements, wage rises in a number of large sec-

3. See Arnór Sighvatsson, Már Gudmundsson, and Thórarinn G. Pétursson (2001), "Selecting the optimum exchange rate regime for Iceland", *Fjármálatíðindi*, and Axel Hall, Gylfi Magnússon, Gylfi Zoega, Sigurdur Ingólfsson, Sveinn Agnarsson, and Tryggvi Th. Herbertsson (1999), "EMU and the Icelandic labour market", Central Bank of Iceland, Working Papers, no. 3.

tors that employ a large proportion of low-wage workers, including manufacturing and retail, have outweighed these pay cuts. From Q3/2008 until Q2/2009, nominal wages rose by 2.5% in manufacturing and by 0.3% in retail. In the sectors most strongly affected by the crisis, such as construction and financial services, nominal wages declined by 2.6% and 2.2%, respectively, over the same period. When contractual wage settlements were reviewed in June 2009, even stronger emphasis was placed on raising the lowest wages, leading to a 0.7% quarter-on-quarter rise in the Statistics Iceland wage index in Q3.

Because wage agreements have now been extended until end-November 2010, negotiated wage rises will most likely continue to offset pay cuts in individual firms. Real wages have fallen by 12% since they started to contract at the beginning of 2008. In September, the year-on-year decline in purchasing power amounted to 8%. When wage settlements were extended, the labour movement did not demand restoration of real wages. As a result, there could be some pressure on wages during the next round of negotiations, although the slack in the labour market is likely to counterbalance those demands. The principal risk is that exporters' strong earnings will result in pay hikes that will spread to other sectors.

Wage costs will rise modestly over most of the forecast horizon

Since the economic contraction began, productivity has dropped rapidly in spite of a pronounced contraction in total hours worked, as production capacity has contracted even more sharply. This is a typical response to an economic contraction, as firms are slow to respond to a contraction in demand by shedding labour. The current fall in productivity, however, is both deeper and more rapid than earlier downturns. According to the forecast, productivity will shrink for six quarters before turning around as the year progresses, once total hours worked are better adjusted to production needs. Productivity will then rise somewhat as the forecast horizon progresses, and productivity growth will have aligned with trend growth at the end of the horizon.

Despite the expectation that such a large percentage of the work force will exit the labour market, it is assumed that unemployment will be high enough to contain wage drift to a large degree. Nominal wage rises in 2010 will therefore be unusually small, but they will increase in the latter part of the forecast horizon, following new contractual wage settlements at the end of 2010.

As Chart VI-9 illustrates, unit labour costs rise in 2009, although nominal wage increases slow down, as productivity will contract by just under 2% and other wage costs will rise due to an increase in the payroll tax. The increase in wage costs will slow down dramatically in 2010, however, as nominal pay hikes will be small and productivity will turn around. Nominal wages will then rise in 2011, after new wage agreements are concluded, but increased productivity will offset them somewhat. Consequently, growth in unit labour costs will be similar in 2010-2012, or about 3%.

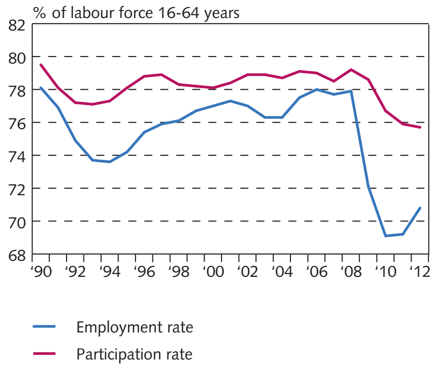
Chart VI-9

Unit labour costs and contributions of their components 1996-2012[1]

1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Cental Bank of Iceland.

Chart VI-10

Participation rate and employment rate 1990-2012[1]

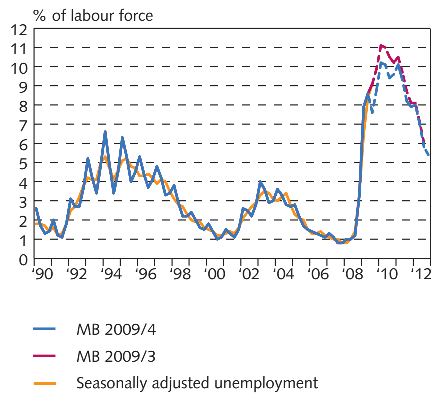


1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart VI-11

Unemployment rate

Q1/1990 - Q4/2012[1]



1. Central Bank baseline forecast Q4/2009 - Q4/2012.
Sources: Directorate of Labour, Central Bank of Iceland.

Employment and labour market participation contract during the forecast horizon

Labour market participation for the 16-64 age group is projected to continue shrinking throughout the forecast horizon and will be 3½ percentage points lower in 2012 than in 2008. The employment rate for the same age group will decline considerably more than labour market participation, owing to high unemployment. For 2009, the employment rate is estimated at slightly less than 6 percentage points lower than in 2008, and for 2011 it is estimated at 8½ percentage points below 2008 levels. It will then begin climbing again in 2012, in line with rising employment and falling unemployment. Both labour market participation and the employment rate will therefore decline considerably more than during the economic contraction in the early 1990s.

Unemployment has not yet peaked

The restructuring of the labour market is continuing. Unemployment is very high in a historical context and has yet to rise still further in the next several months, according to recent surveys of firms' and institutions' staffing plans. Unemployment is expected to peak at just over 10% in Q1/2010, nearly a percentage point lower than according to the last forecast. It is projected to remain high – between 9% and 10% – until Q2/2011 and then gradually taper off as economic activity increases, but to remain well above equilibrium throughout the forecast horizon.

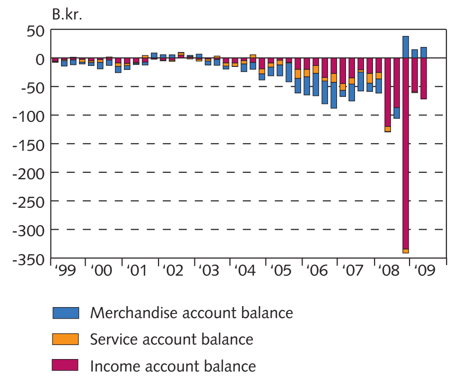
The steep rise in unemployment in the wake of the current crisis is unprecedented, both in prior downturns in Iceland and in other countries that have experienced serious financial crises.[4] The sectors most closely related to the asset bubble – construction, financial services, and various services – responded swiftly with large-scale layoffs. The transfer of the labour force across sectors and the slow adjustment in demand for labour, however, are expected to cause equilibrium unemployment to rise temporarily.

4. See *Monetary Bulletin* 2009/2, pp. 39-40.

VII External balance

The first six months of 2009 saw a considerable narrowing of the current account deficit year-on-year. The current account balance was negative by over 92 b.kr., or 12.6% of GDP, owing primarily to a 127 b.kr. deficit in the balance on income. These figures include calculated interest income and accrued interest expense from the "old" banks, but the income and expense from those banks does not reflect the actual flow of foreign currency to and from the country; thus it is useful to ignore these figures when analysing the overall position.

Chart VII-1
Current account balance components[1]
Q1/1999 - Q2/2009



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

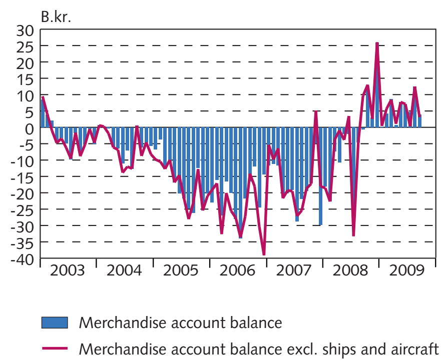
Turnaround in service account balance ...

The merchandise account balance has been positive for the first nine months of the year. The contraction in imports was most pronounced in Q2 but has eased somewhat in the intervening months. Nonetheless, imports contracted by over 40% year-on-year in Q3. Nominal exports in Q3, on the other hand, were down nearly 20% year-on-year, due mainly to a steep decline in the price of aluminium and marine products. The surplus on the merchandise account has been growing steadily over the year. For the first six months of 2009, it totalled 30 b.kr., but the nine-month total reached 46 b.kr. at constant exchange rates.

After an insignificant deficit in Q1, the service account balance was positive by 7 b.kr. in Q2, the first quarterly service account surplus in four years. The turnaround is due in particular to increased revenues from transport and tourism.

The outlook for the latter half of the year is rather positive for the merchandise and service accounts. Export prices have risen, the outlook for global economic recovery has improved, and the real exchange rate has fallen. Payment card turnover data and the tourism sector's most recent figures from the summer indicate that foreign travellers are spending considerably more than before in Iceland. Consequently, the current forecast assumes stronger exports of goods and services than the August forecast (see Section II). Moreover, the surplus on trade in goods and services is estimated at nearly 7% of GDP for 2009, and over 10% for 2010. The forecast also assumes that the external trade surplus will continue growing to about 12-13% in 2011-12.

Chart VII-2
Merchandise account balance
At fixed exchange rate, January 2003 - September 2009



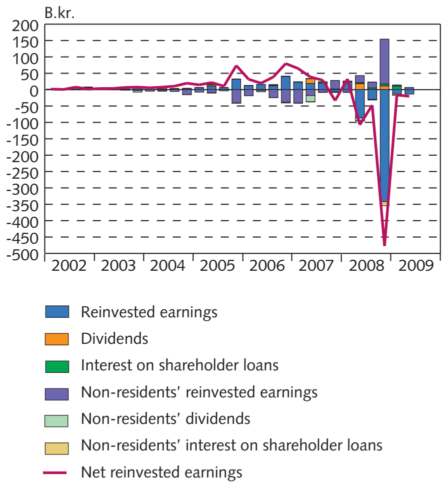
Source: Statistics Iceland.

... but the income account deficit is still sizeable

In spite of a surplus on the merchandise and service accounts in the first half of 2009, the large deficit on the income account resulted in a sizeable current account deficit. The current account balance was negative by 12.6% of GDP in the first six months of the year.

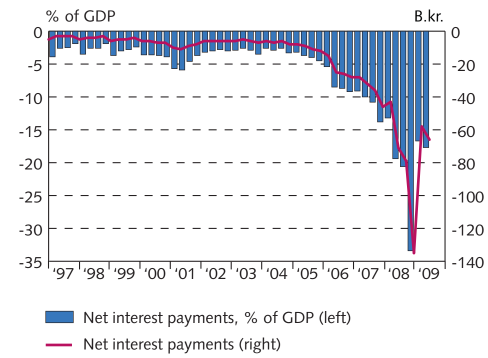
The income account deficit amounted to 57 b.kr. in Q1 and 69 b.kr. in Q2. This large deficit is attributable mainly to the negative interest balance. In krónur terms, interest payments from abroad were down 12% year-on-year, and the deficit on the item "dividends and reinvested earnings" abroad narrowed significantly. On the revenues side, interest payments to abroad for the first half of the year were virtually unchanged from the prior year in spite of the marked depre-

Chart VII-3
Direct investment and investment expenditure
Q1/2002 - Q2/2009



Sources: Statistics Iceland, Central Bank of Iceland.

Chart VII-4
Net foreign interest payments
Q1/1999 - Q2/2009



Sources: Statistics Iceland, Central Bank of Iceland.

ciation of the króna, as interest rates had fallen significantly, while dividends and reinvested earnings rose from 388 m.kr. to 3.8 b.kr.

On the whole, the income account deficit narrowed substantially in the first six months of the year, both due to a smaller interest deficit and because the deficit on equity investment returns has shrunk. In part, the deficit in returns on equity investment is smaller because, in line with international standards, a new methodology is now used to calculate equity returns.[1] In spite of this, the deficit on the income account remains substantial.

Accrued interest payments from the "old" banks do not reflect actual foreign exchange outflows

As is stated above, the income account deficit in the first half of 2009 is due in large part to a negative interest balance. The interest deficit does not reflect actual capital outflows during the period, however, as a large portion of the interest payment is calculated but unpaid accrued interest deriving from the old banks, which have not yet undergone final bankruptcy proceedings. According to international standards, these figures must be included in the balance on income until that time. In order to gain a clearer view of actual payment flows to and from Iceland during the period, and of future payment obligations, it is therefore useful to consider the balance on income excluding the old banks.

Treatment of incomplete information

Unfortunately, it is not uncommon that information on which the calculation of the balance of payments is based is received late or is incomplete. Sometimes information on a firm's loans and interest expense is submitted without any accompanying data on interest income or dividends, and vice versa. Under such circumstances, the question arises whether incomplete data should be omitted entirely so as to provide the best overview of the balance between income and expense.

In its newly published report on the review of Iceland's economic programme, the International Monetary Fund has elected to estimate accrued interest expense on firms' foreign loans and to estimate foreign interest income where part of the information is missing. For the first half of 2009, this interest income and expense was not included in the Central Bank's published balance on income figures. That this expense should be entered with other expenses in the income account is undisputed; however, it could be useful to ignore interest income and expense from those parties that have submitted incomplete information when estimating the underlying flow of currency.

1. For 2008 and prior years, capital gains and losses were included in returns on equity investments. Because of the steep decline in all major equity markets in 2008, it can be assumed that this greatly increased the income account deficit for that year. As of 2009, capital gains and losses are no longer included; therefore, returns on equity investments should be more indicative of dividends and reinvested earnings. The current practice is to calculate dividends paid and returns on direct investment (if the holding is greater than 10%), whether they are paid out or not.

Official figures indicate a large current account deficit for 2009, but the underlying deficit is considerably smaller

The balance of trade in goods and services was positive by 38.5 b.kr. in the first half of the year, although the income account balance was negative by 127 b.kr. As a result, the current account balance for the first six months was negative by 92.2 b.kr., or 12.6% of GDP. Adjusting for the factors discussed above, however, reduces the current account deficit from 92 b.kr. to 14 b.kr., or just under 2% of GDP.

The outlook is for a substantial surplus on the merchandise and service accounts in the latter half of the year, based on the expectation that domestic demand and imports will continue to fall and export values will be notably higher than in the first half of the year, due to higher export prices and increased tourism revenues. Offsetting this is a sizeable deficit on the income account. For the year as a whole, it is therefore assumed that the official current account deficit will total 207 b.kr., or 14% of GDP; however, the deficit shrinks to 15 b.kr., or 1% of GDP, if adjustments are made for the effects of the old banks and accrued but unpaid interest on loans from foreign parent companies to their Icelandic subsidiaries. Hence this unpaid interest, particularly that deriving from the old banks, has a significant effect.

Continuing current account deficit according to official figures, but underlying deficit turns to a surplus in 2010

As is discussed above, dividends and reinvested earnings have become proportionally very small, both because of the banks' collapse and because of changes in methodology; therefore, they are unlikely to have a significant effect on the balance. Interest income and expense, currently the largest items in the income account, will therefore be the determinants of the balance.

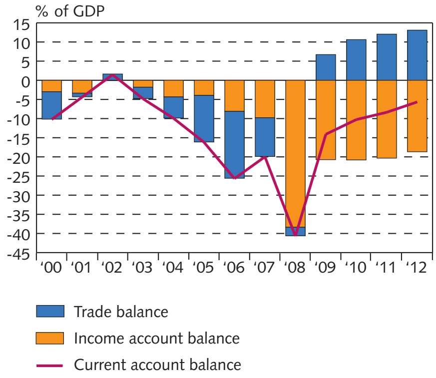
The current account deficit is expected to shrink to about 10% of GDP in 2010 and continue to contract over the forecast horizon. The underlying current account balance – that is, excluding the old banks and the net interest expense for which information is lacking – suggests a turnaround as early as 2010, and a surplus amounting to 3% of GDP. The surplus is projected to continue growing to about 4½% of GDP by 2012. This is similar to the forecast published in the August issue of *Monetary Bulletin*, which omitted the old banks and the net interest expense for which data were lacking.

Official external liabilities figures do not give an accurate view of foreign debt sustainability

As is discussed in Box VII-1 in *Monetary Bulletin* 2009/2, Iceland's net international investment position (IIP) as a percentage of GDP has deteriorated markedly in recent years. It is now clear that the net position of the public sector has worsened substantially as a result of the crash, but there is more uncertainty about the private sector, and thus about the economy as a whole.

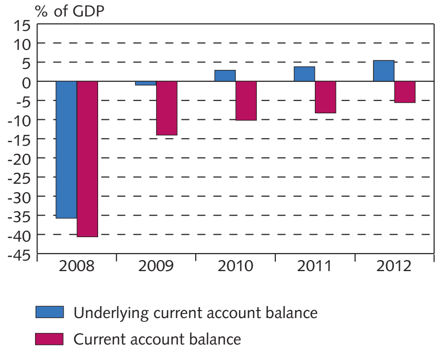
The above discussion should make it clear, however, that drawing any conclusion about debt sustainability based on these figures is precarious. The IIP figures include domestic subsidiaries' debt to foreign parent companies in the amount of 70% of GDP. If a subsidiary

Chart VII-5
Current account balance components[1]
Annual data 2000-2012



1. Net current transfer is included in balance on income. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

Chart VII-6
Current account balance
Annual data 2008-2012[1]



1. Central Bank baseline forecast 2009-2012.
Sources: Statistics Iceland, Central Bank of Iceland.

ends up in financial difficulties due to such debt, the debt will fall on the parent company and ultimately on the foreign financial institutions that extended the loans. It is primarily the parent company and the financial institution concerned that are exposed to this risk, not the country, except to the extent that the subsidiary owns domestic assets that it could sell, with the aim of using the proceeds to buy foreign currency to settle the debt.

VIII Price developments and inflation outlook

Disinflation has slowed in the past few months, after a period of rapidly falling inflation during the spring. In October, twelve-month inflation measured 9.7%. The slow-down in inflation over the past few months is mainly attributable to three factors: Exchange rate pass-through from the króna depreciation of spring 2008 has been dropping out of twelve-month inflation figures, domestic inflationary pressures are limited, and real estate prices have fallen. Inflation has lost pace more slowly than was expected early in the year, however, because of the weakening of the króna during the summer months. Inflation expectations seem to have risen again in the wake of the depreciation, and consumption tax hikes will have some effect on headline inflation.

The outlook is for inflation to retreat rather quickly in coming months and to remain low in the latter part of the forecast horizon. The large amount of slack in the economy reduces domestic cost pressures, thereby containing inflation. It is assumed that underlying inflation will be near the Central Bank's inflation target in the latter half of 2010. As before, the assumption that the króna will remain relatively stable throughout 2010 and then begin to appreciate later in the forecast horizon is the main uncertainty factor in the forecast. The effect of the Treasury's revenue-generating measures on measured inflation is also a source of considerable uncertainty. Moreover, there is some uncertainty about near-term developments in productivity, hence on the underlying inflationary pressure stemming from wage costs.

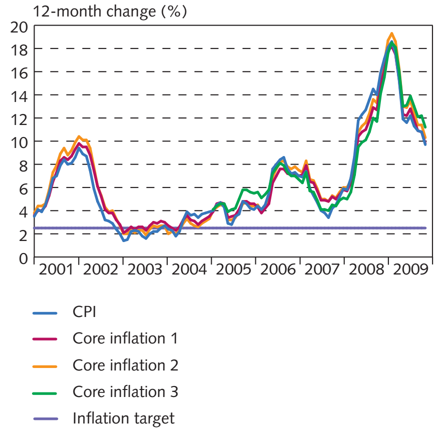
Disinflation continues

After the króna fell, year-on-year inflation rose sharply, peaking in January 2009 at 18.6%. In October, the CPI rose by 1.14% month-on-month, and year-on-year inflation was 9.7%. Adjusted for the effects of indirect taxes, inflation was 8.8%. Although the decline in inflation is due in part to base effects, house prices have made a considerable impact, as can be seen in the fact that, without the housing component, October's twelve-month rise in the CPI amounted to 13.5%. Inflation excluding the housing component has slowed down less markedly than the headline index, doubtless due to the depreciation of the króna.

Underlying inflation according to Core Index 3 declined more slowly than headline inflation early in the year, and had risen by 11.2% year-on-year as of October. Annualised seasonally adjusted three-month inflation has shot upwards in the past few months. This measure of inflation has been very volatile but may give an indication of how inflationary pressures develop. In October, annualise, seasonally adjusted inflation measured 9.3%, having risen somewhat from the previous month. In comparison, inflation by this measure dropped below 1% in the spring of 2009, indicating clearly how inflationary pressures have surged in the latter half of the year.

Chart VIII-1

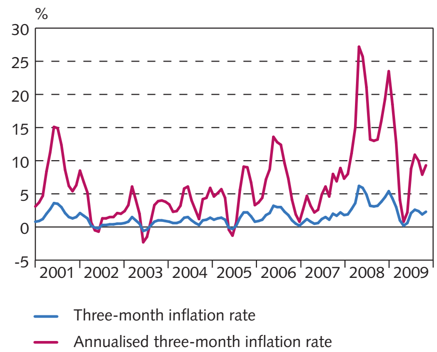
Inflation January 2001 - October 2009[1]



1. The core indices measure underlying inflation, with Core Index 1 excluding prices of agricultural products and petrol, and Core Index 2 excluding prices of public services as well. Core Index 3 also excludes the effect of changes in mortgage rates.
Source: Statistics Iceland.

Chart VIII-2

Three-month seasonally adjusted inflation January 2001 - October 2009

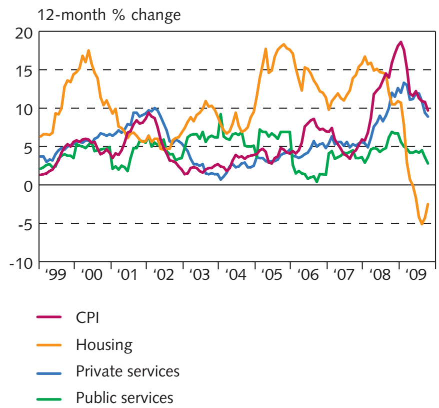


Sources: Statistics Iceland, Central Bank of Iceland.

Chart VIII-3

Consumer prices

Housing and services

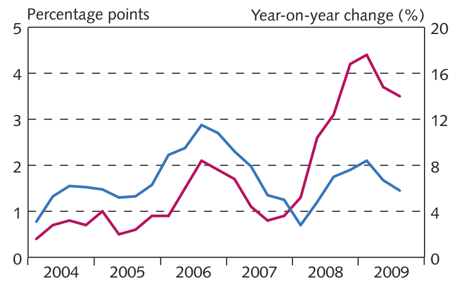


Source: Statistics Iceland.

Chart VIII-4

Unit labour costs and the contribution of domestic goods and private services to 12-month inflation

Domestic goods excluding agricultural products

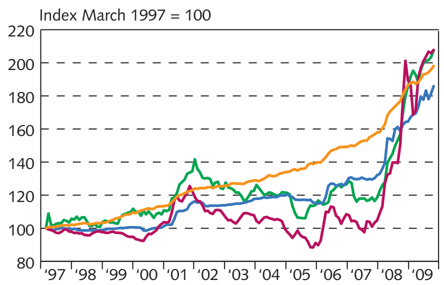


Unit labour costs (rigth)
Domestic items (left)

Sources: Statistics Iceland, Central bank of Iceland.

Chart VIII-5

Import-weighted exchange rate and import prices March 1997 - October 2009



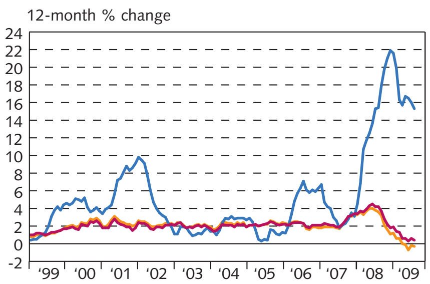
Import-weighted exchange rate index
New motor vehicles and spare parts
CPI
Imported food and beverages

Source: Statistics Iceland.

Chart VIII-6

Inflation in Iceland and Europe

HICP inflation[1]



Iceland
EEA
Euro area

1. National CPI inflation for Switzerland.
Source: Statistics Iceland.

Offsetting effects of currency depreciation and economic contraction

An examination of the sub-indices of the CPI reveals diverging trends in individual components. In general, developments in the price of non-tradable goods such as general services, domestic products, and housing can be expected to reflect the slack in the economy more accurately than most other components do. However, the housing component has declined year-on-year, while prices of general services and domestic goods have risen substantially. Nearly one-third of October's rise in the CPI stems from developments in prices of general services and domestic goods excluding agricultural products, which is in line with the developments of the past several months. Given the marked slack in the goods and labour markets, this development is a source of concern. The contraction in demand appears to have been insufficient to prevent the currency depreciation from passing through to the price of non-tradables.

At the same time, the components that measure the price of tradable goods – that is, imported consumer products and products that compete across marketing areas – have risen markedly, indicating the strong effect of the depreciation of the króna. This is reflected in the fact that import prices rose by 17.6% year-on-year in October. Due to the decline in the exchange rate of the króna, the effect of the global recession and commodity and oil price decreases on domestic inflation is not transparent. As is described in Section II, inflation has fallen significantly in most of Iceland's trading partner countries, and deflation has emerged in many of them. International institutions project that deflation will persist into mid-2010.

Inflation expectations have escalated

Inflation expectations have fluctuated somewhat since the banks and the króna collapsed. They have been on the rise in the recent term, which is a cause for concern, particularly if they do not retreat in the next few months. The most recent Capacent Gallup inflation expectations survey, conducted among Iceland's 400 largest companies in September 2009, revealed that the median firm expects 4% inflation one and two years ahead. This is a notable change from the two previous surveys, when respondents expected considerably lower inflation over the next 1-2 years. It is likely that, to some degree, the shift represents changed expectations concerning a weaker króna. For example, in March 2009, nearly ¾ of Iceland's largest firms expected the króna to appreciate, as opposed to only half in September.[1] Another Capacent Gallup poll from September surveyed households' inflation expectations one and two years ahead. That survey revealed that the median household expects about 10% inflation one year ahead, and about 6% inflation two years ahead. Expectations twelve months ahead are unchanged from the previous survey, which was carried out in June, while two-year inflation expectations are just over one percentage point lower than in the previous survey. Thus it appears that households expect considerably slower disinflation than firms do. On

1. During the period in which the previous survey was carried out, the exchange rate index was around 190, whereas it was about 234 at the time of the latter survey.

the other hand, it should be borne in mind that household inflation expectations, particularly for the upcoming twelve months, tend to be affected by the inflation rate at the time the survey is carried out.

Five-year inflation expectations based on breakeven inflation rates on the bond market have risen from just over 3% in late May to more than 4% from September until late October. It should be noted that breakeven inflation rates take account not only of inflation expectations but also of varying risk premia related to inflation, bond market liquidity, and other factors unrelated to actual expectations of future inflation. Thus it can prove difficult to separate inflation expectations from other factors that affect these developments, particularly when there is significant turmoil in financial markets.

The breakeven inflation rate rose after disinflation slowed down due to the depreciation of the króna, but it declined again during the summer. Longer-term inflation expectations as estimated from the breakeven inflation rate have also risen, which is a cause for particular concern. The five-year breakeven inflation rate five years ahead indicates average expected inflation five years ahead in five years' time. When the Central Bank began easing the policy stance in March 2009, the breakeven inflation rate rose from about 2% to about 4% until mid-May, whereupon it declined to the 2.5% inflation target and remained near to it until mid-June. Following further interest rate cuts, and after the exchange rate began sliding, the breakeven inflation rate began to rise and has been between 3% and 3.5% since mid-summer.

Inflation in Q3 outstrips forecasts

In the third quarter of the year, inflation measured 11%, which is somewhat above the 10.6% annual inflation figure projected in the August issue of *Monetary Bulletin*. This is primarily because the króna was weaker than had been assumed in that forecast. As is discussed in Section IV, it also seems that the slack in the economy is somewhat less pronounced than previously assumed. In addition, the decline in house prices has slowed down, and a transitory rise actually appeared in the housing component of the CPI in October, which probably indicates a measurement problem rather than a genuine turnaround in the housing market (see Box IV-1). It is also possible that changed expectations concerning the exchange rate of the króna have a significant impact. Under these conditions, it is likely that importers cut into their margins temporarily after the króna fell late in 2008, as well as running down inventories. Assuming this, it can be expected that the longer the króna remains weak, the greater the likelihood that the low exchange rate will pass through to import prices.

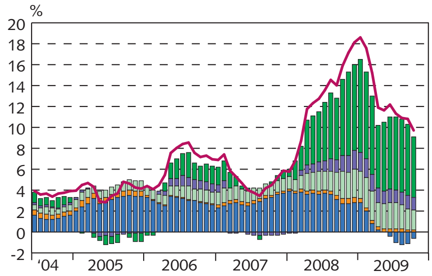
Uncertain short-term outlook

The Central Bank uses a number of short-term forecasting models in its assessment of the underlying short-term inflation outlook. Chief among these are a simple cost-push model, which primarily assesses the effect of the exchange rate and wage costs on price levels on a monthly frequency, and an ARIMA model, which focuses only on recent inflation developments, also on a monthly frequency. These simple forecasting models suggest somewhat divergent developments over the next few months, with the cost-push model forecasting

Chart VIII-7

Components of the CPI
June 2004 - October 2009

Contribution to CPI inflation in past 12 months

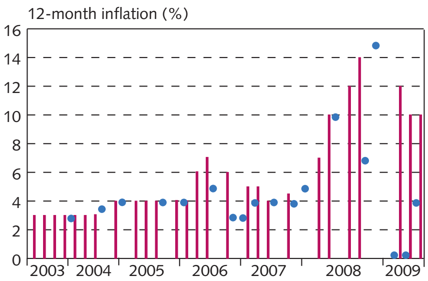


Housing
Public services
Private services
Domestic goods excluding agricultural products
Imported goods excluding alcohol and tobacco
CPI

Source: Statistics Iceland.

Chart VIII-8

Inflation expectations of businesses and households one year ahead



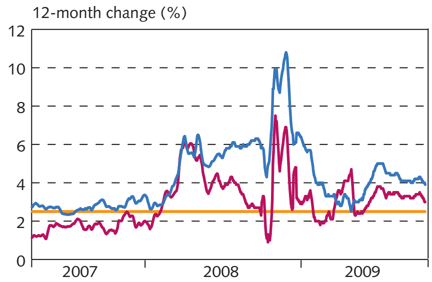
Businesses' inflation expectations
Household inflation expectations

Source: Capacent Gallup.

Chart VIII-9

Inflation expectations according to the difference between nominal and indexed interest rates[1]

Daily data April 2, 2007 - October 26, 2009



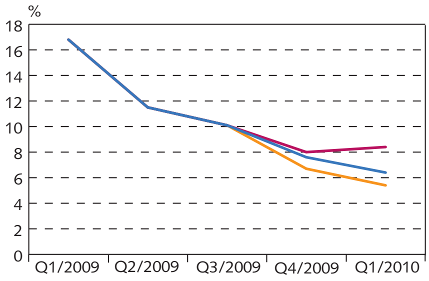
5-year breakeven inflation expectations
5-year / 5-year forward inflation expectations
Inflation target

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.

Chart VIII-10

Inflation forecasts using different models

Inflation excluding tax effects

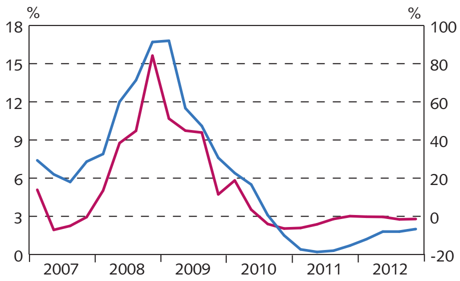


Sources: Statistics Iceland, Central Bank of Iceland.

Chart VIII-11

Inflation and changes in EURISK exchange rate

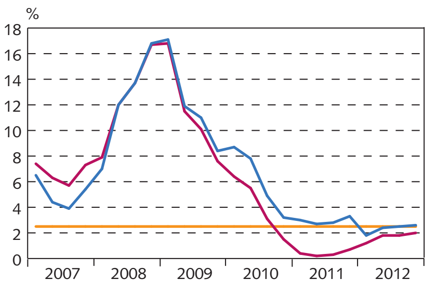
Change from previous year



Sources: Statistics Iceland, Central Bank of Iceland.

Chart VIII-12

Inflation including and excluding tax effects



Sources: Statistics Iceland, Central Bank of Iceland.

6.7% underlying annual inflation in Q4/2009 and the ARIMA model forecasting 8.0% inflation. The cost-push model forecasts 5.4% underlying annual inflation in Q1/2010, while the ARIMA model suggests a much higher figure, or 8.4%. The forecast obtained with the cost-push model reflects the lack of pressure from the labour market at present, as well as the greater stability of the króna in the past few months relative to the early part of the year. On the other hand, it ignores factors related to expected exchange rate developments, as changes in expectations about the króna could delay exchange rate pass-through. The forecast obtained with the ARIMA model, however, reflects short-term inflation persistence. These models help give indications of the short-term inflation outlook, although they point in two slightly different directions. The current baseline forecast over the next two quarters actually takes into account both of the forecasts obtained using the models and assumes that underlying inflationary pressures are greater than cost pressures suggest.

Higher underlying inflation until mid-2011

It is likely that underlying inflation – that is, inflation excluding the effects of indirect taxes – will be higher until mid-2011 than was assumed in the August *Monetary Bulletin*. Although underlying inflation will subside somewhat slower than was forecast in August, it is still assumed that inflation will taper off rather quickly as 2010 progresses. A significant slack has developed in the economy, the króna is presumed to remain relatively stable early in the forecast horizon, and to all appearances, cost pressures from wage rises will be limited. It is assumed that underlying inflation will be close to the Central Bank's inflation target in the latter half of 2010, roughly one quarter later than in the August forecast. The outlook is still for underlying inflation to drop below the target temporarily if the króna remains relatively stable. By the end of the forecast period, underlying inflation is expected to be about 2%.

Changed plans for indirect tax levies affect the outlook for headline inflation

Extensive revenue-generating measures are expected from the Government in connection with the fiscal balance plan, and these will affect headline inflation. In the current forecast, however, the Central Bank projects that indirect tax hikes will have a somewhat more muted effect on price levels than was assumed in the August *Monetary Bulletin*, as the new forecast bases its assumptions on information from the budgetary bill for 2010. It is estimated that the inflationary effects of new tax changes will amount to about 1.6 percentage points, which will emerge in Q1/2010. The difference between underlying and measured annual inflation will be somewhat greater early in the year, however, because the effects of tax changes announced in 2009 will not have disappeared from twelve-month measurements. The combined effect of higher underlying inflation early in the forecast horizon and more subdued inflationary effects of tax hikes is that headline inflation is expected to be somewhat higher than in the last *Monetary Bulletin* well into 2012.

Appendix 1

Baseline macroeconomic and inflation forecast 2009/4

Table 1 Macroeconomic forecast[1]

	In b.kr.	Change from prior year (%) unless otherwise specified				
			Forecast			
GDP and its principal subcomponents	*2008*	*2008*	*2009*	*2010*	*2011*	*2012*
Private consumption	789.5	-7.8 (-7.7)	-16.2 (-19.7)	-4.0 (-4.4)	1.9 (0.7)	4.4
Public consumption	367.3	4.6 (2.8)	-1.2 (-2.3)	-3.8 (-5.9)	-2.9 (-4.7)	-2.4
Gross capital formation	357.3	-20.4 (-21.8)	-48.0 (-48.4)	4.4 (5.7)	3.6 (5.5)	1.8
Business investment	211.0	-25.1 (-27.2)	-52.3 (-50.5)	26.1 (28.4)	6.6 (9.3)	-1.9
Residential investment	80.9	-21.8 (-23.1)	-44.3 (-47.3)	-13.4 (-14.2)	6.1 (7.6)	14.1
Public investment	65.5	0.8 (1.6)	-38.2 (-42.5)	-32.3 (-35.6)	-14.6 (-18.5)	3.3
National expenditure	1,517.5	-8.6 (-9.3)	-19.7 (-21.5)	-3.0 (-4.0)	0.9 (0.1)	2.2
Exports of goods and services	657.8	7.1 (7.1)	1.3 (-1.8)	1.4 (0.4)	3.9 (2.7)	5.9
Imports of goods and services	698.8	-18.3 (-18.0)	-25.7 (-33.0)	-2.3 (-5.5)	0.9 (1.2)	3.6
Gross domestic product	1,476.5	1.3 (0.3)	-8.5 (-9.1)	-2.4 (-2.2)	2.2 (0.9)	3.4
Other key figures						
Trade account balance (% of GDP)		-2.8 (-2.9)	6.7 (8.1)	10.6 (11.7)	12.0 (12.0)	13.1
Current account balance (% of GDP)		-42.2 (-43.1)	-14.0	-10.2	-8.3	-5.6
Underlying current account balance (% of GDP)[2]			-1.0 (-6.8)	2.1 (1.9)	3.0 (3.8)	4.6
Output gap (% of potential output)		1.9 (2.2)	-4.2 (-6.8)	-3.5 (-5.5)	-0.7 (-3.4)	0.9
Unit labour costs (change in average year-on-year)		5.9 (6.8)	7.6 (5.1)	2.8 (2.3)	3.2 (3.3)	3.0
Real disposable income (change in average year-on-year)		0.6 (-7.5)	-19.2 (-19.9)	-15.8 (-7.4)	0.0 (1.4)	2.6
Unemployment (% of labour force)		1.6 (1.6)	8.2 (8.9)	9.8 (10.7)	8.9 (9.2)	6.6
EURISK exchange rate		127.0 (127.0)	171.7 (169.2)	175.6 (168.9)	170.4 (159.8)	168.9

1. Figures in parentheses are from the forecast in *Monetary Bulletin* 2009/3.
2. Current account without accrued interests due to the "old" banks and domestic subsidiary.

Table 2 Inflation forecast (%)[3]

Quarter	*Inflation (change year-on-year)*	*Inflation excluding tax effects (change year-on-year)*	*Inflation (annualised quarter-on-quarter change)*
		Measured value	
2008:1	7.0 (7.0)	7.9 (7.9)	8.2 (8.2)
2008:2	12.0 (12.0)	12.0 (12.0)	27.0 (27.0)
2008:3	13.7 (13.7)	13.7 (13.7)	12.1 (12.1)
2008:4	16.8 (16.8)	16.7 (16.7)	20.5 (20.5)
2009:1	17.1 (17.1)	16.8 (16.8)	9.6 (9.6)
2009:2	11.9 (11.9)	11.5 (11.5)	5.9 (5.9)
2009:3	11.0 (10.6)	10.1 (9.7)	8.6 (7.0)
		Forecasted value	
2009:4	8.4 (8.4)	7.6 (7.1)	9.8 (11.2)
2010:1	8.7 (8.2)	6.4 (5.5)	10.4 (8.6)
2010:2	7.8 (5.8)	5.5 (3.3)	2.4 (-3.0)
2010:3	4.9 (3.5)	3.1 (1.5)	-2.5 (-2.0)
2010:4	3.2 (2.3)	1.5 (0.2)	2.7 (5.8)
2011:1	3.0 (1.6)	0.4(-0.4)	9.6 (5.8)
2011:2	2.7 (2.1)	0.2 (0.1)	1.3 (-0.9)
2011:3	2.8 (2.8)	0.3 (0.7)	-2.1 (0.5)
2011:4	3.3 (2.8)	0.7 (1.3)	4.7 (6.1)
2012:1	1.8 (3.2)	1.2 (1.7)	3.5 (7.4)
2012:2	2.4(3.8)	1.8(2.3)	3.6 (1.3)
2012:3	2.5	1.8	-1.7
2012:4	2.6	2.0	5.3

Annual average	*Inflation*	*Inflation excl. tax effects*
2008	12.4 (12.4)	12.6 (12.6)
2009	12.0 (11.8)	11.3 (11.1)
2010	6.1 (4.9)	4.1 (2.6)
2011	2.9 (2.3)	0.4 (0.4)
2012	2.3	1.7

3. Figures in parentheses are from the forecast in *Monetary Bulletin* 2009/3.